

NUCLEAR REGULATORY COMMISSION ISSUANCES

OPINIONS AND DECISIONS OF THE NUCLEAR REGULATORY COMMISSION WITH SELECTED ORDERS

April 1, 1977 – June 30, 1977

**Volume 5
Book II of II
Pages 717 - 1140**



Prepared by the Division of Rules and Records, Office of Administration,
U. S. Nuclear Regulatory Commission, Washington, D. C. 20555
(301/492-7211)

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S/N 052-010-00498-1

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PREFACE

This is Book II of the fifth volume of issuances of the Nuclear Regulatory Commission and its Atomic Safety and Licensing Appeal Boards and Atomic Safety and Licensing Boards. It covers the period from April 1, 1977 to June 30, 1977.

Atomic Safety and Licensing Boards are authorized by Section 191 of the Atomic Energy Act of 1954. These Boards, comprised of three members conduct adjudicatory hearings on applications to construct and operate nuclear power plants and related facilities and issue initial decisions which, subject to internal review and appellate procedures, become the final Commission action with respect to those applications. Boards are drawn from the Atomic Safety and Licensing Board Panel, comprised of lawyers, nuclear physicists and engineers, environmentalists, chemists, and economists. The Atomic Energy Commission first established Licensing Boards in 1962 and the Panel in 1967.

Beginning in 1969, the Atomic Energy Commission authorized Atomic Safety and Licensing Appeal Boards to exercise the authority and perform the review functions which would otherwise have been exercised and performed by the Commission in facility licensing proceedings. In 1972, that Commission created an Appeal Panel, from which are drawn the Appeal Boards assigned to each licensing proceeding. The functions performed by both Appeal Boards and Licensing Boards were transferred to the Nuclear Regulatory Commission by the Energy Reorganization Act of 1974. Appeal Boards represent the final level in the administrative adjudicatory process to which parties may appeal. The Commission may, however, on its own motion, review various decisions or actions of Appeal Boards.

This volume is made up of reprinted pages from the three monthly issues of the Nuclear Regulatory Commission publication *Nuclear Regulatory Commission Issuances (NRCI)* for this period, arranged in chronological order. Cross references in the text and indexes are to the NRCI page numbers which are the same as the page numbers in this publication.

Issuances are referred to as follows: Commission--CLI, Atomic Safety and Licensing Appeal Boards--ALAB, and Atomic Safety and Licensing Boards--LBP.

The summaries and headnotes preceding the opinions reported herein are not to be deemed a part of those opinions or to have any independent legal significance.

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

COMMISSIONERS:

Marcus A. Rowden, Chairman
Victor Gilinsky
Richard T. Kennedy

In the Matter of

VERMONT YANKEE NUCLEAR POWER CORPORATION **Docket No. 50-271**
(Vermont Yankee Nuclear Power Station)

PUBLIC SERVICE ELECTRIC & GAS COMPANY **Docket Nos. 50-272**
(Salem Nuclear Generating Station, **50-311**
Units 1 and 2)

PHILADELPHIA ELECTRIC COMPANY **Docket Nos. 50-277**
(Peach Bottom Atomic Power Station, **50-278**
Units 2 and 3)

METROPOLITAN EDISON COMPANY **Docket Nos. 50-289**
et al. **50-320**
(Three Mile Island Nuclear Station,
Units 1 and 2)

DUQUESNE LIGHT COMPANY **Docket Nos. 50-334**
et al. **50-412**
(Beaver Valley Power Station,
Units 1 and 2)

PHILADELPHIA ELECTRIC COMPANY **Docket Nos. 50-352**
(Limerick Generating Station, **50-353**
Units 1 and 2)

**PUBLIC SERVICE ELECTRIC AND GAS
COMPANY**

**Docket Nos. 50-354
50-355**

ATLANTIC CITY ELECTRIC COMPANY
(Hope Creek Generating Station,
Units 1 and 2)

**PENNSYLVANIA POWER AND LIGHT
COMPANY**
(Susquehanna Steam Electric
Station, Units 1 and 2)

**Docket Nos. 50-387
50-388**

**PUBLIC SERVICE COMPANY OF NEW
HAMPSHIRE et al.**
(Seabrook Station, Units 1 and 2)

**Docket Nos. 50-443
50-444**

UNION ELECTRIC COMPANY

(Callaway Plant,
Units 1 and 2)

**Docket Nos. STN 50-483
STN 50-486**

April 1, 1977

After promulgating its interim rule on the environmental impacts of the uranium fuel cycle, the Commission directs the Appeal Boards in several cases to take appropriate action to secure such information as is necessary and to resolve the issues involving such impacts.

MEMORANDUM AND ORDER

On November 5, 1976, we entered Memoranda and Orders in these dockets in which we suspended pending show cause proceedings, NRCI-76/11 at 451, 470. Our action was based on our belief, fully discussed in the *Seabrook* decision, that we would promulgate an interim rule on the environmental impacts of the uranium fuel cycle in the near future and that such a rule would "... not produce results significantly different from those obtained under the current rule," *id.* at 461. Accordingly, we held that *NRDC v. NRC*, 547 F.2d 633 (D.C. Cir. 1976), *cert. granted sub nom., Vermont Yankee Nuclear Power Corporation v. NRDC*, 45 U.S.L.W. 3570 (February 22, 1977), did not require suspension of any outstanding licenses.

On March 14, 1977, we promulgated such an interim rule which contains values for environmental impacts which are not substantially different from the values either in the proposed rule or those in the original rule. 42 *Fed. Reg.* 13803 (the "interim rule"). When we issued that rule we noted that show cause proceedings which had been initiated as a result of our General Statement of Policy on the Uranium Fuel Cycle, 41 *Fed. Reg.* 34707 (August 16, 1976), should be terminated. 42 *Fed. Reg.* at 13806. In writing the interim rule, however, we focussed primarily on the rulemaking action we were taking rather than these specific adjudicatory proceedings. In none of the cases do we have the particularized factual data essential to making a determination of the incremental effect, if any, that the use of the values in the interim rule would have on the NEPA cost-benefit balances for the particular facilities involved. Accordingly, today we remand these cases to the Appeal Panel so that it may act to resolve them expeditiously and appropriately. Furthermore, it should act to resolve any other proceeding in which the issue of the environmental impacts of the uranium fuel cycle is before it. However, without desiring to prejudice the Appeal Panel's findings in particular cases, we wish to restate our belief, expressed in the statement of considerations accompanying the interim rule, that the values in the old rule and those in the interim rule are not substantially different and, therefore, although conceivable, it appears unlikely that use of the interim rule values rather than those in the original rule could tilt a cost-benefit balance against a facility, thus requiring suspension of an outstanding license or permit, or denial of a permit that would otherwise have been approved.

The Appeal Board involved in each case should take appropriate action to secure the information necessary for it to act. In particular cases, the Board may choose to request the parties to address themselves to this issue. In most cases this may not be necessary in view of the lack of substantial differences between the interim and original rules.

It is so ORDERED.¹

By the Commission

Samuel J. Chilk
Secretary of the Commission

Dated at Washington, D.C.
this 1st day of April 1977

¹ Chairman Rowden has in the past disqualified himself from participating in several of these proceedings because of his prior service as Associate General Counsel of the Atomic Energy Commission during the pendency of those proceedings. Absent a showing of necessity not here present, the Chairman does not believe he should participate in ruling on the merits of these proceedings. He is participating in this procedural Order for the limited purpose of remanding these proceedings to the Appeal Panel because his presence is required to establish the necessary quorum of three, 42 U.S.C. 5841(a), and otherwise no Commission action could be taken.

UNITED STATES
NUCLEAR REGULATORY COMMISSION

COMMISSIONERS:

Chairman Rowden

Commissioner Gilinsky

Commissioner Kennedy

In the Matter of**Dockets Nos. STN 50-508
STN 50-509****Washington Public Power Supply
System****(WPPSS Nuclear Project Nos. 3 and 5)****April 1, 1977**

Upon request by applicant for an exemption under 10 CFR §50.12 to permit it to undertake certain activities prior to receipt of a limited work authorization (LWA), the Commission rules that the grant of an exemption would not be appropriate since the factual questions raised are more properly decided by the Licensing Board, such Board has already granted a part of the relief sought, and issuance of an LWA decision should be forthcoming in a short time.

Request dismissed.

REGULATIONS: EXEMPTIONS

The Commission may grant exemptions "as it determines are authorized by law . . . and are otherwise in the public interest." 10 CFR §50.12(a). In making such a determination, the Commission must balance the adverse environmental impacts, their redressability, whether the activities would foreclose alternatives, and the effects of further delay should the exemption not be granted. 10 CFR §50.12(b).

LICENSING BOARD: DELEGATED AUTHORITY

Normally, the Licensing Board is charged with compiling a factual record in a proceeding, analyzing the record, and making a determination based on the record; only in extraordinary circumstances will the Commission assume the functions of the Board, particularly without the benefit of an initial decision by the Board.

REGULATIONS: PRE-LWA ACTIVITY

When proposed pre-LWA activities have impacts which are expected to be

de minimis, or minor and fully redressable, and the issues are essentially factual, the preferred method for seeking permission to undertake those activities is for the applicant to request a determination by the Licensing Board that the proposed activities are not barred by 10 CFR §50.10(c).

REGULATIONS: PRE-LWA ACTIVITY

When an applicant is seeking permission to undertake proposed pre-LWA activities and an interpretation or application of a regulation to particular facts is at issue, the applicant should proceed in accordance with 10 CFR §2.758(b) to obtain a waiver or exception from the Commission.

REGULATIONS: PRE-LWA ACTIVITY

An applicant seeking permission to undertake proposed pre-LWA activities should seek an exemption from the Commission under 10 CFR §50.12 only in the presence of exigent circumstances, such as emergency situations in which time is of the essence and relief from the Licensing Board is impossible or highly unlikely.

MEMORANDUM AND ORDER

Washington Public Power Supply System (WPPSS) has requested from the Commission an exemption under 10 CFR §50.12 to permit it to undertake certain activities concerning its Nuclear Generating Station, Units 3 and 5, in the State of Washington. WPPSS currently has an application for a limited work authorization (LWA) for the same facility before a panel of the Atomic Safety and Licensing Board. Because the questions raised by this request are predominantly fact related, and are currently before the Licensing Board, the matter is one properly for its consideration.

Background

WPPSS applied for an LWA to permit site preparation activities prior to the granting of a construction permit in accordance with 10 CFR §50.10(e)(1). Its Environmental Report and Preliminary Safety Analysis Report were docketed in the fall of 1974, and the staff's Final Environmental Impact Statement was issued early in 1975. Public hearings were held on June 24 and 25, 1975, but the record was held open until April of 1976 awaiting certification of compliance with Section 401 of the Federal Water Pollution Control Act. The proceedings were again placed under abeyance in July 1976 following the decision of the Circuit Court of Appeals for the District of Columbia in the *Vermont Yankee* case, *NRDC v. NRC*, 547 F.2d. 633. The uncertainties caused by *Vermont Yankee* were clarified in the Commission's Supplemental Policy Statement of

November 5, 1976, but the record was kept open to receive further input from the staff on seismicity of the site. WPPSS argues that there is no end to the delay in sight and that delay is causing undue hardship. WPPSS filed its request for an exemption under 10 CFR §50.12 on February 16, 1977.

WPPSS has also sought relief from the Licensing Board for some of the activities for which they are simultaneously seeking relief from us. By motion filed February 16, 1977, WPPSS sought a determination that the development and use of four laydown areas for storage of prepurchased equipment and the upgrading of an existing county road would not have a significant effect on the environment and were therefore not precluded by 10 CFR §50.10(c). By order of March 4, 1977, the Licensing Board determined that upgrading of the road and development of three of the laydown areas—those located onsite—would have only trivial or minor environmental impacts that would be fully redressable, and it accordingly authorized the activities. Concerning the fourth, offsite laydown area, it refused to authorize development on the grounds that there was insufficient information in the record concerning the environmental impacts involved. WPPSS on March 14 filed a motion for further consideration by the Licensing Board of the fourth offsite area, and this request remains pending before the Board.

The Exemption Request

WPPSS seeks an exemption from Commission regulations prohibiting commencement of construction, 10 CFR §50.10(c), to permit development and use of the laydown areas described above, replacement of a bridge crossing the Chehalis River, upgrading the existing county road also noted above, clearing and grubbing of parts of the site, and excavation of material to develop erosion control ditches, ponds and outfall structures. Due to the recent action of the Licensing Board, the request is now moot with respect to upgrading of the road and development of three of the laydown areas, but remains active for the remainder of the enumerated activities. All of these activities would be within the scope of an LWA sought from the Licensing Board.¹

WPPSS complains that it cannot foresee when the LWA will be issued, and it notes that the staff has changed its projected date for completing its analysis of the seismicity issues from March 1 to March 15. It argues that commencement of site preparation is essential to take advantage of the summer dry season and to assume delivery of purchased equipment. It notes that storage costs for receipt

¹We understand that the present record is being supplemented with respect to the fourth laydown area. Should the evidence be submitted after the partial initial decision by the Board, the LWA would not authorize use of the fourth area. In that case an amendment to the LWA could be sought to permit use of the fourth area.

of the equipment at intermediate locations would impose severe financial penalties, that the activities proposed would have redressable effects on the environment, and that the power from the facility is needed and should not be further delayed.

The staff response to the exemption request directs our attention to developments that have occurred since the request was filed. On February 24, the staff supplemented the record before the Licensing Board on fuel cycle issues, and on March 11 it submitted testimony indicating that the seismicity analysis contained in the Safety Evaluation Report, filed in 1976, adequately describes the earthquake dangers for the site. With respect to the offsite laydown area, the staff has inspected the area and proposes to submit testimony on the issue. Additional staff submissions recently filed should in any event permit closing of the record and issuance of a decision on the LWA in a short period of time.

The regulation cited by WPPSS permits the Commission to grant exemptions to its regulations in Part 50 "as it determines are authorized by law . . . and are otherwise in the public interest." 10 CFR §50.12(a). In making such a determination, the Commission must balance the adverse environmental impacts, their redressability, whether the activities would foreclose alternatives, and the effects of further delay should the exemption not be granted. 10 CFR §50.12(b). With respect to the remaining activities subject to the request, the exemption would be "authorized by law"—that is, permitted by NEPA—if they can be assessed on the basis of a complete environmental record and if they would not predetermine the ultimate outcome of the pending application. This determination could be made only after a careful balancing of the factors enumerated in 10 CFR §50.12(b) and close scrutiny of the record presently before the Licensing Board.

The Licensing Boards exist for the very purpose of compiling a factual record in a particular proceeding, analyzing the record, and making a determination based on the record. Not only is WPPSS asking us to grant authorization preliminary to an LWA, which itself is preliminary in nature, but it is asking us to displace the Board's function prior to a final order of the Board. Absent extraordinary circumstances not readily apparent in the present case, we would be extremely reluctant to assume the function of the Board and scrutinize the factual issues ourselves, particularly without benefit of an initial decision by the Board. See *Kansas Gas and Electric Company*, (Wolf Creek Generating Station), CLI-77-1, 5 NRC 1 at 5 (January 12, 1977).

This is not to say that we cannot in the proper circumstances perform the function of a Licensing Board. Here, however, the Board is already intimately familiar with the record, and a decision on the application for an LWA does not appear to be far off. It would be less expeditious for us to assume the Board's functions at this stage in the proceedings. Moreover, we take particular note of the fact that timely action by the Board has already afforded the applicant a

part of the relief that it seeks from us. Development of the laydown areas authorized on March 4 should afford at least a partial solution for what appears to be the applicant's most pressing problem, its contractual obligation to assume delivery of purchased equipment.

We turn finally to consideration of our opinion in *Wolf Creek, supra*, which noted that permission to commence activities preparatory to construction in advance of an LWA could be sought by three different methods. One method is to seek a determination by the Licensing Board that the proposed activities are not barred by 10 CFR §50.10(c) because their impacts are *de minimis* or minor and fully redressable. When the issues involved are essentially factual, as are the issues here, this is the preferred method.² The second method is to proceed in accordance with 10 CFR §2.758(b), under which a waiver or exemption may be obtained from the Commission if the Board certifies the issue presented in accordance with 10 CFR §2.758(d). As noted in subpart (b):

The sole ground for a petition for waiver or exception shall be that special circumstances with respect to the subject matter of the particular proceeding are such that application of the rule or regulation (or provision thereof) would not serve the purposes for which the rule or regulation was adopted.

This method should be used when an interpretation or application of a regulation to particular facts is called into question, which is not the case in the instant request.

The third method is to seek an exemption from the Commission under 10 CFR §50.12. We regard this method as extraordinary, and we reiterate that it should be used sparingly. See Statement of Considerations, 37 FR 5745. Parties should resort to this method of relief only in the presence of exigent circumstances, such as emergency situations in which time is of the essence and relief from the Licensing Board is impossible or highly unlikely. The present situation does not present the type of exigencies that we would consider sufficiently compelling to grant an exemption under Section 50.12.

The request concerning replacement of the bridge across the Chehalis River raises a somewhat different question. The Licensing Board in its March 4 Order authorized upgrading of the road which is served by the bridge. However, WPPSS had not requested permission from the Board, as it has from us, to proceed with replacement of the bridge. The replacement of the bridge would be planned and carried out by the county, but financed by WPPSS. Both the road and the bridge are and will be county facilities serving local residents as well as the applicant.

²We note that applicants are seeking an exemption for activities beyond what can be permitted in a Section 50.10(c) determination. Absent extraordinary circumstances, relief of this nature is not available except through issuance of an LWA.

The Licensing Board may well consider the replacement of the bridge to be within the scope of its prior authorization for upgrading of the road, or may decide to permit the activities under the same rationale.

Conclusion

In view of the foregoing the request for an exemption raises issues more properly left for decision by the Board. For this reason, the request is dismissed.

By the Commission

Samuel J. Chilk
Secretary of the Commission

Dated this 1st day of April 1977.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION**COMMISSIONERS:**

Marcus A. Rowden, Chairman
Victor Gilinsky
Richard T. Kennedy

In the Matter of**Docket Nos. 50-329
50-330****CONSUMERS POWER COMPANY****(Midland Plant, Units 1 and 2)****April 5, 1977**

Upon motion by intervenors for directed certification of the Licensing Board's order denying them financial assistance, the Commission rules that the request is improperly filed. It notes that it does not have a quorum to act in this proceeding, except for limited purposes, and authorizes the Appeal Board to treat intervenors' motion as a request for reconsideration of ALAB-382, which dealt with a similar matter.

Motion dismissed.

RULES OF PRACTICE: APPELLATE REVIEW

Parties may not appeal or otherwise seek review of Appeal Board decisions by the Commission. 10 CFR 2.786(a).

ORDER

On March 13, 1977, counsel for Intervenors (other than Dow Chemical) filed a motion with both the Atomic Safety and Licensing Appeal Board and the Commission seeking directed certification of the Atomic Safety and Licensing Board Panel's order of February 25, 1977. That order denied their request for Commission funds to pay their lawyer's fees and expenses and those of a witness they wish to sponsor. The Appeal Board on March 18, 1977, denied the motion for directed certification, ALAB-382, 5 NRC 603. On March 21, 1976, intervenors' counsel wrote a letter to the Commission seeking action on its earlier motion or "at the least a referral to the Appeal Board so that it may exercise the authority of the Commission."

The ongoing hearing in this reopened proceeding was directed by the Commission itself in response to the court of appeals mandate in *Aeschliman v. NRC*,

547 F.2d 622 (D.C. Cir. 1976), *cert. granted*, 45 U.S.L.W. 3570 (February 22, 1977). For this reason, the licensee's motion of March 4, 1977, was appropriately addressed to the Commission itself. However, for the reasons specified in our order of March 18, the Commission does not presently have a quorum to act in the proceeding, except for limited purposes, such as delegating the requisite authority to act to the Appeal Board, or dismissing requests improperly filed. Our order of March 18 delegated authority to act on the licensee's motion to the Appeal Board, and also on a motion by the intervenors to halt construction during the hearing. We did not separately consider whether the latter motion was properly filed with the Commission.

The instant motion for financial assistance is not properly before us, even had we a quorum to act upon such a motion. As noted above, the intervenors could and did file such a motion with the Licensing Board, and they exercised their right to seek directed certification of the Licensing Board's denial of that motion. Under our present rule (10 CFR 2.786(a)) parties may not appeal or otherwise seek review of Appeal Board decisions. Our reviewing authority is exercised only *sua sponte* and, of course, only in cases where we have a quorum to act.

The intervenors' request to us for financial assistance is dismissed as improperly filed. The Appeal Board may treat the intervenors' letter of March 21 as a request for reconsideration. Because we presently lack a quorum, we will not exercise our *sua sponte* review power with respect to ALAB-382. We wish to make it clear that until there is a Commission quorum in this case the Appeal Board is vested with authority to act on any matters that would otherwise be properly addressed to the Commission, subject to otherwise applicable rules and established Commission policies.

It is so ORDERED.

By the Commission

Samuel J. Chilk
Secretary of the Commission

Dated at Washington, D.C.
this 5th day of April 1977.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Michael C. Farrar, Chairman*
Dr. Lawrence R. Quarles

In the Matter of

Docket Nos. 50-277
50-278

PHILADELPHIA ELECTRIC COMPANY
et al.

(Peach Bottom Atomic Power
Station, Units 2 and 3)

April 7, 1977

Upon appeal by the staff and the applicants from the Licensing Board's holding in LBP-77-12, 5 NRC 486, that a late filed energy conservation contention was acceptable in the ongoing operating license proceeding, the Appeal Board concludes that the Board below should have rejected the contention along with others which it disallowed. In light of the Commission's order directing the Appeal Board to consider certain fuel cycle questions (CLI-77-10, 5 NRC 717), a decision on the Licensing Board's rejection of a fuel cycle contention is deferred.

Licensing Board decision affirmed in part, vacated in part, and reversed in part; matter remanded with instructions to dismiss contention.

Messrs. Troy B. Conner, Jr., and Mark J. Wetterhahn, Washington, D.C., for the Philadelphia Electric Company, *et al.*

Mr. James M. Cutchin, IV, for the Nuclear Regulatory Commission staff.

DECISION

The staff and the applicants seek to challenge a Licensing Board ruling that an energy conservation contention was acceptable for consideration in the as-yet uncompleted *Peach Bottom* operating license proceedings. The contention had been presented in an unusual fashion. Specifically, it was contained in a new

*For the reason set forth in the footnote to our unpublished memorandum of September 5, 1975, this Board is continuing to operate with only two members.

“petition for intervention” filed by a group which already was participating in the fray, having long ago been admitted into the original hearing on the operating licenses.

The appellants question not only the merits of the ruling on the contention but also the jurisdiction of the Board below to entertain it. We perceive a different jurisdictional problem—we are far from certain that the appeals are legitimate at this interlocutory stage.

Be that as it may, it is appropriate in the unusual situation presented to exercise our inherent authority to bring the question before us and to decide it on the merits. We conclude that the Board below should have rejected the specific contention in question along with all the petition’s other contentions, which the Board rightfully did disallow.¹ See *Metropolitan Edison Co. (Three Mile Island, Unit 2)*, ALAB-384, 5 NRC 612 (March 22, 1977).

A. Jurisdiction

1. Last August, the Environmental Coalition on Nuclear Power filed with the Commission a “petition for intervention” with respect to Peach Bottom Units 2 and 3² that was similar in form to petitions which it filed at the same time in several other licensing proceedings involving reactors located in Pennsylvania and New Jersey. All the petitions were filed in the wake of last summer’s judicial decisions on the appeals from the licensing of the *Vermont Yankee* and *Midland* reactors and from the adoption of a rule dealing with the environmental impact of the uranium fuel cycle.³

Although all the petitions were similar in form and had been stimulated by a common event, the procedural setting in *Peach Bottom* was considerably different from that of most, if not all, of the other licensing proceedings in which petitions were filed. For one thing, the Licensing Board here had long ago completed its initial handling of the operating license phase, and both units had obtained and were utilizing their operating licenses. And, for another, the Coalition had participated in the operating license proceedings.

This is not to say, however, that there had been a final decision on either license. The contrary is true. With respect to Unit 2, “final” administrative action had once been taken but judicial review had thereafter resulted in a remand of the matter for further consideration of the question of the need to

¹ Owing to events occurring since the Board ruled, one of those other contentions does require further attention at this time. See p. 732, *infra*.

² Although the two units had already received operating licenses, the petitions called for a halt to construction and the revocation of the construction permits. (Unit 1 was taken out of service some time ago.)

³ *Natural Resources Defense Council v. NRC*, 547 F.2d 633, and *Aeschliman v. NRC*, 547 F.2d 622 (D.C. Cir., 1976); *certiorari granted*, ___ U.S. ___ (February 22, 1977).

reduce the level of routine radioactive emissions. *York Committee for a Safe Environment v. NRC*, 527 F.2d 812 (D.C. Cir., 1975), as implemented by CLI-76-3, 3 NRC 82. And the Unit 3 proceeding was—and still is—pending before us on exceptions taken to the Licensing Board decision authorizing plant operation.⁴

The Licensing Board presiding over the remanded proceeding was designated to pass on the Coalition's petition. It did so in an opinion issued on February 22, 1977 (LBP-77-12, 5 NRC 486). It first construed the petition as a request for permission to add additional contentions to those presented much earlier in the proceeding. The Board determined that "good cause" had to be shown before such late contentions could be entertained. It went on to find that such good cause—which was asserted to stem from the judicial decisions listed in fn. 3, *supra*—was present only with respect to two contentions.⁵ But because the Commission had suspended all proceedings dealing with one of those contentions,⁶ the Board held it could not be considered further.⁷ The Board accepted the remaining contention—No. 5, dealing with energy conservation and rate structures—as an issue in controversy; the appeals from that ruling followed.⁸

2. An argument can be made that the Licensing Board should not be faulted for considering that it had sufficient jurisdiction to justify its action. To be sure, the remand from the Court of Appeals and the implementing Commission order involved only a relatively narrow aspect of the operating license proceeding. But nothing explicit in the Commission's order either requires the Board to focus exclusively on the issue which precipitated the remand or precludes the Board from doing more if necessary (although those notions might well be implicit). Owing to the impact of the judicial decision, the operating license proceeding has not yet been finally terminated.⁹ It might then be said that the Board below is thus functioning essentially as the successor to the original operating license

⁴The principal focus of the Unit 3 appeal was on water quality related matters, although the other exceptions taken with respect to Unit 2 were renewed. We have deferred our consideration of those matters while the parties have engaged in lengthy attempts to reach a settlement. According to the latest status report (dated February 25, 1977) furnished us by the applicants, those attempts may now be close to fruition.

⁵The Board thus rejected all other contentions outright.

⁶CLI-76-18, NRCI-76/11 470.

⁷This situation has now changed. See p. 732, *infra*.

⁸The Coalition has filed no papers in support of the Licensing Board's ruling.

⁹We have just recently held that once a proceeding has been finally terminated, a licensing board lacks the authority to grant a late filed intervention request. *Houston Lighting and Power Company* (South Texas, Units 1 and 2), ALAB-381, 5 NRC 582 (March 18, 1977), reconsideration denied, ALAB-387, 5 NRC 638 (March 31, 1977). In that connection, the action of the Licensing Board Panel Chairman in designating board members to rule on a petition cannot confer jurisdiction on them to grant a petition which is outside the scope of the Board's authority.

board.¹⁰ During the pendency of an operating license proceeding, of course, a presiding board has plenary authority. Its duties include passing upon requests to consider additional contentions beyond those first put in issue by the parties, as well as passing upon late intervention requests. There was thus some basis for the belief of the Board below that it had power to act.

Of course, what has been just said applies directly only to the Unit 2 proceeding, for it was only that unit which was the subject of judicial review. But in the initial administrative proceeding the topic which ultimately led to the remand was considered in like fashion for both units. And the intervenors took proper exception to its resolution not only with respect to Unit 2 but also in the Unit 3 proceeding. Thus, there is reason for the Licensing Board to consider the impact of the issue with respect to both units; indeed, the caption on its implementing remand order would suggest that the Commission recognized that whatever was decided with respect to Unit 2 would have a direct bearing on Unit 3 also and that the Board should proceed accordingly.

This leaves the question of whether our own jurisdiction over the pending exceptions from the Unit 3 initial decision means that, in the first instance, only we can consider the "petition to intervene" insofar as that unit is concerned.¹¹ In our judgment, in all the circumstances the possibility that we might have exercised our own jurisdiction furnishes no basis for objection to the Licensing Board's having taken the initiative and decided the matter. Indeed, considerations of economy of time and resources made it entirely fitting that it do so, since on the merits the questions presented by the petition were identical for both units.

In any event, any question that our jurisdiction over the Unit 3 proceeding preempted the Licensing Board is essentially a moot one. For if that Board lacked jurisdiction on that score it would be because the "petition to intervene" was before us directly as far as Unit 3 was concerned; whether we rule directly or by reviewing the Board below, our decision on the merits would be the same.

A more serious jurisdictional problem concerns the legitimacy of the appeals. Because the Coalition is already a party to the proceeding, the appeals appear to be interlocutory ones not embraced by the limited exception provided by 10 CFR §2.714a—which, insofar as is relevant here, permits an appeal only on the question of whether a proposed intervenor should have been kept out of

¹⁰Mr. Farrar would rule that this is the case, and would uphold the Licensing Board's jurisdiction. Dr. Quarles would reach the opposite result on the jurisdictional question. Thus nothing said in this paragraph of the text of the opinion can be taken as a holding of this Board. Both members agree, however, on the remainder of the opinion and in the conclusion that the "petition to intervene" cannot be further pursued before the Licensing Board.

¹¹*Cf. Gulf States Utilities Company* (River Bend, Units 1 and 2), ALAB-383, 5 NRC 609 (March 22, 1977). We should note that, just after the "petition to intervene" was filed, we issued several procedural orders, in each case limiting our action to Unit 3.

the proceeding entirely. In other words, the appeals bear the earmarks of forbidden interlocutory ones, which seek to raise only the question of whether additional contentions should have been admitted beyond the one which furnished the basis for intervention in the first place.¹²

But the procedural complexities of this case are difficult enough already. And another Appeal Board has already passed on the merits of a quite similar petition presented by the Coalition in a case in which an appeal was appropriate. *Three Mile Island*, ALAB-384, *supra*. In these unique circumstances, it seems appropriate to cut through the jurisdictional tangle and render a ruling on the merits by, if necessary, directing certification of the questions presented under 10 CFR 2.718(i) and 2.785(b). Our doing so does not signal a general departure from our unwillingness to review the adequacy of multiple contentions on an interlocutory basis. As just noted, passing on the merits here will not add appreciably to our workload, for virtually the identical question has already been decided by another Appeal Board. And there is at least some clay in the jurisdictional footing of the Board below; this gives further justification for saying now, rather than later, whether the merits of the petitions can survive scrutiny.

B. The Merits

The petition before us contains one contention (No. 7) not found in the similar petition rejected in *Three Mile Island*; in all other respects, the contentions are essentially identical. We concur entirely in the reasoning which led in ALAB-384 to the rejection of the energy conservation contention (No. 5) which the Licensing Board in both cases admitted into controversy and which is the subject of the appeals here. We also concur in ALAB-384's affirmance of the Licensing Board's rejection of all other contentions. The following additional comments, however, are necessary in light of the different procedural posture of the two cases, the presence of an additional contention here, and the occurrence of an intervening event.

1. Because the Coalition was not already a party in *Three Mile Island*, the adequacy of its petition had to be judged not only in terms of "good cause" for its untimeliness but also in light of the "four factors" found in 10 CFR 2.714(a). But, with one exception (see paragraph 3, *infra*), the Coalition failed there on both counts; thus, whether or not we should consider the four factors in connection with late filed contentions presented by an existing party, the Coalition's petition must be held to be unjustifiably late in all but one respect.

¹²The appellants argue that, because no one has yet formally requested a hearing on the remanded issue, the order of the Board below constitutes the only grant of a request for hearing thus far issued and is thus appealable under Section 2.714a. We prefer not to base our jurisdiction on such a tenuous footing.

2. This analysis holds as well for the additional contention which was presented here but not in *Three Mile Island, i.e.*, contention No. 7 concerning the alleged utilization of unrealistic plant capacity factors in performing the cost-benefit analysis. Moreover, it is difficult to conceive how such a contention can have any bearing at this stage, construction having been completed long ago. The Board below correctly rejected this contention.

3. The Board below correctly perceived that the recent judicial decisions provided good cause for the late filing of the fuel cycle contention. But it also correctly recognized that the Commission had forbidden the prosecution of such a contention. 5 NRC at 488; see also ALAB-384, *supra*, 5 NRC at 620. The Commission has since, however, promulgated an interim fuel cycle rule and issued an order in a number of proceedings, including this one, directing Appeal Boards to deal with that matter. CLI-77-10, 5 NRC 717 (April 1, 1977).¹³ Accordingly, we are vacating the Board's rejection of the fuel cycle contention; we will deal with that contention in a separate order.

The decision of the Licensing Board is *affirmed in part, vacated in part* and *reserved in part* and the matter remanded with instructions to dismiss the Coalition's late filed Contention No. 5.

It is so ORDERED.

FOR THE ATOMIC SAFETY AND
LICENSING APPEAL BOARD

Margaret E. Du Flo
Secretary to the Appeal Board

¹³The Board below properly indicated that its order was without prejudice to the Coalition's right to refile the fuel cycle contention after the Commission acted. In light of the terms of the Commission's order, however, further proceedings on that matter will, at least initially, be conducted before us.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING APPEAL BOARDS

Alan S. Rosenthal, Chairman
Dr. John H. Buck*
Michael C. Farrar*
Richard S. Salzman*
Dr. W. Reed Johnson*

In the Matter of

NEW ENGLAND POWER COMPANY, Docket Nos. STN 50-568
et al. STN 50-569

(NEP Units 1 and 2)

PUBLIC SERVICE COMPANY OF Docket Nos. 50-443
NEW HAMPSHIRE, et al. 50-444

(Seabrook Station, Units 1 and 2) April 7, 1977

Acting together on the single question (raised in two proceedings) of whether, under existing Commission regulations, consideration is to be given to the feasibility of devising an emergency plan for the protection (in the event of an accident) of persons outside the facility's low population zone, two Appeal Boards rule that no such consideration need be given.

Appropriate exception in *Seabrook* denied; Licensing Board order in *NEP* granting intervention petition on this issue reversed.

EMERGENCY PLAN: PROTECTION OF PERSONS OUTSIDE LPZ

Under existing Commission regulations, consideration is not to be given in a licensing proceeding to the feasibility of devising an emergency plan for the protection (in the event of an accident) of persons outside the low population zone.

*Mr. Salzman and Dr. Johnson are members of the Appeal Board in Docket Nos. STN 50-568 and STN 50-569; Dr. Buck and Mr. Farrar are members of the Appeal Board in Docket Nos. 50-443 and 50-444.

REGULATIONS: INTERPRETATION

Where NRC is interpreting its own regulations, and where those regulations have long been construed in a given way, the doctrine of *stare decisis* will govern absent compelling reasons for a different interpretation; the regulations may be modified, if appropriate, through rulemaking procedures.

Mr. Thomas G. Dignan, Jr., Boston, Massachusetts, (with whom Mr. John A. Ritscher was on the briefs) for the applicants, New England Power Company, *et al.* (Docket Nos. STN 50-568 and STN 50-569) and Public Service Company of New Hampshire, *et al.* (Docket Nos. 50-443 and 50-444).

Mr. Anthony Z. Roisman, Washington, D.C., (with whom Mr. David S. Fleischaker was on the briefs) for the intervenor, New England Coalition on Nuclear Pollution (Docket Nos. 50-443 and 50-444).

Mr. Donald W. Stever, Jr., Assistant Attorney General of New Hampshire, Concord, New Hampshire, for David H. Souter, Attorney General of New Hampshire (Docket Nos. 50-443 and 50-444).

Ms. Ellyn R. Weiss, Assistant Attorney General of Massachusetts, Boston, Massachusetts, filed a brief on behalf of the Commonwealth of Massachusetts (Docket Nos. 50-443 and 50-444).**

Mr. Joseph Scinto (Messrs. Michael W. Graine, Myron Karman and James M. Cutchin IV on the briefs) for the Nuclear Regulatory Commission staff.

DECISION

Opinion of the Boards by Mr. Rosenthal, Dr. Buck, and Dr. Johnson:

These two construction permit proceedings involving proposed nuclear power facilities in New England have brought before us a common question: whether, under existing Commission regulations, consideration is to be given in a

** Ms. Weiss participated in the initial argument of the appeals in Docket Nos. 50-443 and 50-444 but did not participate in the reargument of the issue considered in this opinion.

licensing proceeding to the feasibility of devising an emergency plan for the protection (in the event of an accident) of persons located outside of the low population zone for the particular facility (hereinafter "emergency plan issue"). As will be seen, this is not a question of first impression. To the contrary, it has been squarely presented, and answered in the negative by us, in several earlier cases. For the reasons set forth below, we adhere to our prior rulings on the point.

I

The emergency plan issue has reached us by different routes in the two cases. In *Seabrook*, several of the parties (including the NRC staff) filed exceptions to the ruling in the Licensing Board's June 29, 1976, initial decision to the effect that it was not necessary for the applicants in that case to devise an evacuation plan for areas outside of the low population zone for that facility (specifically beach areas in the vicinity of the proposed site). LBP-76-26, 3 NRC 857, 922-26.¹ For its part, the *NEP* proceeding is still in its infancy. The Licensing Board has, however, ruled on a substantial number of intervention petitions, including one filed last November by an organization entitled Aquidneck Island Ecology (Aquidneck). Asserting standing on the basis that it has members living within sixteen miles of the site proposed for the *NEP* facility,² Aquidneck raised in its petition only one issue with the specificity required by the intervention provisions of the Rules of Practice:³ the feasibility of evacuating the residents of Aquidneck Island in the event of a severe nuclear accident. From the January 7, 1977, order of the Licensing Board granting the Aquidneck petition, the *NEP* applicants have appealed under 10 CFR §2.714a.⁴ Stressing that Aquidneck Island is not within the low population zone for the *NEP* facility, they assert that "a contention seeking to raise the issue of evacuation of areas beyond the

¹The two-unit Seabrook facility is to be located in close proximity to the New Hampshire seacoast. The initial decision last June authorized the issuance of construction permits for both units. The numerous appeals from that decision raised an abundance of discrete safety and environmental issues. Some of them were decided in ALAB-366, 5 NRC 39 (January 21, 1977), *affirmed as modified*, CLI-77-8, 5 NRC 503 (March 31, 1977). Others remain under submission. The emergency plan question has been factored out for separate consideration because it is also presented in *NEP*.

²That facility is to be located in Charlestown, Rhode Island, also in close proximity to the Atlantic Ocean.

³10 CFR §2.714(a).

⁴Those applicants are represented by the same counsel who represent the *Seabrook* applicants.

LPZ is not a valid contention under the Commission's regulations."⁵ Adhering to the contrary position taken by it in *Seabrook*, the staff urges affirmance. No response to the appeal has been filed by Aquidneck, which appears content to rest upon the staff's defense of the grant of its petition.

Oral argument on the emergency plan issue was calendared and heard by the *Seabrook* and *NEP* Appeal Boards sitting together.⁶ In addition to the staff and the applicants in both cases, the participants were two *Seabrook* intervenors—the New England Coalition on Nuclear Pollution and the Attorney General of New Hampshire. Both of those intervenors had taken exception to the *Seabrook* Licensing Board's determination of the emergency plan issue in its initial decision.

II

The low population zone concept is firmly rooted in the provisions of 10 CFR Part 100, the portion of the Commission's radiological health and safety regulations which is concerned with reactor site criteria.⁷ Three sections of Part 100 are of particular relevance to our inquiry here. Section 100.3(b) defines the low population zone in terms of that

area immediately surrounding the exclusion area which contains residents, the *total number and density of which are such that there is a reasonable probability that appropriate protective measures could be taken in their behalf in the event of a serious accident.* These guides do not specify a permissible population density or total population within this zone because the situation may vary from case to case. Whether a specific number of people can, for example, be evacuated from a specific area, or instructed to take shelter, on a timely basis will depend on many factors such as location, number and size of highways, scope and extent of advance planning, and actual distribution of residents within the area.

⁵In advancing this assertion, the applicants disclaim any suggestion that no emergency planning need extend beyond the low population boundary. They note that, among other things, arrangements to cope with emergencies may have to be made with hospitals which are located outside that boundary. Their argument is addressed entirely to the obligation of applicants to devise plans for "dynamic" protective measures (such as evacuation and the taking of shelter) outside of the low population zone. See App. Tr. 8-9. We accept this characterization of the scope of the issue.

⁶The issue had been touched upon in the oral argument last December on the merits of the various *Seabrook* appeals. The members of that Board decided that reargument was appropriate.

⁷Part 100 was adopted by the Commission in April 1962. 27 Fed. Reg. 3509. In no respect material to the issue before us have the terms of the Part been altered since their original promulgation.

[Emphasis supplied.] Section 100.11(a)(2) requires that the low population zone be

of such size that an individual located at any point on its outer boundary who is exposed to the radioactive cloud resulting from the postulated fission product release (during the entire period of its passage) would not receive a total radiation dose to the whole body in excess of 25 rem or a total radiation dose in excess of 300 rem to the thyroid from iodine exposure.

Finally, Section 100.11(a)(3) stipulates that “the distance from the reactor to the nearest boundary of a densely populated center containing more than about 25,000 residents”⁸ be “at least one and one-third times the distance from the reactor to the outer boundary of the low population zone.”

A. In *Southern California Edison Co.* (San Onofre Nuclear Generating Station, Units 2 and 3), ALAB-268, 1 NRC 383, 404-05 (1975), we explained how, in light of those provisions, “the low population zone concept operates to enhance safety”:

A low population zone must be of such a size that a person located at its outer boundary who is exposed to the postaccident radioactive cloud during the whole period of its passage overhead would not receive a radiation dosage in excess of certain “reference” levels. . . . *Additionally, the situation in the interior of the zone must be such that persons located therein (a relatively low number) can be protected, by evacuation or otherwise, from receiving a larger radiation dosage in the event of an accident.*⁹ Finally, of course, there must be no “population center” reaching to within one-third again the distance from the reactor to the zone’s outer boundary.

In other words, the *maximum* possible size of the LPZ for any particular reactor is inflexible, being set by the proximity of that reactor to the nearest population center. *It may not be permissible to utilize an LPZ of that size, however, for it may include more people than can be protected by evacuation or other measures following an accident.*¹⁰ An LPZ of smaller radius may thus have to be selected.

In that connection, the *minimum* permissible size of an LPZ depends on the nature of the engineered safeguards designed into the particular facility to limit radioactive emissions. . . . That minimum size is, therefore, flexible and can be reduced as the extent of the engineered safety features is increased. . . .

⁸I.e., “population center distance” as defined in 10 CFR § 100.3(c).

⁹Emphasis supplied.

¹⁰Emphasis supplied.

And much the same analysis had been set forth in our opinion rendered several months earlier in the same case (ALAB-248, 8 AEC 957, 961 (1974)):

... the design of any facility must be such as to avoid (in the event of an accident) excessive radiation dosages to persons beyond the low population zone boundary, even if those persons take no steps to protect themselves. Inside the low population zone, however, protective measures might be necessary. For this reason, the suitability of the low population zone depends upon the feasibility of protecting persons located there. Specifically, the Commission requires that the total number and density of residents within the low population zone be such that "there is a reasonable probability that appropriate protective measures could be taken in their behalf in the event of a serious accident." 10 CFR 100.3(b). The regulation makes it plain that "many factors," which "vary from case to case," must be considered in ascertaining whether, for example, "a specific number of people can . . . be evacuated from a specific area, or instructed to take shelter, on a timely basis . . ." Ibid.

[Emphasis supplied.]

These were not just passing observations, unnecessary to the disposition of the matter there at hand. To the contrary, our analysis had clear operative significance. One of the principal questions litigated before the Licensing Board in *San Onofre* related to the feasibility of evacuating persons from within the low population zone which had been proposed by the applicants—the outer boundary of which was to be three miles from the reactor. Because of the requirements of 10 CFR §100.11(a)(3),¹¹ we directed, however, that the low population zone be substantially reduced in size, with the result that its outer boundary would be only 1.95 miles from the reactor. ALAB-248, *supra*, 8 AEC at 959-61. This action we found to provide a sufficient response to the concerns expressed with respect to evacuation: "the reduction in size of the low population zone which must take place *will make it unnecessary to evacuate persons in areas formerly within, but now outside that zone.* As a consequence, evacuation of persons who find themselves within the reduced low population zone should be more readily achievable." *Id.* at 962-63; emphasis supplied.

B. As the applicants correctly observe, in confining the need for emergency planning to the area within the low population zone *San Onofre* was not plowing new ground. To the contrary, more than 12 years ago, a licensing board referred to the LPZ in terms of "that area within which it is reasonable to expect that appropriate evacuation measures could be taken in the event of an accident."

¹¹ See p. 737, *supra*.

Jersey Central Power & Light Co. (Oyster Creek), 2 AEC 446, 449 (1964).¹² And there are at least two pre-*San Onofre* decisions of our own which explicitly hold that an applicant need not concern itself with emergency planning for persons beyond the low population zone boundary. *Wisconsin Electric Power Co.* (Point Beach Nuclear Plant, Unit No. 2), ALAB-31, 4 AEC 689, 691-92 (1971); *Consumers Power Co.* (Midland Plant, Units 1 and 2), ALAB-123, 6 AEC 331, 342-43 (1973), *reversed in part on other grounds, sub nom. Aeschliman v. NRC*, 547 F.2d 622 (D.C. Cir. 1976), *certiorari granted*, 45 U.S.L.W. 3570 (February 22, 1977). In each of those cases, as in *San Onofre*, the holding determined the result on a contested point.

In *Point Beach*, an operating license proceeding, the intervenors had contended, *inter alia*, that “[e]mergency plans and procedures [had] not been adequately planned and developed” for certain Wisconsin and Michigan municipalities in the general vicinity of the facility.¹³ The Licensing Board had rejected that contention on the ground that it raised a matter outside the scope of the Commission’s regulations. We agreed, pointing out that “these towns do not fall within the ‘low population’ area to which, according to Commission regulations, emergency evacuation plans must apply in order to protect the public health and safety.” 4 AEC at 692, fn. 7. It might be added that this conclusion was in total accord with the then-prevailing view of the staff respecting the reach of the regulations. In a letter to the *Point Beach* Licensing Board under date of June 4, 1971 (at pp. 2-3), it had stated explicitly with respect to the evacuation contention that (1) “the required contents of the [applicant’s Final Safety Analysis Report] with respect to emergency planning are specified in 10 CFR §50.34(b)(6)(v) and Appendix E to 10 CFR Part 50”; (2) “[t]hese regulations do not on their face require the development of evacuation plans for towns and cities outside the low population zone”; and (3) “[t]hus the bare allegation here that such plans have not been developed, even if true, could not . . . affect in any way the issuance of an Initial Decision in this matter.” This unequivocal statement has special significance here because, as shall be later seen, it is the essentially unchanged emergency planning provisions of 10 CFR Part 50 (and more particularly Appendix E to that part)¹⁴ upon which the staff places principal

¹² See also, decided earlier in the same year, *Southern California Edison Co.* (San Onofre Unit 1), 2 AEC 366, 373 (1964), in which the Licensing Board noted that “[i]n the event of an accident involving a significant release of fission products within the containment it might become necessary to take protective measures, such as evacuation, to protect persons *within the exclusion and low population areas*” (emphasis supplied).

¹³ Petition to Intervene, filed by the Businessmen for the Public Interest, *et al.*, on April 5, 1971, in Docket No. 50-301, at p. 12.

¹⁴ Appendix E was adopted in December 1970—*i.e.*, just six months before the staff’s letter to the Licensing Board in *Point Beach*. 35 Fed. Reg. 19567. The single amendment to it (made in January 1973) was of a wholly inconsequential character. See 38 Fed. Reg. 1271.

reliance in its present insistence that emergency plans can be required for areas outside the low population zone.

Midland, ALAB-123, *supra*, involved a proposed reactor to be located adjacent to the corporate limits of the City of Midland (a municipality of some 35,000 persons), in an area of highly developed commercial and industrial activity.¹⁵ On their appeal from the initial decision authorizing the issuance of construction permits, the intervenors complained, *inter alia*, of the Licensing Board's acceptance of the applicant's proposed emergency evacuation plan. As summarized by us, one of their claims in this regard was that the Board had "erroneously disregarded testimony . . . that it was impossible to evacuate either the low population zone or the City of Midland in the time required by the regulations." Our rejection of this assertion was short and direct:

The regulations require a showing of the possibility of evacuation only from the low population zone, and only one outlying area of the City of Midland (primarily occupied by Dow) falls within that zone. There is ample evidence of record which indicates that evacuation of the low population zone within the requisite time period is feasible. Accordingly, there was warrant for the Board's findings on this subject.

6 AEC at 343 (emphasis supplied; footnotes omitted).

Thus, *San Onofre* was no more than a reiteration of prior holdings. Beyond that, it does not stand as our final word on the subject. Within the last year, in response to an assertion by an intervenor that the "St. Lucie 2 proposed site did not conform to the population standards established by 10 CFR Part 100, we had this to say:

We have discussed the nature and application of those standards in considerable detail in other opinions. It suffices to note here that those standards call for the creation of an "exclusion area" and a "low population zone" around a reactor. The applicant must control the territory within the exclusion area. *It need not have such control over the low population zone, but there must be a sufficiently small number of people in that zone to assure that steps for their protection (such as evacuation) can readily be taken in the event of an emergency.* Equally important, the plant must be designed so that in the event of an accident, radiation dosages at the respective zone perimeters will not exceed certain levels. What this means (all other things being equal) is that the smaller these two areas are drawn, the greater the efficacy of the safety devices built into the plant must be in order to retain postaccident radiation dosages below the guideline levels.

¹⁵ See Final Environmental Statement in Dockets No. 50-329 and 50-330, at p. II-2. It there also appears that the resident population within five miles of the site was approximately 41,000; in addition 34,000 persons were employed or transacted business within the same area.

The population standards contain the additional requirement that no "population center" larger than 25,000 persons may be closer to the reactor than one and one-third times the distance from the reactor to the outer boundary of the low population zone. If that requirement is not met, however, a proposed reactor does not necessarily have to be relocated nor an existing one abandoned. Instead, a smaller low population zone may be selected so long as the plant has the capability, or can be redesigned, to limit further the potential radiation dosages that could be encountered at the boundary of that zone.

The intervenors' arguments, as well as the evidence adduced below, had as their starting point the applicant's proposal that the low population zone would have a five-mile radius. As it had the authority to do, however, *the Licensing Board imposed a condition upon the applicant which had the effect of requiring it to utilize only a one-mile low population zone. This had a most significant effect, for the controversy below was concerned almost exclusively with population growth at greater distances. In contrast to the land area lying between one and five miles from the plant, virtually all the land within a one-mile radius of the reactor is owned by the applicant. Accordingly, there is no longer any room for an argument that the population within the [St. Lucie] low population zone may become too large to permit protective steps, such as evacuation, to be taken in the event of an accident.* Nor is there any evidence that projected nearby "population centers" will come too close, i.e., to within one and a third miles of the reactor.

Florida Power & Light Co. (St. Lucie Nuclear Power Plant, Unit No. 2), ALAB-335, 3 NRC 830, 833-34 (June 29, 1976), modified on other grounds, sub nom, Hodder v. NRC (D.C. Cir. No. 76-1709, October 21, 1976) (emphasis supplied; footnotes omitted).

III

It is clear from the foregoing that the staff and the intervenors are here asking us to overturn a line of appeal board authority which, at the very minimum, is well entrenched.¹⁶ Although we do not suggest that the doctrine of *stare decisis* admits of no exception, in the present circumstances there are compelling reasons why we should be slow to accept that invitation.

¹⁶Moreover, as has been seen, in the case of the staff we are being called upon now to reject an interpretation of unaltered Commission regulations which the staff itself pressed upon the adjudicatory boards many years ago and in the adoption of which the staff apparently acquiesced for a considerable period of time.

What we are dealing with here is the interpretation not of an Act of Congress or a judicial decision but, rather, of regulations of this Commission itself. The terms of these regulations are, of course, subject to change at any time without the necessary intervention of either legislative or judicial action. Moreover, although the final judgment on whether a particular amendment is warranted rests with the Commissioners alone, both the staff and interested members of the public are empowered to press for any alterations in the regulatory scheme which might be thought desirable or mandatory in the fulfillment of this agency's statutory mission. 10 CFR §2.802 is most explicit in authorizing "[a]ny interested person [to] petition the Commission to issue, amend, or rescind any regulation." And we can take official notice of the fact that many, if not most, of the changes made in Commission regulations over the years were initiated (and properly so) by a staff proposal.

Needless to say, the exercise of the power to seek an amendment of an existing regulation is not restricted to circumstances in which there is universal agreement on the meaning of that regulation as it now reads. To the contrary, such an amendment equally may be sought either (1) to remove ambiguities or (2) to overturn an interpretation given to the regulation which is considered to have been wrong. Judicial constructions of Congressional enactments are on occasion "legislatively overruled." There is likewise no impediment to an administrative agency rectifying by amendment an error in the reading of one or more of its regulations by an adjudicatory tribunal—whether that tribunal be a court or, rather, a subordinate quasi-judicial board within the agency itself.¹⁷

To be sure, the availability of a rulemaking proceeding to obtain relief from an assertedly incorrect adjudicatory interpretation of a regulation does not perforce foreclose pursuing the alternative course adopted by the staff and the intervenors in the cases at bar. But where, as here, the interpretation in issue is of long standing, and has received the endorsement of several different appeal and licensing boards,¹⁸ the rulemaking route makes especially good sense. In this regard, it is to be borne in mind that, no matter how receptive we might now be to the arguments advanced against what was decided by us in *Point Beach* (1971), *Midland* (1973), *San Onofre* (1974-75) and *St. Lucie* (1976), there would remain the question of the significance to be attached to the fact that the Commission has left each of those decisions intact. Granted, the failure of the Commission to exercise its *sua sponte* review power with respect to one of our rulings cannot be taken as necessarily connoting approval of that ruling. But all

¹⁷The Commission, of course, also may correct the error on a *sua sponte* review of the decision in which it was made.

¹⁸Each of the appeal board decisions discussed in Part II above was unanimous on the point in issue. A total of eight members of the Appeal Panel participated in one or more of those decisions.

major appeal board decisions are scrutinized by the Commission, at least with respect to the rulings therein on obviously important, contested issues of law. We therefore cannot exclude the possibility that the uniform determination of the Commission not to review our holdings on the emergency plan issue—in each case a significant holding essential to the outcome of the case—stemmed from a belief that we had correctly read its regulations *as now written*. The setting of the discussion in the second *San Onofre* opinion, ALAB-268, *supra*, enhances that possibility. We were there reexamining what had been previously held by us in ALAB-248, *supra*, on the issue of the acceptability of the LPZ for the San Onofre facility. Our reason for doing so was an intervening decision of a court of appeals¹⁹ which held that the low population zone approved by the Commission for the Bailly facility was in violation of our regulations. See 1 NRC at 402. It is apparent that that judicial ruling was the recipient of considerable Commission attention at the time ALAB-268 was rendered.²⁰ Thus, there is good reason to suppose that the detailed analysis respecting the low population zone concept contained in ALAB-268 did not escape the notice of the Commission.

There are still other considerations which militate in favor of leaving the staff and the intervenors to their rulemaking remedy. From the tenor of much of the argument presented to us, it appears that the attempt to have us overturn our prior holdings on the issue here-involved has been prompted in large measure by a current belief that, in some situations at least, there may be good reason to include persons outside the low population zone within the scope of the emergency planning requirement, notwithstanding the provisions of 10 CFR §100.11(a)(2) establishing radiation dose limits for the low population zone boundary.²¹ But whether or not this belief is meritorious is a question more appropriately explored in rulemaking where (1) all information bearing upon the matter can be received and evaluated (as it should be) on a *generic* basis; and (2) be it then concluded that emergency plans should not always be restricted in ambit to the exclusion area and low population zone, specific standards can be prescribed for determining, with respect to each proposed reactor site, whether and to what the applicant must concern itself with devising protective measures for persons outside the low population zone.²²

¹⁹ *Porter County Chapter v. AEC*, 515 F.2d 513 (7th Cir.), *reversed and remanded*, *sub nom. Public Service Co. v. Porter County Chapter*, 423 U.S. 12 (1975).

²⁰ Indeed, the Seventh Circuit's decision brought about an almost immediate amendment to 10 CFR §100.11(a)(3), described by the accompanying statement of considerations as "interpretative in nature." See 40 Fed. Reg. 26526 (June 24, 1975). Although the amendment itself is not crucial here, it is a further indication of the availability of the rulemaking process to remove possible ambiguities in the terms of Commission regulations in general (and Part 100 in particular).

²¹ See p. 737, *supra*.

²² Although the staff insists that in some (albeit not all) instances such measures must be devised, it points to nothing in Part 100 or elsewhere in the regulations which might be

Continued on next page.

Finally, there is the important matter of fundamental fairness. Applicants for nuclear licenses are entitled to know both what they must undertake to do in connection with their applications and against what criteria the acceptability of their proposal will be measured. We are the Commission's delegate in adjudicatory matters²³ and, acting in that capacity, speak for the Commission with regard to the meaning of its regulations. Over the past six years we have on four separate occasions explicitly told applicants in general that under existing Commission regulations the suitability (and therefore approval) of any proposed reactor site does not hinge upon the feasibility of taking protective measures with respect to persons located outside the LPZ. The Commission chose on each occasion to allow this reading of its regulations to stand. In these circumstances, applicants must be thought to have every right to proceed accordingly unless and until the regulations are changed upon due notice. Otherwise, no applicant would ever be able to make a reasonable appraisal of whether its proposal satisfies regulatory requirements—for what was yesterday authoritatively determined to be the effect of the terms of a given regulation might be just as easily discarded tomorrow. In our view, no regulatory process can properly be taken to work in that fashion.

IV

For all of the reasons just canvassed, the present burden on the staff and the intervenors is substantial. It is not enough for them to urge upon us that there are policy considerations militating against our prior rulings respecting the meaning and effect of 10 CFR Part 100 as applied to emergency planning. Nor is the question whether, were the matter *res nova*, a close analysis of the pertinent regulations might suggest a conclusion different from that reached in *Point Beach*, *Midland*, *San Onofre* and *St. Lucie*, *supra*. Rather, to justify our making a 180° turn at this late date, it must be established that in those decisions we overlooked (perhaps because not there pressed upon us) regulatory provisions which *compel* the result now being sought by the staff and the intervenors. In other words, it must appear that adherence to what has been uniformly held by us in the past on the evacuation plan issue would amount to a perpetuation of *unmistakable* error.

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taken to indicate, even in broad outline, what those instances might be. The absence of standards is a still more serious matter when viewed in the context of the Coalition's argument that population density or distribution outside of the low population zone might be reason enough for a licensing board to find the site unacceptable. Surely, in assessing the acceptability of a site which it has under consideration, a utility should have some basis—derived from the content of Commission regulations—for forecasting whether the situation obtaining in the area beyond the low population zone (an area which, unlike the LPZ, has no fixed boundaries) might occasion the outright rejection of that site.

²³10 CFR § 2.785(a).

It is in this context that we have carefully examined the various arguments put before us. None of them persuades us of the presence of a direct conflict between our earlier determinations on the point in issue and any *existing* Commission regulation.

A. Starting with Part 100 itself, no provision has been cited to us which could be fairly taken as explicitly undermining the effect given in our earlier decisions to the Section 100.3(b) formulation of the low population zone concept in terms of that area “which contains residents the total number and density of which are such that there is a reasonable probability that appropriate protective measures could be taken in their behalf in the event of a serious accident.” The closest that any party has come is a reference by the Coalition to Section 100.10(b), which provides that, in determining the acceptability of a site for a power reactor, the Commission will take into consideration, among other factors, “[p]opulation density and use characteristics of the site environs, including the exclusion area, low population zone, and population center distance.”

Insofar as the area within the low population zone is concerned, Section 100.10(b) clearly does carry the message—at least when read in conjunction with Section 100.3(b)—that the site’s acceptability will hinge upon the population density and use characteristics not being such as to preclude the taking of appropriate measures to protect persons within the area in the event of an accident.²⁴ But with respect to the area outside of the low population zone, no similar message is conveyed. Indeed, the quite different import of the reference in Section 100.10(b) to the population center distance becomes readily understandable when one focuses upon how Part 100 defines that term and then utilizes it in the ascertainment of site suitability. As previously noted, (1) the population center distance is “the distance from the reactor to the nearest boundary of a densely populated center containing more than about 25,000 residents” (Section 100.3(c)); and (2) that distance must be “at least one and one-third times the distance from the reactor to the outer boundary of the low population zone” (Section 100.11(a)(3)). The population center boundary being ascertained “upon consideration of population distribution” (*ibid.*), the significance of the population density of the “site environs” in terms of the population center distance is thus manifest. The closer the population center, the smaller the permissible low population zone. The smaller the low population

²⁴In this connection, as early seen Section 100.3(b) provides that no “permissible population density or total population within [the low population] zone” is being specified “because the situation may vary from case to case.” It adds that:

Whether a specific number of people can, for example, be evacuated from a specific area, or instructed to take shelter, on a timely basis will depend on many factors such as location, number and size of highways, scope and extent of advance planning, and actual distribution of residents within the area.

See p. 736, *supra*.

zone, the larger the possibility that the site will not be acceptable for the reason that the applicant will not be able to provide sufficient engineered safeguards to insure observance, in the event of an accident, of the dose limitations applicable to the low population zone boundary (Section 100.11(a)(2)). See *San Onofre*, ALAB-248, *supra*, 8 AEC at 959-61; ALAB-268, *supra*, 1 NRC at 404-06.²⁵

In short, Section 100.10(b) does not counter our longheld view that there is not now any requirement that (as an element of site suitability) the applicant devise emergency plans for the protection (in the event of an accident) of persons located outside of the low population zone. It need be added only that, had the Commission intended to impose such a requirement, it likely not only would have said so expressly but, as well, would have established some standards for determining in the particular case such matters as (1) how far (if at all) beyond the low population zone boundary need the protective measures apply; and (2) whether fewer measures might be required for the protection of persons located outside the boundary than for those within it. As all parties appear to agree, Part 100 is entirely silent in this respect.

B. For its part, however, the staff does not place foremost reliance on Part 100. Rather, it maintains that the issue is governed by those provisions of Part 50 dealing with emergency plans and, most particularly, Appendix E to that part. We are especially referred to Section II.C. of the appendix which requires the Preliminary Safety Analysis Report to describe the “[m]easures to be taken in the event of an accident *within and outside the site boundary* to protect health and safety and prevent damage to property and the expected response in the event of an emergency, of offsite agencies” (emphasis supplied).

We agree with the applicants that Section II.C. lends little, if any, support to the staff’s present position. The phrase “outside the site boundary” may well have been intended to refer simply to the territory encompassed by the exclusion area and the low population zone; *i.e.*, the territory for which, by reason of the terms of Part 100, the utility is required to devise protective measures. Indeed, it seems quite obvious that, at the time of the *Point Beach* proceeding, that is precisely the manner in which the staff read the section. As above seen, p. 739, *supra*, in that case the staff told the Licensing Board in 1971 that “on their face” the provisions of Appendix E did not require the development of emergency plans for areas outside the low population zone.²⁶

In *Point Beach*, the staff had also pointed to Section 50.34(b)(6)(v) in

²⁵It is argued to us that the use of the word “including” in Section 100.10(b) implies that the Commission there had in mind more than just the exclusion area, low population zone and population center distance. Perhaps so; perhaps not. In any event, there is no room for the still further inference that the Commission was making site acceptability hinge upon the feasibility of protecting persons in some unspecified area.

²⁶It is worthy of passing note that, because it came on the heels of the adoption of Appendix E in December 1970, the staff’s 1971 interpretation of the appendix is very likely the more reliable one and, as such, entitled to be accorded greater weight.

support of its then view on the emergency plan issue. But in the cases at bar, that section, together with Section 50.34(a)(10), are cited for the diametrically opposite proposition which the staff currently espouses. Suffice it to say that neither section aids our present inquiry. Section 50.34(a)(10) merely calls for an inclusion in the PSAR of a discussion of the applicant's preliminary plans for coping with emergencies and notes that Appendix E sets forth the items to be included in the plans. Section 50.34(b)(6)(v) is the counterpart for the operating license stage; it directs that the FSAR contain plans for coping with emergencies which shall include the items specified in Appendix E.²⁷ In short, the staff must fall back upon Appendix E itself—the terms of which, once again, were thought by the staff six years ago to have a quite different meaning than that now attributed to them.

V

In light of the above, we adhere to our uniform prior holdings that, under the Commission's regulations in their present form, consideration is not to be given in a licensing proceeding to the feasibility of devising an emergency plan for the protection (in the event of an accident) of persons located outside of the low population zone. As earlier noted, should the staff or any other parties to the cases at bar regard there to be radiological health and safety considerations militating in favor of a different result (a matter not before us and on which we need express no opinion), their remedy is clear: a formal or informal rulemaking proceeding.

Accordingly, (1) those exceptions in the *Seabrook* case which are addressed to the evacuation plan issue (as herein defined)²⁸ are *denied*; and (2) the January 7, 1977, order of the Licensing Board in the *NEP* case is *reversed* insofar as it granted the petition for leave to intervene filed by Aquidneck Island Ecology.²⁹

It is so ORDERED.

FOR THE ATOMIC SAFETY AND LICENSING APPEAL BOARD

Margaret E. Du Flo
Secretary to the Appeal Board

²⁷The staff's reference in *Point Beach* to Section 50.34(b)(6)(v), but not Section 50.34(a)(10) was undoubtedly due to the fact that that was an operating license proceeding.

²⁸We do not decide in this opinion any question relating to (1) the feasibility of devising an emergency plan for the protection of persons located *within* the Seabrook low population zone; or (2) the acceptability of that zone as currently established.

²⁹Should Aquidneck's evacuation contention later become cognizable by virtue of an amendment to the Commission's regulations, that organization might wish to seek to renew the contention (asserting the amendment as "good cause" for the renewal).

Mr. Salzman, concurring:

As marshalled in the majority opinion, an unbroken line of our decisions hold that a utility need not prepare emergency plans for the evacuation of persons beyond the perimeter of the "low population zone" surrounding a nuclear power plant. They rest on our reading of Commission regulations setting the LPZ boundary along the line where, in the event of a major accident, an individual beyond the boundary will not receive a total radiation dose to the whole body in excess of 25 rem.¹ 10 CFR §100.11(a)(2). Although this is termed a "reference" rather than a "safe" dose limit by footnote 2 to that regulation, it is nonetheless fair to say that the figure represents a judgment of the acceptable risk level, given the emergency conditions postulated and the low probability of their occurrence.²

The substantive question lurking in these cases is whether in some circumstances the acceptable risk limit must be reduced to a dose level below 25 rem. This is implicit in the staff position that evacuation may be necessary beyond the LPZ perimeter, which as just noted is defined by the point at which that 25 rem dose will not be exceeded.³ When pressed at oral argument the staff acknowledged that this factor underlay its position. See, e.g., App. Tr. pp. 82, 86-92, 107, 112-15, 118-19.⁴

¹ One rem is the dose of ionizing radiation that will produce a biological effect equivalent to that produced by one roentgen of gamma-ray radiation.

² See also, *National Council on Radiation Protection and Measurements, NCRP Report No. 39* (1971) at 102: "Since planned whole-body doses up to 25 rems are reasonably accepted for emergency conditions, it follows that accidental doses up to the same magnitude should not cause major concern."

³ The interplay between Commission regulations and plant safeguards in determining the radius of the LPZ is explained in *Southern California Edison Co. (San Onofre Nuclear Generating Station, Units 2 and 3)*, ALAB-268, 1 NRC 383 (1975), and is not in dispute here.

⁴ The staff expressly disclaimed that considerations other than potential exposure to radiation led to its present position. App. Tr. pp. 115-16.

On the basis of what was told to us at argument, we do not understand the staff's position on the evacuation plan issue now to rest also upon a concern respecting the cumulative exposure dose to the total population close to the LPZ boundary—a dose which, of course, would vary from reactor to reactor depending upon the number of people involved. In any event, that concern was addressed by the Commission when, through the vehicle of the population center distance concept, it provided a buffer zone between the LPZ boundary and the nearest boundary of a heavily populated area. See 10 CFR §100.11(a)(3). This is clear from the statement of considerations accompanying the adoption of Part 100 (see 27 Fed. Reg. 3509 (1962)) and the Commission's more recent restatement of those criteria following the *Bailly* decision in the Seventh Circuit (see 40 Fed. Reg. 26526 (1975)). It seems quite apparent that the Commission thought there to be no reason to be troubled with respect to the cumulative exposure dose which would be received by the relatively low number of persons within that buffer zone.

The argument is troublesome. If the risk of an exposure to radiation of less than 25 rem is too great for individuals at one site, then it seems to me it is too great a risk at every site. This is a generic problem because we have no mandate to insist on greater protection for individuals in New England, for example, than for those living in other parts of the country. No rational basis has been offered to us for the proposition that persons in one area can tolerate 25 rem while elsewhere individuals potentially exposed to 15 rem must be evacuated. If the staff's thesis is correct, then logically it calls either for changing the LPZ criteria to insure a lower radiation level at its outer boundary or for the planning of emergency procedures to evacuate persons beyond the LPZ at every reactor site. The regulations will not bear the latter reading.

Moreover, this is by no means a situation where the Commission's silence can be taken as acquiescence in the staff's change of position.⁵ As recently as August 1975, the Commission represented to the Supreme Court that "[a]n applicant for a license must show that adequate measures can be taken to protect people within the low population zone," which it defined as that area beyond which individuals "would not receive a total radiation dose to the whole body in excess of 25 rem," a dose it characterized implicitly if not explicitly as an acceptable risk for those individuals.⁶ The position the staff takes before us here would leave us guessing whether the Commission disagreed with it in 1975 or that discoveries since the Commission spoke have overtaken its position. If the former, then of course we must defer to the Commission's judgment;⁷ if the latter, we could not be expected to rely on data with which we have not been provided,⁸ even were we the proper vehicle to carry out a change in the rules.⁹

⁵The majority opinion, pp. 739 and 746-747, *supra*, demonstrates that the staff has shifted ground in its reading of the regulations in suit.

⁶*Memorandum for the United States and the Nuclear Regulatory Commission*, p. 2 and fn. 2 and 3, filed in No. 75-4, October Term 1975, *Northern Indiana Public Service Co. v. Porter County Chapter of the Izaak Walton League, et al.* That memorandum described the consequences of a 25 rem dose in these terms: "Exposure of the whole body to a dose of 25 rem will ordinarily produce no discernible physical symptoms. Such symptoms from radiation exposure do not usually appear until a dose of at least 100 rem has been received (450 rem is considered a lethal dose). No accident capable of releasing radiation sufficient to produce a whole body exposure of 25 rem has yet occurred in or around an operating nuclear reactor. Its probability is now estimated as one chance in each 1,000 years of reactor life. If such an accident were to occur, the chances are even less that there would actually be such a release."

⁷*Northern Indiana Public Service Co.* (Bailly Generating Station, Nuclear-1), ALAB-224, 8 AEC 244, 254-55 (1974), *reversed sub nom. Porter County Chapter v. AEC*, 515 F.2d 513 (7th Cir.), *vacated and remanded sub nom. Public Service Co. v. Izaak Walton League*, 423 U.S. 12 (1975), *affirmed*, 533 F.2d 1011, 1016 (7th Cir.), *certiorari denied*, 430 U.S. ___, 50 L.Ed. 2d 316 (1976).

⁸*Cf.*, *Vermont Yankee Nuclear Power Corp.* (Vermont Yankee Nuclear Power Station), ALAB-229, 8 AEC 425, 440-41, *reversed on other grounds*, CLI-74-40, 8 AEC 809 (1974).

⁹See 10 CFR §2.758.

In short, on substantive grounds (as well as under the canons of construction applied by the majority), the staff's position is not well taken. If indeed the levels of radiation dosage deemed acceptable under accident conditions should be lowered because of new data or more sophisticated analyses, then the staff should have spread the new information on the public record and initiated the proper steps to change the regulations. Proceeding on a case-by-case basis on vaguely articulated grounds in reliance on unspecified information is no way to handle this serious problem.

For these reasons I concur in the result reached by the majority with one exception. In my judgment, the implications raised by the staff's position are sufficiently important for us to insure that they are brought promptly to the Commission's attention. I would therefore exercise our authority to certify the question to the Commission under 10 CFR §2.785(d).

Mr. Rosenthal, Dr. Buck and Dr. Johnson have authorized me to state that, except for the immediately preceding paragraph, they join in this concurrence.

Mr. Farrar, concurring:

I believe there is much to be said for the view, pressed upon us here, that consideration need be given to the feasibility of protecting people located outside (as well as inside) a reactor's low population zone from radiation hazards in the event of a serious accident. I say this notwithstanding that I not only fully subscribed to, but also had a major hand in the drafting of, those sections of the *San Onofre* and *St. Lucie* opinions which the majority here quotes at length and relies upon heavily. Since those decisions were rendered, however, arguments have been presented to us which require that we focus more clearly on the Commission's disclaimer—previously glossed over—that the “reference” doses utilized as guidelines in Part 100 are not necessarily to be viewed as “acceptable.”¹

In short, we are being told, at least implicitly, that we may no longer take comfort in the thought that those outside the LPZ, whatever their circumstances, will be “safe” from exposure to dangerous levels of ionizing radiation even if they take no steps to protect themselves. This was the linchpin of all our prior holdings; without it, we would have been unable to say that no concern need be expressed over those outside the LPZ. Now we are asked to consider whether the doses they might receive, even if less than the Part 100 guidelines,

¹ 10 CFR §100.11(a), fn. 2. Although the parties do not frame their arguments in such direct terms, I understand that this is in essence what underlies each of their positions.

are sufficiently undesirable to require a showing that protective measures, such as evacuation, can be taken outside the LPZ.²

I emphasize that this matter cannot be taken lightly. It is being pressed by a number of parties, including the NRC staff. And I note that in reporting on the Seabrook reactors the Advisory Committee on Reactor Safeguards had this to say (emphasis added):³

Because of the proximity of the Seabrook Station to the beaches on the coast and because of the nature of the road network serving the beaches, the applicant has given early attention to the problem of evacuation. *The Committee believes, however, that further attention needs to be given to evacuation of residents and transients in the vicinity even though they may be outside the LPZ.*

Finally, Protective Action Guides now used by some states call for taking steps to avoid radiation doses at levels significantly below those mentioned in Part 100.

What this tells me is that we may have been too mechanical in the past in applying Part 100—we treated it rigidly, as though it necessarily furnished the last word for emergency planning.⁴ But my colleagues quite rightly point out that our decisions are on the books, that if followed they call unequivocally for rejection of the staff's position, and that, at least with respect to the meaning of regulations whose terms have remained unchanged for 15 years, there must be some degree of certainty even in the law of nuclear reactor regulation.⁵ Beyond that, I perceive other difficulties with the staff's position.

²We are concerned here with calculated doses less than those found in the Part 100 guidelines. I note in passing that all concede that it is possible for a so-called "incredible" accident to occur which would lead to doses, even outside the LPZ, in excess of those in Part 100. The present debate, however, has not focused on the concept of utilizing emergency protective measures for areas relatively far from the reactor as a last bastion of "defense-in-depth" against the consequences of the incredible accident. Cf. *Vermont Yankee Nuclear Power Corp.* (Vermont Yankee Station), CLI-74-40, 8 AEC 809, 813 (1974).

³December 10, 1974, letter from the Chairman of the ACRS to the Chairman of the AEC.

⁴Perhaps we did not give sufficient emphasis to the repeated admonition to be flexible: Part 100 says outright that it was meant only as a "guide" (10 CFR §100.1(a); that in light of "insufficient experience" only an "interim guide" was possible (10 CFR §100.1(b)); and that it was made "deliberately flexible" because of a "lack of certainty" (10 CFR §100.2(b)).

⁵My colleagues do not assert that the regulation is not in need of revision. This is in implicit recognition of what was said, in *Power Reactor Company v. Electricians*, 367 U.S. 396, 408 (1961): "What is up to date now may not, probably will not, be as acceptable tomorrow." Although the Court was referring there to reactor technology, its words may have equal applicability to our understanding of the effects of radiation dosages.

These difficulties stem from an inability to discern the precise nature of the safety concerns which are motivating the staff here. Although Mr. Salzman's opinion carefully marshals the portions of the staff's oral argument which suggest that its underlying substantive position is that radiation doses below the Part 100 guideline levels should be avoided (see p. 748, *supra*), at one other point staff counsel appeared to reject any such suggestion. App. Bd. Tr. 112. And in its *Seabrook* papers, the staff appears to have studiously avoided taking a direct position on this point. Rather, it approached the problem obliquely, as exemplified by the following statements of its position: (1) there is a need to consider emergency planning outside the LPZ because the State might find it prudent to call for evacuation there;⁶ (2) there ought to be steps taken "to limit . . . on a timely basis" doses outside the LPZ (with no indication of the degree of hazard or the dose levels to be avoided);⁷ and (3) those outside the LPZ "might be endangered" by a nuclear accident.⁸

My point is this—if the staff's experts believe there is a significant problem associated with accidental radiation doses at levels below those specified in Part 100, this should be said explicitly, so that the matter can be dealt with squarely, either in rulemaking or in every adjudication.⁹ Instead, the staff has been vague. It has said throughout the *Seabrook* proceeding that the "facts of each case" will determine whether there is a need to be concerned about emergency protective measures outside the LPZ. Yet it has been unable to inform us with any precision as to what type of facts are to be deemed significant in making this deter-

⁶September 17, 1976, "NRC Staff Brief in Support of its Exception[s] to the Initial Decision," pp. 9-10, 22.

⁷*Id.* at 19-20.

⁸*Id.* at 9, 23-24.

⁹At one point, the majority indicates that the parties should be relegated to their rulemaking remedy because there the question can "more appropriately" be resolved and specific standards can be prescribed. (pp. 743-744, *supra*). This remark is valid only in the context in which it is presented, *i.e.*, a situation in which the parties are essentially seeking a change in the well entrenched meaning attributed to a regulation. I do not understand the majority to be going beyond that or to be suggesting that, were we writing on a clean slate about the meaning of a regulation which contained only vague standards, we could refuse, in a case in which the problem was presented, to deal with it on the ground that rulemaking is "more appropriate." Of course, until a rulemaking proceeding is completed or interim rules are promulgated for use while it is pending (*e.g.*, the ECCS interim acceptance criteria), problems must be dealt with as they arise in individual licensing proceedings, even if the standards for resolving them are general or even obscure. We indicated this some time ago. See *Vermont Yankee Nuclear Power Corp.* (Vermont Yankee Station), ALAB-179, 7 AEC 159, 165 (1974). The one time this principle was not followed (see *Vermont Yankee, supra*, ALAB-56, 4 AEC 930 (1972) and ALAB-179, *supra*, 7 AEC at 163-64) we were told we were wrong. *Natural Resources Defense Council v. NRC*, 547 F.2d 633, fn. 17 and accompanying text (D.C. Cir., 1976), *certiorari granted*, 45 U.S.L.W. 3570 (February 22, 1977).

mination. This is not surprising, for until one comes to grips with the question of what dosage ought to be avoided, it is impossible to decide whether people in a particular area must be protected in some manner in a postaccident emergency. In this connection, it seems to me—and in this I believe I speak for my colleagues as well—that the same rule must apply in every case. Thus, for example, if whole body doses of 20 rem should be avoided, logic and consistency would require that in every case a board would have to determine that steps can be taken to protect individuals outside the LPZ from that dose—whether they be few or many, daytime bathers or nighttime dwellers.¹⁰ To be sure, the fewer the people and the better their shelter or the easier their access to a means of escape, the more readily might a board determine that adequate protective measures could be taken. But the inquiry would nonetheless have to be made in each case. As Mr. Salzman's opinion suggests, the issue presented to us is not whether "special circumstances" require additional inquiry in isolated cases,¹¹ but whether it must be shown in all instances that steps can be taken to avoid radiation doses less than those currently specified by the Part 100 guidelines.¹²

I believe that this matter warrants Commission attention. I would join Mr. Salzman in certifying it.

¹⁰Of course, if the cumulative exposure dose to the total population were of concern, then the sheer numbers of people involved would be significant. But this does not seem to be the case. (See fn. 4, p. 748, *supra*, opinion of Mr. Salzman.)

¹¹For present purposes we can put to one side both the "entrapment" problem (*i.e.*, the situation where people located outside an LPZ would have to utilize a route passing through the LPZ in order to leave the area) and the problem of devising measures to control crowds who, though not endangered by radiation, might panic.

¹²The intervenors have an alternate theory, *i.e.*, that an applicant's inability to protect people against lower doses might not render the site *per se* unsuitable, but would at least be a factor to be weighed in the balance against plant approval. Of course, to weigh it in the balance, whether absolutely or relative to another site, we must have some idea of what the hazard associated with the lower doses is.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Alan S. Rosenthal, Chairman
Dr. John H. Buck
Michael C. Farrar

In the Matter of

Docket No. STN 50-482

**KANSAS GAS AND ELECTRIC COMPANY
KANSAS CITY POWER AND LIGHT COMPANY**

**(Wolf Creek Generating Station,
Unit No. 1)**

April 18, 1977

Upon appeal by applicants from LBP-76-42, NRCI-76/11 580, which required public disclosure of the cost and pricing provisions of the nuclear fuel supply contract for the facility, the Appeal Board rules that the provisions as to natural uranium must be disclosed, but the provisions as to fabricated fuel assemblies need not be.

Licensing Board order affirmed in part and reversed in part.

Mr. Jay E. Silberg, Washington D.C., for the applicants,
Kansas Gas and Electric Company, *et al.*

Messrs. Curt T. Schneider, Attorney General of Kansas, and
William H. Griffin, Assistant Attorney General of Kansas,
Topeka, Kansas, for the intervenor, State of Kansas.

Messrs. Michael E. Riddle and Stephen H. Lewis for the
Nuclear Regulatory Commission staff.

DECISION

Returning to us for a second time is the controversy which has arisen in this construction permit proceeding respecting whether the applicants should be compelled, in response to a discovery demand made by the intervenors, to make public disclosure of the cost and pricing provisions of the nuclear fuel supply

contract entered into by themselves and the Westinghouse Electric Corporation. The background of the controversy and the principles which govern its resolution are fully developed in ALAB-327, 3 NRC 408 (1976), and require no detailed repetition here. It is sufficient to restate the conclusions there reached:

- (1) in support of their claim that the contract provisions in issue were entitled to receive protection against public disclosure, the applicants had been required to establish, *inter alia*, "that there is a 'rational basis' for treating as confidential the cost and pricing provisions of nuclear fuel supply contracts; *i.e.*, that significant commercial injury might be sustained by one or more of the parties to such contracts were those provisions to be publicly disclosed";
- (2) no such showing had been made;
- (3) in the circumstances of the case, the applicants were entitled to a second opportunity to make the showing; and
- (4) if the applicants successfully availed themselves of that opportunity, protective treatment then was to be accorded the contract provisions unless there were found "to be countervailing considerations militating in favor of public disclosure which clearly outweigh the potential harm to Westinghouse and/or the applicants which might inure from such disclosure."

3 NRC at 417-18. The matter was remanded to the Licensing Board for further consideration in conformity with those conclusions.

On November 24, 1976, following an additional evidentiary hearing, the Licensing Board entered its order on the remand, in which it determined by a divided vote that public disclosure was required. LBP-76-42, NRCI-76/11 580. As at least implicitly authorized by ALAB-327, the applicants filed a motion seeking review of that order.¹ On December 21, 1976, we granted the motion and established a briefing schedule.² On full consideration of the arguments advanced in support of and in opposition to the decision below, we affirm in part and reverse in part.

¹ The disclosure issue first came before us on an application for directed certification of an earlier order of the Licensing Board which had required the applicants to comply with the intervenors' discovery demand without benefit of a restriction upon further disclosure. To allow sufficient time for our consideration and disposition of the matter, we promptly entered an interim protective order. See ALAB-307, 3 NRC 17 (1976). In ALAB-327, we decreed that the protective order should continue in effect pending the outcome of the remand therein directed and further provided that, should the Licensing Board again rule against the applicants' claim, the *status quo* was to be maintained for a period of 14 days "to enable the applicants to apply, should they be so inclined, for further relief from this Board." 3 NRC at 419.

² In taking this action, we extended the interim protective order to abide the event of our decision (see fn. 1, *supra*).

A. As ALAB-327 makes clear, the applicants had the affirmative burden on the remand to establish that they or Westinghouse might suffer competitive injury were the cost and pricing provisions of the contract publicly disclosed. Our scrutiny of the record convinces us that this burden was not met insofar as potential injury to the applicants is concerned. The only real question is whether the possibility of harm to Westinghouse was demonstrated with the requisite degree of particularity.

The starting point of our inquiry is the scope of the contract itself, which became effective in December 1973 and appears to have a life span of 20 years. Specifically, the contract covers two major components of the fuel supply which will be required to operate the Wolf Creek facility: (1) natural (*i.e.*, unenriched) uranium; and (2) fabricated fuel assemblies. The dual nature of Westinghouse's undertaking is of present significance because it is conceded that that company is no longer "making future sales of uranium to utilities" (Tr. 5249). Given this circumstance — *i.e.*, the fact that Westinghouse is not now in competition with other concerns for contracts to supply natural uranium — there is every reason to be skeptical of the claim that to reveal the cost and pricing provisions of the natural uranium portion of the contract would occasion competitive injury. Stated otherwise, Westinghouse's burden on this phase of the matter was especially heavy.

In an endeavor to satisfy that burden, Westinghouse (through the applicants) presented the testimony of two of its officials: Sam W. Shelby, the General Manager of Water Reactor Divisions Marketing; and Robert A. Wiesemann, the Manager of Licensing Programs in the Nuclear Safety Department of the Pressurized Water Reactor Systems Division. The thrust of their testimony was that exact knowledge of the details of the cost and pricing provisions of the contract might convey to a competitor useful information bearing upon Westinghouse's business practices in general and pricing strategies in particular. We have examined this evidence with considerable care in quest of specifics with regard to precisely how a present or future competitor of Westinghouse in some commercial field *other than* the supplying of natural uranium might be advantaged by access to those terms of this contract which relate exclusively to the pricing of natural uranium. That quest has been in vain. The most that we have found are some broad conclusory statements, totally wanting in any meaningful supporting detail. That plainly does not suffice.

The situation is otherwise with respect to the cost and pricing provisions directed to the furnishing of fabricated fuel assemblies. Although the witnesses might have furnished a more comprehensive explanation of the manner in which a competitor in that line of endeavor might use those provisions to the detriment of Westinghouse, there appears to be enough in the record to compel the conclusion that there is a real (and not just theoretical) possibility of such detriment. Westinghouse still is soliciting contracts for fuel fabrication services and, indeed,

has a heavy investment in facilities designed to provide those services. Even if (given the age of this contract) it might reasonably be assumed that the precise cost figures contained therein would no longer obtain in any event, allied with those figures are price adjustment clauses. On their face, the clauses illumine Westinghouse's pricing strategies as applied to fuel fabrication services and give substantial credence to the concerns articulated by the witnesses. For its part, the cross-examination of Messrs. Shelby and Wiesemann by counsel for the other parties (who adduced no affirmative evidence of their own) did not to any extent undermine the legitimacy of those concerns.

In sum, we agree with the Licensing Board that a rational basis has not been established for treating as confidential the natural uranium cost and pricing provisions of the contract but cannot accept the Board's like conclusion with respect to the provisions addressed to fabricated fuel assemblies. On the first score, it must be emphasized that our holding rests exclusively on our appraisal of the content of this record. Nothing that we have said should be taken to imply a belief that in no circumstances could the public disclosure of the cost and pricing terms of a particular contract cause competitive injury to one of the contracting parties in some area of business endeavor not embraced by that contract. Rather, the result we reach on the natural uranium portion of the contract before us rests entirely on our conviction that, in this instance, there was a failure of proof on the part of the claimants for confidential treatment.

B. What is left for decision is whether, as to the fuel fabrication provisions, there are "countervailing considerations militating in favor of public disclosure which clearly outweigh the potential harm to Westinghouse . . . which might inure from such disclosure." See p. 755, *supra*. In our view, a negative answer is required.

In ALAB-327, *supra*, we took note of the *sua sponte* reliance of the Licensing Board in its first order upon both the First Amendment to the Constitution and the antitrust laws. For the reasons developed in that decision, we rejected that reliance outright. 3 NRC at 414-15. Nonetheless, in the more recent order now under review, the Chairman of the Licensing Board, apparently speaking for himself alone, has once again pointed to purported First Amendment and antitrust considerations to buttress his conclusion that public disclosure is mandated here. NRCI-76/11 at 586-88. As on the prior occasion, none of the parties has endorsed his views in this regard. And justifiably so.

Insofar as the First Amendment is concerned, we have been given no cause to elaborate upon what was said in ALAB-327. We have been favored, however, with a somewhat more extensive exposition of the underpinnings of the Licensing Board Chairman's thinking regarding the possible application of the antitrust

laws.³ Yet the exposition is unpersuasive. We discern nothing in any of the decisions cited by him which might be taken to stand for the proposition that there are antitrust implications attendant upon the unwillingness of a company to have its competitors learn of the cost and pricing terms of a negotiated contract which it has entered into with third parties. Those decisions dealt essentially with alleged endeavors by two or more competitors in a market to fix prices for particular goods or services sold in that market. To the extent that there was a condemnation of secrecy, the context was its use in aid of price fixing *among the competitors themselves*. In the case before us, there is of course no suggestion that Westinghouse's desire to withhold pricing information *from* its competitors might serve as part of an attempt – involving both Westinghouse and the competitors – to fix prices in the fabricated fuel assemblies market.

In these circumstances, the matter comes down to whether public disclosure of the cost and pricing terms of the fabricated fuel assemblies portion of the contract was required either (1) to enable the Licensing Board to discharge properly its functions, or (2) to furnish the citizens of Kansas with data which the public interest requires they possess. In resolving this point in Westinghouse's favor, we need simply note our general agreement with the views expressed by Mr. Kornblith in his dissenting opinion below (NRCI-76/11 at 594-97), which views also had the endorsement of Dr. Anderson (*id.* at 590).

For the foregoing reasons, the order under review is *affirmed* in part and *reversed* in part. The parties are to endeavor to reach agreement among themselves, within 30 days of the date of this decision, respecting the revisions in the outstanding interim protective order (see ALAB-307, *supra*) which are called for by our determinations herein. The substance of any such agreement shall be communicated to this Board promptly. In the event of a failure to reach agreement, within 40 days of the date of this decision the parties shall file memoranda setting forth their respective positions on the matter. Upon its receipt and consideration of the submission or submissions, this Board will enter a permanent protective order. In the meanwhile, the interim order shall remain in full force and effect.

It is so ORDERED.

FOR THE ATOMIC SAFETY AND
LICENSING APPEAL BOARD

Margaret E. Du Flo
Secretary to the Appeal Board

³In ALAB-327, we commented upon the failure of the Licensing Board to have expanded upon the bald statement in its first order that the agreement between Westinghouse and the applicants not to disclose the cost and pricing terms of the contract "may violate" those laws. See 3 NRC at 411, 414.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING APPEAL BOARDS*

Alan S. Rosenthal, Chairman
Dr. John H. Buck
Dr. Lawrence R. Quarles
Michael C. Farrar
Richard S. Salzman
Dr. W. Reed Johnson
Jerome E. Sharfman

In the Matter of

VERMONT YANKEE NUCLEAR POWER CORPORATION (Vermont Yankee Nuclear Power Station)	Docket No. 50-271
PUBLIC SERVICE ELECTRIC & GAS COMPANY (Salem Nuclear Generating Station, Units 1 and 2)	Docket Nos. 50-272 50-311
PHILADELPHIA ELECTRIC COMPANY (Peach Bottom Atomic Power Station, Units 2 and 3)	Docket Nos. 50-277 50-278
METROPOLITAN EDISON COMPANY et al.	Docket Nos. 50-289 50-320

*As appears from the caption, this memorandum and order embraces a number of separate proceedings. Every member of the Appeal Panel is assigned to the Appeal Board for at least one of those proceedings. The Panel members unanimously agreed that the proceedings should be consolidated for the limited purpose of the preliminary action which is being taken herein with respect to the common question presented. See 10 CFR §2.716. It should be noted that, although in the interest of convenience the Chairman of the Panel is being designated as the Chairman of the collective Appeal Boards, he is not in fact the Chairman (or indeed even a member) of every individual Board.

**(Three Mile Island Nuclear Station,
Units 1 and 2)**

DUQUESNE LIGHT COMPANY et al.

**Docket Nos. 50-334
50-412**

**(Beaver Valley Power Station,
Units 1 and 2)**

PHILADELPHIA ELECTRIC COMPANY

**Docket Nos. 50-352
50-353**

**(Limerick Generating Station,
Units 1 and 2)**

**PUBLIC SERVICE ELECTRIC AND GAS
COMPANY**

**Docket Nos. 50-354
50-355**

**ATLANTIC CITY ELECTRIC COMPANY
(Hope Creek Generating Station,
Units 1 and 2)**

**PENNSYLVANIA POWER AND LIGHT
COMPANY**

**Docket Nos. 50-387
50-388**

**(Susquehanna Steam Electric
Station, Units 1 and 2)**

DUKE POWER COMPANY

**Docket Nos. 50-413
50-414**

**(Catawba Nuclear Station,
Units 1 and 2)**

GEORGIA POWER COMPANY

**Docket Nos. 50-424
50-425**

**(Alvin W. Vogtle Nuclear Plant,
Units 1 and 2)**

**PUBLIC SERVICE COMPANY OF NEW
HAMPSHIRE et al.**

**Docket Nos. 50-443
50-444**

(Seabrook Station, Units 1 and 2)

UNION ELECTRIC COMPANY

**Dockets. STN 50-483
STN 50-486**

(Callaway Plant, Units 1 and 2)

TENNESSEE VALLEY AUTHORITY

**Docket Nos. 50-518
50-519
50-520
50-521**

**(Hartsville Nuclear Plant,
Units 1A, 2A, 1B and 2B)**

April 21, 1977

In response to the Commission's order in CLI-77-10, 5 NRC 717, the Appeal Boards for 13 proceedings call for further submissions by the parties

struction of a substitute facility could reasonably be expected as a consequence of abandonment.” We took this observation (later repeated in *Aeschliman v. NRC*, 547 F.2d 622, 632 fn. 20 (D.C. Cir. 1976))² to mean that

... in undertaking a comparative cost-benefit analysis of Seabrook and possible replacement generating facilities once a new uranium fuel cycle rule has been put in place, the Commission will be free to consider the relative *economic* and *environmental* costs associated with (1) completing the construction of Seabrook and (2) substituting for it an alternative facility the construction of which has not as yet been commenced. And the further advanced Seabrook construction is at that time, the more probable it will be that the comparison will inure to the benefit of that facility from the standpoint of both economic considerations and environmental protection — no matter what the magnitude of the environmental effects which might be attributed to the uranium fuel cycle in the new rule. Indeed, just as the applicants have relied upon the monetary and environmental expenditures involved in construction activities to date in arguing that the balance of convenience requires that construction now be allowed to proceed, so too they well could be expected to stress any additional incremental expenditures along that line when the time comes to rebalance (in light of the new rule) the benefits and costs of continuing with Seabrook instead of pursuing some other alternative.

NRC-76/9 at 261 (footnotes omitted). Applying this analysis to the facts before us in that case, we came to this conclusion:

The situation at hand, then, is one in which there is more than a mere theoretical possibility that the outcome of a restriking on a comparative basis of the cost-benefit balance for Seabrook (following the issuance of a new interim or final fuel cycle rule) will hinge upon whether construction does or does not go forward in the interim. It need be added only that, as earlier suggested (p. 252, *supra*), that possibility is enhanced because Seabrook construction has not as yet progressed very far. In the case of a facility which is in an advanced stage of completion — *i.e.*, as to which the major portion of the economic, and perhaps all of the environmental, costs of construction already have been incurred — the additional expense attendant to going ahead with what remains to be done could be expected to have much less impact upon a cost-benefit balance struck for the purpose of deciding whether to substitute another kind of facility for it.

Id. at 262 (footnotes omitted).

In vacating the result reached in ALAB-349 (*i.e.*, a suspension of the *Seabrook* permits), the Commission did not manifest disagreement with our conclu-

² Certiorari granted *sub nom. Consumers Power Co. v. Aeschliman*, 45 U.S.L.W. 3570 (February 22, 1977).

sion that the greater the investment in a particular facility, the smaller the possibility that the numerical values assigned to the environmental effects of the uranium fuel cycle could have the effect of tipping the overall cost-benefit balance against the facility. See CLI-76-17, *supra*, NRCI-76/11 at 458-63. Rather, the Commission's acceptance of that conclusion seems reasonably apparent from its more recent decision dealing with another aspect of the *Seabrook* NEPA review. CLI-77-8, 5 NRC 503 (March 31, 1977). At issue there was, *inter alia*, our determination in ALAB-366³ that the Licensing Board's alternate site analysis had been deficient in some respects and that further proceedings were required to rectify the deficiencies. The Commission affirmed that determination but went on to instruct the Licensing Board regarding the basis upon which the comparison between the Seabrook site and other potential sites should be made. Of particular relevance here, the Board was told that, in striking its cost-balance between use of the Seabrook site and resort instead to an alternate site, it should take into account the time and resources that had already been invested at the former. The Commission justified this direction in part on the basis of the statement in *Union of Concerned Scientists* quoted above. As had we in ALAB-349, it took the statement to reflect a belief on the part of the District of Columbia Circuit that moneys already spent are irrelevant only where the NEPA comparison is between (1) completing the proposed facility and (2) abandoning that facility and not substituting another facility for it. Thus, because "in the context of alternate site analysis, abandonment of Seabrook means building another plant somewhere . . . we may properly consider the fact that at another site, reviews and work already completed, at Seabrook will have to be duplicated." 5 NRC at 533-534.

As recognized by us in ALAB-349 (see pp. 761-762, *supra*), the same considerations apply where an S-3 analysis is involved. If, because of the environmental effects associated with the uranium fuel cycle, the cost-benefit balance for a particular facility were to be struck against completing that facility (*i.e.*, in favor of abandoning it), it would not follow that no generating station at all should be built. Instead, given the already demonstrated need for the power to be produced by the facility, the consequence of its abandonment would likewise be "building another plant somewhere else." It is possible, of course, that the substitute generating facility would be nonnuclear; *e.g.*, a coal-fired or oil-fired plant. But the construction of a fossil fuel plant has its own environmental impacts — and the costs attendant upon delay in the availability of the additional generating capacity are equally present (although perhaps in different degrees) no matter what kind of replacement facility is chosen. In this connection, in holding that comparative time to completion was an appropriate ingredient of the decision whether to require on environmental grounds the substi-

³ 5 NRC 39 (January 21, 1977).

tution of another facility for the proposed one, the Commission referred in *Seabrook* (5 NRC at 534) to *Porter County Chapter v. AEC*, 533 F.2d 1011 (7th Cir.), *certiorari denied*, 430 U.S. —, 50 L. Ed. 2d 316 (1976). There, the Seventh Circuit was confronted with the claim that the Commission had erroneously factored into its NEPA approval of construction of the facility on the selected site (Bailly) the consideration that transfer to another and allegedly superior site would occasion delay. The claim was expressly rejected by the court: "we conclude that [the Commission] did not abuse its discretion in deciding to consider this factor, having in mind the public interest in avoiding future shortages of power and the estimates as to when the additional power to be generated by the nuclear facility would be needed." 533 F.2d at 1017 n. 10.

2. The ten facilities specifically encompassed by the Commission's April 1, 1977, order involved a total of nineteen units. Six of those units (Vermont Yankee, Salem 1, Peach Bottom 2 and 3, Three Mile Island 1 and Beaver Valley 1) are fully constructed and operational. An additional six units (Salem 2, Three Mile Island 2, Limerick 1 and 2 and Susquehanna 1 and 2) have been under construction for some time and have now reached stages of completion ranging from 19% to 91%. The remaining seven units (Beaver Valley 2, Hope Creek 1 and 2, Seabrook 1 and 2 and Callaway 1 and 2) all have construction permits but none is more than 4% completed.⁴

We are also concerned here with Catawba 1 and 2, Hartsville 1A, 2A, 1B and 2B and Vogtle 1 and 2. With respect to each of these facilities, we rendered decisions in recent months which, although disposing of other environmental matters, specifically reserved judgment on all uranium fuel cycle questions to await the promulgation of an interim rule. See *Duke Power Co.* (Catawba Nuclear Station, Units 1 and 2), ALAB-355, NRCI-76/10 397, 417-18 (October 29, 1976); *Tennessee Valley Authority* (Hartsville Nuclear Plant, Units 1A, 2A, 1B and 2B), ALAB-367, 5 NRC 92, 105-07 (January 25, 1977); *Georgia Power Co.* (Alvin W. Vogtle Nuclear Plant, Units 1 and 2), ALAB-375, 5 NRC 423, 424 (February 16, 1977).⁵ The two Catawba units are each 10% completed; the others in this group are in the very early stages of construction (*i.e.*, no more than 3% completed).⁶

⁴This status information has been derived from official Commission reports: NUREG-0030-03, *Construction Status Report*, Data as of February 28, 1977; NUREG-0020-3, *Operating Units Status Report*, Data as of February 28, 1977.

⁵A similar course had been followed by us in the *Callaway* proceeding, which is embraced by the Commission's April 1, 1977, order. See *Union Electric Co.* (Callaway Plant, Units 1 and 2), ALAB-347, NRCI-76/9 216; 217-220 (September 16, 1976).

⁶As a result of *Aeschliman v. NRC*, *supra*, fuel cycle issues are also present in a pending proceeding involving Midland 1 and 2, portions of which are now before the Appeal Board. Because of its unusual procedural posture, we have decided not to bring the *Midland* proceeding within the scope of this order. Instead, the fuel cycle issues in that proceeding will be independently dealt with by the Appeal Board assigned to that case.

B. It seems quite clear that the possible impact of the interim rule on the ultimate NEPA cost-benefit balances for the various nuclear units in question will not be the same in each instance. For one thing, as we have just seen, there is a wide variation in the quanta of sunk costs — some of the reactors are already fully built and in operation and the construction of others has just barely commenced. Beyond that, there may be important differences from case to case respecting the extent to which the benefits to be derived from the facility outweigh the totality of the *other* (i.e., nonfuel cycle) costs attributable to its construction and operation. Although all members of this Panel are not necessarily in agreement respecting the degree of likelihood that Table S-3 as revised by the interim rule might tip the balance against any particular facility, we have decided to provide an opportunity to the parties to be heard on the matter. For this reason, we will entertain further submissions by a party or parties with respect to any of the facilities covered by this order. Any such submission is to be filed (and served on all other parties to the proceeding involving that facility) *no later than 30 days from the date of this order* and shall be confined in scope to an assignment of reasons why, in light of the interim rule, the cost-benefit balance for the facility or unit in question tips, or might tip, in favor of abandonment of the facility.⁷ All submissions should take into account the circumstances obtaining with regard to that specific facility and, further, should assume the validity of both the interim rule and the Commission's recent *Seabrook* holding regarding sunk costs.⁸ Within 20 days of service upon it of any

⁷Some of the members of the Panel are concerned about the implications, in terms of the application of the numerical values contained in the revised Table S-3, of an observation in the Statement of Considerations which accompanied the proposal of the interim rule. 41 Fed. Reg. 45849, 45850-51 (October 18, 1976). Specifically, the Commission pointed out that "with respect to risks from long-term repository failure," there still exists

uncertainties in areas such as the effect of waste presence on repository stability; the probabilities and consequences of various types of intrusive acts by humans; the availability of data to be used in modeling studies; the design and regulatory actions needed to minimize possibilities of repository failure; projection of future societal habits and demography, and, finally, the relative importance of the various potential initiating events.

Although this concern is not necessarily shared by a majority of the Panel members, the parties are requested to include in their submissions a discussion of the significance which, in light of the Commission's notation, should be deemed to attach to the value placed by the interim rule upon the newly established category of "transuranic and high level wastes (deep)." In other words, given the uncertainties to which the Commission has referred with regard to the possible release of the buried high level wastes, what weight should be attributed (in striking the cost-benefit balance for each individual reactor) to the value assigned to the solidified waste which would be generated during that reactor's operation?

⁸Commission regulations are binding upon us. 10 CFR § 2.785(a). So too, of course, are determinations of law made by the Commission in adjudicatory proceedings.

such submission, a response to the submission may be filed by any other party. No response is required, however, in the absence of an order directing that one be filed.⁹

It is so ORDERED.

FOR THE ATOMIC SAFETY AND
LICENSING APPEAL BOARDS

Margaret E. Du Flo
Secretary to the Appeal Boards

⁹The members of the Panel particularly interested in the question discussed in fn. 7, *supra*, would appreciate receiving the views of *all* parties on that question.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Richard S. Salzman, Chairman
Dr. John H. Buck
Michael C. Farrar

In the Matter of

Docket Nos. STN 50-546
STN 50-547

PUBLIC SERVICE COMPANY OF
INDIANA, INC.

(Marble Hill Nuclear Generating
Station, Units 1 and 2)

April 26, 1977

The Appeal Board declines review of an interlocutory procedural ruling by the Licensing Board.

Motion to direct certification denied.

Mr. George L. Seay, Jr., and Assistant Attorneys General David C. Short and David K. Martin, Frankfort, Kentucky, for the Commonwealth of Kentucky.

Mr. James Lieberman for the Nuclear Regulatory Commission staff.

MEMORANDUM AND ORDER

1. Over the objections of the Commonwealth of Kentucky, during the course of the hearing the Licensing Board granted an oral motion by the staff to file additional direct written testimony comparing effects on the public health attributable to coal-fired and nuclear powered generation. The motion was granted on March 23rd, the new testimony was filed on March 30th, and the other parties (including the Commonwealth) were given until April 8th to prepare and file rebuttal testimony if they so chose. The Commonwealth asserts that it actually took the staff some two months to prepare the supplemental testimony in question (which the Commonwealth characterizes as a "major amendment" to the Final Environmental Statement) and contends that the abbreviated time allowed for its response amounted to a denial of procedural due process. The Commonwealth asks that we invoke our authority under 10 CFR

§2.718(i) to take up, review and reverse the Board's interlocutory ruling allowing the supplemental testimony.

2. We decline to direct certification. As we have observed on previous occasions, during the course of lengthy proceedings licensing boards must make numerous interlocutory rulings, many of which deal with the reception of evidence and the procedural framework under which it will be admitted. It simply is not our role to monitor these matters on a day-to-day basis; were we to do so, "we would have little time for anything else." *Toledo Edison Co.* (Davis-Besse Nuclear Power Station, Unit 1), ALAB-314, 3 NRC 98, 99 (1976). What we said there applies equally to this case (3 NRC at 100):

In the last analysis, the potential for an appellate reversal is always present whenever a licensing board (or any other trial body) decides significant procedural questions adversely to the claims of one of the parties. The Commission must be presumed to have been aware of that fact when it chose to proscribe interlocutory appeals (10 CFR §2.730(f)). That proscription thus may be taken as an at least implicit Commission judgment that, all factors considered, there is warrant to assume the risks which attend a deferral to the time of initial decision of the appellate review of procedural rulings made during the course of trial. Since a like practice obtains in the Federal judicial system, that judgment can scarcely be deemed irrational.¹

3. Our denial of certification carries with it no implications about the merits of the interlocutory ruling sought to be called into question by the Commonwealth. That ruling is not exempt from scrutiny; it is merely that our review is deferred to an appeal at the end of the case.² Finally, nothing in this order proscribes the Commonwealth's right to ask the Board below to reconsider and to allow additional time for the filing of rebuttal testimony.

Motion to certify *denied*.

It is so ORDERED.

FOR THE ATOMIC SAFETY AND
LICENSING APPEAL BOARD

Margaret E. Du Flo
Secretary to the Appeal Board

¹*Accord, Puerto Rico Water Resources Authority* (North Coast Nuclear Plant, Unit 1), ALAB-361, NRCI-76/12, 625 (1976); *Long Island Lighting Company* (Jamesport Nuclear Power Station, Units 1 and 2), ALAB-353, NRCI-76/10, 381 (1976); *Long Island Lighting Company* (Jamesport Nuclear Power Station, Units 1 and 2), ALAB-318, 3 NRC 186 (1976).

²*Boston Edison Co.* (Pilgrim Nuclear Generating Station, Unit 2), ALAB-269, 1 NRC 411, 413 (1975); *Northern Indiana Public Service Co.* (Bailly Generating Station, Nuclear-1), ALAB-249, 8 AEC 980, 984-86 (1974); *Southern California Edison Co.* (San Onofre Nuclear Generating Station, Units 2 and 3), ALAB-212, 7 AEC 986 (1974).

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Jerome E. Sharfman, Chairman
Dr. Lawrence R. Quarles
Richard S. Salzman

In the Matter of

Docket Nos. 50-354
50-355

PUBLIC SERVICE ELECTRIC AND
GAS COMPANY
ATLANTIC CITY ELECTRIC COMPANY

(Hope Creek Generating Station,
Units 1 and 2)

April 29, 1977

Intervenors filed exceptions to LBP-77-22, 5 NRC 694, and suggested that their prior submissions to the Licensing Board serve as a brief supporting their exceptions. The NRC staff moved to strike the exceptions on the ground that a supporting brief was necessary. The Appeal Board rules that such a brief is necessary and allows intervenors time to file it.

RULES OF PRACTICE: BRIEFS

The Rules of Practice required that a brief setting forth appropriate arguments and record citations be filed in support of exceptions. 10 CFR §2.762(a). A letter incorporating by reference a brief and proposed findings and conclusions filed with the licensing board is not sufficient.

RULES OF PRACTICE: BRIEFS

Appellate briefs should contain a statement of the case's procedural history related to the issues presented by the appeal. *Public Service Co. of Oklahoma* (Black Fox Units 1 and 2), ALAB-388, 5 NRC 640 (March 31, 1977).

Mr. Peter A. Buchsbaum, Assistant Deputy Public Advocate
of New Jersey, Trenton, New Jersey, for the intervenors

Concerned Citizens on Logan Township Safety, Stanley C. Van Ness, and the Boroughs of Paulsboro and Swedesboro.

Mr. Richard L. Black for the Nuclear Regulatory Commission staff.

ORDER

On April 6, 1977, Joint Intervenors¹ filed exceptions to the Licensing Board's Supplemental Initial Decision of March 28, 1977. On April 20, 1977, counsel for the Joint Intervenors filed and served a letter which they characterized as "submitted in lieu of a brief in support of the exceptions" In pertinent part, the letter reads:

Joint Intervenors wish to state that they rely on the posthearing brief and proposed findings of fact and conclusions of law which they filed with the Atomic Safety and Licensing Board in February 1977. Our exceptions substantially reiterate the position taken in those filings, and we therefore choose to rely on them for our legal argument in support of the exceptions.

On April 27, 1977, the staff moved to strike the exceptions on the grounds that (1) "they are not supported by a brief setting forth appropriate arguments and record citations as required by 10 CFR §2.762(a)" and (2) Joint Intervenors' failure to brief their exceptions leaves uncertain exactly what it is that they object to in the Supplemental Initial Decision and what evidence or authorities they rely on to support those objections, thus making intelligent response difficult and placing appellees at an unfair disadvantage.

The grounds underlying the staff's motion are well taken. In addition, the adjudication of an appeal by us without a proper appellate brief from one side would be particularly burdensome and time-consuming, and would hinder us in our attempts to deal expeditiously with our caseload. We therefore decline to accept Joint Intervenors' brief and proposed findings and conclusions filed below in lieu of a brief in support of the exceptions. However, in view of the possibility that Joint Intervenors' counsel did not appreciate that he could not satisfy our briefing requirements by a letter of the type he wrote, we will not grant the drastic relief requested by the staff. Instead, Joint Intervenors may have two weeks from the date of this order to serve and file a brief in support of

¹The Concerned Citizens on Logan Township Safety, Stanley C. Van Ness (Public Advocate of the State of New Jersey), and the Boroughs of Paulsboro and Swedesboro.

their exceptions which complies with our rules. See 10 CFR §2.762.² Only if they do not do so by that time will their appeal be dismissed. The time for filing responsive briefs will not begin to run until a brief in support of the exceptions is served and filed.

It is so ORDERED.

FOR THE ATOMIC SAFETY AND
LICENSING APPEAL BOARD

Margaret E. Du Flo
Secretary to the Appeal Board

Dr. Quarles did not participate in the disposition of this matter.

² Although it is not explicitly required by § 2.762, the brief should contain a "statement of the case" or "statement of facts" which includes "an exposition of that portion of the procedural history of the case related to the issue or issues presented by the appeal." *Public Service Co. of Oklahoma* (Black Fox Station, Units 1 and 2), ALAB-388, 5 NRC 640 (March 31, 1977).

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Michael C. Farrar, Chairman
Dr. Lawrence R. Quarles*
Richard S. Salzman

In the Matter of

Docket Nos. 50-329
50-330

CONSUMERS POWER COMPANY

(Midland Plant, Units 1 and 2)

April 29, 1977

Upon motion by the applicant to stay the proceeding now pending before the Licensing Board, and upon motions by the intervenors (1) to halt construction of the plant pending the outcome of that proceeding and (2) for financial assistance, the Appeal Board, acting pursuant to a special delegation of authority from the Commission, denies all three motions. The Appeal Board also gives its reasons for denying the applicant's earlier emergency stay motion.

RULES OF PRACTICE: STAY PENDING APPEAL

The four factors enumerated in *Virginia Petroleum Jobbers Ass'n v. FPC*, 295 F.2d 921, 925 (D.C. Cir. 1958), ordinarily govern NRC disposition of motions for stay pending appeal. *Natural Resources Defense Council*, CLI-76-2, 3 NRC 76, 78 (1976); *Allied-General Nuclear Services* (Barnwell Facility), ALAB-296, 2 NRC 671, 677-78 (1975).

RULES OF PRACTICE: STAY PENDING APPEAL

"Mere litigation expense, even substantial and unrecoupable cost, does not constitute irreparable injury," for the purposes of the test in *Virginia Petroleum Jobbers Ass'n v. FPC*, 295 F.2d 921, 925 (D.C. Cir. 1958). *Renegotiation Board v. Bannerkraft*, 415 U.S. 1, 24 (1974).

*Dr. Quarles did not participate fully in this decision for the reasons which appear in his separate statement, *infra*, pp. 787-788.

RULES OF PRACTICE: EMERGENCY RELIEF

Requests for emergency relief which require adjudicatory boards to act without giving the parties who will be adversely affected a chance to be heard ought to be reserved for palpably meritorious cases and filed only for the most serious reasons. In addition, the most expeditious manner of bringing such a matter before the Board is strongly suggested.

RULES OF PRACTICE: STAY OF PROCEEDINGS

Neither the filing nor the granting of a petition for certiorari operates as a stay, either with respect to the execution of the judgment below or the issuance of the mandate below to a lower court.

ADMINISTRATIVE PROCEDURE ACT: STAY OF PROCEEDINGS

Section 10(d) of the Administrative Procedure Act (5 U.S.C. 705) pertains to an agency's right to stay action taken by it pending judicial review of that action, and it confers no freedom on an agency to postpone taking action when the impetus for the action comes from a court directive.

NUCLEAR REGULATORY COMMISSION: ADJUDICATORY RESPONSIBILITIES

The NRC must "act promptly and constructively in effectuating the decisions of the courts," and, upon issuance of the mandate, the court's "decision [becomes] fully effective on the Commission, and it must proceed to implement it." *Vermont Yankee Nuclear Power Corp.* (Vermont Yankee) and *Consumers Power Co.* (Midland, Units 1 and 2), CLI-76-14, NRCI-76/9 163,166 (1976).

RULES OF PRACTICE: STAY PENDING APPEAL

When review of an environmental impact statement which was prepared in good faith discloses inadequacies, a stay of the underlying activity does not follow automatically. *Environmental Defense Fund v. Froehlke*, 477 F.2d 1033 (8th Cir. 1973); *Greene County Planning Board v. FPC*, 455 F.2d 412, 424-25 (2d Cir.), cert. denied, 409 U.S. 849 (1972); *City of New York v. United States*, 337 F. Supp. 150, 163-64 (E.D.N.Y. 1972). Whether the project need be stayed essentially must "be decided on the basis of (1) traditional balancing of equities and (2) consideration of any likely prejudice to further decisions that might be called for by the remand." *Public Service Co. of New Hampshire* (Seabrook, Units 1 and 2), CLI-77-8, 5 NRC 503, 521 (March 31, 1977).

**RULES OF PRACTICE: STAY PENDING APPEAL
(BURDEN OF PROOF)**

A party seeking a stay bears, at the least, the burden of marshalling the evidence and making arguments which demonstrate the appropriateness of the remedy prayed for.

RULES OF PRACTICE: STAY PENDING APPEAL

Parties desiring a stay pending appeal should make their request to the licensing board before turning to the appeal board. *Toledo Edison Co.* (Davis-Besse, Units 1, 2 and 3), ALAB-364, 5 NRC 35 (1977).

**COMMISSION PROCEEDINGS: FINANCIAL
ASSISTANCE TO PARTICIPANTS**

The NRC has an express policy against financing participants in its adjudicatory proceedings, and financial assistance decisions will not be made on a case-by-case basis under that policy. *Nuclear Regulatory Commission (Financial Assistance to Participants in Commission Proceedings)*, CLI-76-23, NRCI-76/11 494, 498, fn. 4 (1976).

Mr. Harold F. Reis, Washington, D. C., for Consumers Power Company.

Mr. Myron M. Cherry, Chicago, Illinois, for the intervenors Saginaw Valley Nuclear Study Group, *et al.*

Mr. L. W. Pribila, Midland, Michigan, for the intervenor Dow Chemical Company.

Messrs. Richard K. Hoeffling and James Lieberman for the Nuclear Regulatory Commission staff.

MEMORANDUM AND ORDER

Owing to the absence of a quorum able to act on the merits in this postconstruction permit proceeding,¹ the Commission has recently instructed us to

¹ A quorum of the five-member Commission consists of three members. Two seats are now vacant, and one of the three incumbents considers himself disqualified in this proceeding. Out of necessity, however, he participated for the limited purpose of referring all matters to us.

handle any matters which would otherwise come before it.² This delegation of authority, which is to remain in force until the Commission again has a quorum,³ has the present effect of putting three matters before us for consideration: (1) the motion of the applicant, Consumers Power, to stay the proceeding now pending before the Licensing Board on the ground that the Supreme Court has granted certiorari to review the decision of the Court of Appeals for the District of Columbia Circuit which triggered the proceeding in the first place; (2) the intervenors' motion to halt construction of the plant pending the outcome of the Licensing Board proceeding; and (3) the intervenors' motion for financial assistance.⁴ For the reasons stated below, we deny all three motions.

I

The applicant filed its motion to halt the pending Licensing Board proceeding directly with the Commission. The applicant did so because it was in essence requesting a change in the directives which the Commission itself had issued to the Licensing Board in the wake of *Aeschliman v. NRC*, 547 F.2d 622 (D.C. Cir. 1976), which involved review of the Midland construction permits. See also *Natural Resources Defense Council v. NRC*, 547 F.2d 633 (D.C. Cir. 1976). The applicant's motion is grounded upon the Supreme Court's recent grant of certiorari in *Aeschliman*⁵ and the asserted consequent doubt about the continued validity of the court of appeals' decision. The applicant argues that the decision is not "final" and thus that "the continuation of these protracted and onerous proceedings has become anomalous, inequitable and wholly inconsistent with efficient administrative practice." To relieve this burden, it seeks a stay pending completion of the Supreme Court's review. All the other parties—the NRC staff, Dow Chemical, and the intervenors—oppose the grant of a stay.

We have already informally denied a related request made by the applicant; *i.e.*, an emergency request for an immediate interim stay pending our deliberations on the motion for a long-lasting halt to the proceeding. In this opinion, we set forth the reasons which led us to deny the emergency motion. We then turn to the merits of the stay request. On that score, we hold that the applicant is entitled to no relief. To be fully understood, our explanation must be preceded by a statement of the procedural posture of this case.

² CLI-77-7, 5 NRC 501 (March 18, 1977), and CLI-77-12, 5 NRC 725 (April 5, 1977).

³ CLI-77-12, *supra*, 5 NRC at 726.

⁴ A number of individuals and organizations, all represented by the same counsel, have intervened here in opposition to the facility. We will refer to them herein simply as the intervenors. There is one other intervenor, the Dow Chemical Company, which we will refer to by name.

⁵ *Sub. nom. Consumers Power Co. v. Aeschliman*, 45 U.S.L.W. 3570 (February 22, 1977). Certiorari was also granted in the companion case, *NRDC v. NRC*, *supra*.

A. Background

In *Aeschliman, supra*, the court of appeals was called upon to review the Commission's grant to Consumers Power of permits to construct the two units of the Midland nuclear facility.⁶ The court held that the agency decisions authorizing the permits were defective on three counts: (1) energy conservation issues were not considered; (2) the report of the Advisory Committee on Reactor Safeguards failed to comply with statutory standards;⁷ and (3) the NEPA cost-benefit analysis did not take account of the environmental effects of the nuclear fuel cycle. With respect to the third point, the court's ruling was controlled by the Decision it had made in a companion case (*NRDC v. NRC, supra*) that same day.⁸

By way of relief, the court instructed that the orders granting the Midland construction permits were "remanded for further proceedings in conformity with" its opinion;⁹ it said nothing about the status of the permits in the interim before those proceedings were completed. Because consideration of energy conservation and fuel cycle issues would necessitate restriking the NEPA cost-benefit balance, the court did, however, "assume that the Commission will take into account the changed circumstances regarding Dow's need for process steam . . ." from the Midland plant.¹⁰

In mid-August 1976, the Commission issued a General Statement of Policy designed to implement the court's decisions.¹¹ The fuel cycle decision of course had ramifications beyond the particular reactors which had been the subject of judicial review, and the policy statement dealt with it in that context. The Commission there stated its intention to promulgate an interim fuel cycle rule to be used in licensing proceedings pending completion of formal rulemaking. It also indicated that proceedings could be instituted to consider whether any out-

⁶ The permits were issued on December 15, 1972, after the Licensing Board had rendered an initial decision authorizing their issuance. LBP-72-34, 5 AEC 214 (1972). We affirmed that decision, subject to some modifications. ALAB-123, 6 AEC 331 (1973). That decision became the final agency action when the Commission declined to review it.

⁷ In this connection, the court decreed that the report be returned to the ACRS for clarification of certain ambiguities. 547 F.2d at 632.

⁸ The *NRDC* decision involved petitions for review of two different fuel cycle matters. One concerned the Vermont Yankee license itself; the other the fuel cycle rule that had been adopted by the Commission after Vermont Yankee had been licensed. The court's decision consisted of two principal holdings: (1) it was improper for the Commission to decide individual licensing cases prior to the completion of the fuel cycle rulemaking proceeding without taking the effects of the fuel cycle into account in some other manner and (2) the fuel cycle rule was inadequately supported in certain respects.

⁹ 547 F.2d at 632.

¹⁰ *Ibid.*

¹¹ 41 FR 34707 (August 16, 1976).

standing permits or licenses should be modified or suspended until such an interim rule could be made effective. The Commission itself reconvened the *Midland* and *Vermont Yankee* Licensing Boards to consider this question, telling them to call for "briefs from the parties . . . followed by evidentiary hearings if necessary."¹²

The issues peculiar to *Midland* (i.e., those other than fuel cycle) were not taken up as rapidly. In that connection, the Commission instructed the Licensing Board that it would not be appropriate to convene a hearing on "the merits of the other issues assigned for reconsideration" by the court in *Aeschliman* until the court's decision had "become final."¹³

Both Consumers Power and the government asked the court of appeals to stay the mandates in *Aeschliman* and *NRDC v. NRC* pending the filing of petitions for certiorari. Although the court eventually did so with respect to the latter case (see p. 777, *infra*), it expressly refused to do so in the former. Accordingly, the mandate in *Aeschliman* issued on September 3, 1976.¹⁴ The Commission thereupon instructed the *Midland* Licensing Board to take up, along with the fuel cycle matter, the other issues which had been remanded.¹⁵ In this regard, the Commission expressly rejected Consumers' argument that consideration of these matters would be inappropriate and should be deferred pending disposition of the certiorari petition which it intended to file with the Supreme Court.¹⁶

As noted above, the court later (on October 8, 1976) did stay its mandate in *NRDC v. NRC*, the fuel cycle case. Based on that action, the Commission suspended all the proceedings that had been convened in the wake of the fuel cycle decision and the General Statement of Policy.¹⁷ It issued a separate ruling to that same effect insofar as the fuel cycle matter in *Midland* was concerned,¹⁸ on

¹²*Consumers Power Co.* (Midland Plant, Units 1 and 2), CLI-76-11, NRCI-76/8 65 (1976); *Vermont Yankee Nuclear Power Corporation* (Vermont Yankee Nuclear Power Station), CLI-76-12, NRCI-76/8 66 (1976).

¹³CLI-76-11, *supra*, NRCI-76/8 at 65. See also 41 FR at 34709, fn. 2.

¹⁴Consumers Power did not renew its request for a stay before the Supreme Court, although that avenue was open to it. 28 U.S.C. 2101(f) and Supreme Court Rules 27, 50 and 51.

¹⁵*Vermont Yankee Nuclear Power Corp.* (Vermont Yankee Station) and *Consumers Power Co.* (Midland Units 1 and 2), CLI-76-14, NRCI-76/9 163, 166-67 (September 14, 1976); see also the Commission's unpublished order of the same date, entered in this proceeding alone.

¹⁶*Id.* at 166, fn. 1 and accompanying text.

¹⁷See the Supplemental General Statement of Policy issued November 5, 1976, (41 FR 49898, November 11, 1976) and CLI-76-18, NRCI-76/11 470 (November 5, 1976). See also *Public Service Company of New Hampshire* (Seabrook Station, Units 1 and 2), CLI-76-17, NRCI-76/11 451 (November 5, 1976).

¹⁸*Consumers Power Company* (Midland Units 1 and 2), CLI-76-19, NRCI-76/11 474, 475 (November 5, 1976).

all other issues, however, the *Midland* proceeding was to go forward because:¹⁹

The mandate of the court of appeals in the *Aeschliman* case has issued. The *Aeschliman* decision is now fully effective and binding on the Commission, which must proceed to implement it.

In that connection, the Commission again explicitly rejected Consumers' argument that consideration of these matters should await Supreme Court action.²⁰

In accordance with the Commission's instructions, the Licensing Board went ahead. Some twenty-one days of hearing were held between the end of November and mid-February.

On February 22, 1977, the Supreme Court granted certiorari in both *Aeschliman* and *NRDC v. NRC*, 45 U.S.L.W. 3570. Based on this change in circumstances, Consumers ten days later put before the Commission an argument that the *Midland* Licensing Board proceedings should be held in abeyance to abide the result of Supreme Court action.

B. Consumers' Emergency Motion

As mentioned at the outset, the absence of a quorum caused the Commission to refer Consumers' motion to us. It did so on Friday, March 18th; the hearing before the Licensing Board, which had been in recess for a month, was scheduled to resume on the following Monday, March 21st.

The ink was scarcely dry on the Commission's referral order when Consumers telegraphed to us an emergency motion for an interim stay of the hearings pending our full review of, and decision on, the request for a long-term adjournment. The Chairman was notified of the arrival of his copy at midmorning on Saturday, March 19th. Upon examination of it, and being unable to reach the other Board members, he denied the motion himself²¹ and instructed the NRC operator (1) so to advise applicant's counsel and (2) to direct counsel to bring the ruling to the attention of the other recipients of his telegram. Later, the other Board members expressed their full concurrence in the action the Chairman had taken.

Because that ruling was necessarily made in informal fashion and with no reasons assigned, it seems appropriate to include in this opinion a statement of why we denied the applicant's request for emergency stay relief. The standards laid down in *Virginia Petroleum Jobbers Ass'n v. FPC*, 259 F.2d 921, 925 (D.C. Cir. 1958), supplied the framework for that decision. The four factors set out

¹⁹*Id.* at 475.

²⁰*Id.* at 475 fn. 1.

²¹The power to act alone in such circumstances is conferred by 10 CFR §2.787(b)(1).

there ordinarily govern the Commission's as well as our own disposition of stay motions.²²

In that connection, one of the four factors turned out to be predominant. Specifically, neither the telegram itself nor the underlying papers to which it referred, claimed, much less established, that the continuation of the proceedings would cause the applicant irreparable injury. This is not surprising. Much higher authority than ourselves has held that "[m]ere litigation expense, even substantial and unrecoupable cost, does not constitute irreparable injury." *Renegotiation Board v. Bannerkraft*, 415 U.S. 1, 24 (1974). And we have applied that teaching in circumstances similar to those presented here, when the shoe was on the other foot. *Barnwell* (*supra*, fn.22), 2 NRC at 684 (where it was the intervenors who were seeking a stay of Licensing Board hearings).

Given the absence of irreparable injury, it would have taken an exceptionally strong showing on the other three factors for the applicant to have prevailed. But those factors also militated against granting the emergency stay.

In the first place, our preliminary review suggested that the applicant had little chance of succeeding on the merits of its long-term stay motion. Because further study has confirmed that belief, we need not discuss the matter at this juncture. See pp. 780-784, *infra*.

Secondly, all of the other parties were opposed to the long-term stay, and the position of at least one of them—the private intervenors—would be jeopardized were the hearings to be postponed. For, as the Commission has just reemphasized,²³ the basic issue which is before the Licensing Board on the merits—whether to reauthorize the construction of the Midland facility in the face of claims that the project as presently structured cannot survive a proper NEPA cost-benefit analysis²⁴ — can be prejudiced by a continuing commitment of resources to the project. The more that is expended, the less likely it is that, on account of environmental considerations, either the cost-benefit balance will be tipped against the plant or potential alternatives will remain feasible. In essence, the applicant is seeking to defer decision on the wisdom of completing the facility while continuing the construction activity that could tilt the decision-making process in its favor. There is a saying for this—having your cake and eating it too. Only the most extraordinary circumstances would justify our requiring a party to stand by while another is satiated at its expense.

Finally, the public interest would have suffered in at least two respects had

²² See, e.g., *Natural Resources Defense Council*, CLI-76-2, 3 NRC 76, 78 (1976); *Allied-General Nuclear Services* (Barnwell Facility), ALAB-296, 2 NRC 671, 677-78 (1975).

²³ See *Public Service Co. of New Hampshire* (Seabrook Units 1 and 2), CLI-77-8, 5 NRC 503 (March 31, 1977).

²⁴ For present purposes, we put to one side any safety issues that may be unearthed in connection with the renewed consideration of the ACRS letter.

we granted the emergency delay sought. First, there is a public—as well as a private — interest in the fairness of the decision-making process. What we said in the preceding paragraph, then, is doubly important. Second, the scheduling of the hearings before the Board below seems at times to have been beset with difficulties. Were we to have called off last month's session at the last minute, after the parties had rescheduled other commitments around it, they might not have been able to put to good use the time suddenly made available to them. Then, had we later determined the hearing should go forward, they would have been faced with adjusting their schedules once again, perhaps at great inconvenience or with substantial hardship. The difficulties usually attendant upon scheduling these cases—where there are three-member boards, several parties (some with multiple counsel) and numerous witnesses to be considered—bulk large enough without our directing last minute changes.²⁵

All the considerations just discussed convinced us that the applicant's telegraphic motion was entirely devoid of merit.²⁶ In this connection, it bears mention that requests for emergency relief which require us to act without giving the parties who will be adversely affected a chance to be heard ought to be reserved for palpably meritorious cases and filed for only the most serious of reasons.²⁷

C. The Long-term Stay Request

We turn now to the merits of the stay motion which the applicant originally

²⁵The Board below expressed a similar view in its memorandum of March 16, 1977, which, *inter alia*, explained why it had earlier declined to call off the hearing session scheduled for March 21st.

²⁶The hearing went forward on March 21st and continued for several days. It was then scheduled to reconvene on April 4th but its resumption had to be postponed to May 9th (see Licensing Board order of April 12th).

²⁷We also call to the attention of practitioners who may in the future have occasion to seek emergency relief the fate that befell the applicant's telegram in this proceeding. Although the telegram was initiated midafternoon, the copies intended for the Board members were not transmitted to the Commission's message center until close to midnight. In short, merely transmitting the text of a motion to the telegraph company does not insure that we will become apprised of it that day. If it is imperative that a matter be brought to our attention quickly, those within the metropolitan area would be well-advised to have a messenger deliver to us and to local opposing counsel a copy of the text of the telegram, relying on the telegram itself only as a means of service upon out-of-town counsel. Even at that, telephonic notice to all adverse parties might be in order, for only in the most extraordinary circumstances will we grant relief without affording them at least some opportunity to be heard in opposition. And even less frequently will emergency relief be granted by a Board Chairman acting alone when his inability to consult with his colleagues is attributable to the movant's own failure to employ the most expeditious manner of bringing the matter before the board.

filed with the Commission. As noted previously, that motion seeks to defer all activity before the Licensing Board while we await the outcome of the pending Supreme Court review.

1. Our analysis begins—and nearly ends—with the doctrine that “neither the filing nor the granting of a petition for certiorari operates as a stay, either with respect to the execution of the judgment below or the issuance of the mandate below to a lower court.”²⁸ As Judge Wisdom observed in *Meredith v. Fair*, 306 F.2d 374, 376-77 (5th Cir. 1962), the “guidelines for granting stays [pending certiorari] which have withstood the years” were established by the Supreme Court in *Magnum Import Co. v. Coty*, 262 U.S. 159 (1923). There Chief Justice Taft, writing for a unanimous Court, set forth the following principles:

The petition [for a stay pending certiorari] should, in the first instance, be made to the circuit court of appeals, which, with its complete knowledge of the cases, may, with full consideration, promptly pass on it. That court is in a position to judge, first, whether the case is one likely, under our practice, to be taken up by us on certiorari; and second, whether the balance of convenience requires a suspension of its decree and a withholding of its mandate. It involves no disrespect to this court for the circuit court of appeals to refuse to withhold its mandate or to suspend the operation of its judgment or decree pending application for certiorari to us. If it thinks a question involved should be ruled upon by this court, it may certify it. If it does not certify, it may still consider that the case is one in which a certiorari may properly issue, and may, in its discretion, facilitate the application by withholding the mandate or suspending its decree. This is a matter, however, wholly within its discretion. If it refuses, this court requires an extraordinary showing before it will grant a stay of the decree below pending the application for a certiorari, and *even after it has granted a certiorari, it requires a clear case and a decided balance of convenience before it will grant such stay.*

262 U.S. at 163-64, emphasis supplied.²⁹

²⁸ Stern & Gressman, *Supreme Court Practice*, p. 564 (4th ed. 1969).

²⁹ The procedures outlined are in large measure now embodied in formal rules. See Supreme Court Rules 27, 50 and 51, and Rule 41(b), Federal Rules of Appellate Procedure. See also 28 U.S.C. 2101(f). That the grant of certiorari does not operate as a stay is confirmed by the Court's practice: see, e.g., *St. Regis Paper Company v. United States*, 365 U.S. 857 (1961), where the Court upon granting certiorari also issued a separate stay order; *McLeod v. General Electric Co.* 17 L. Ed. 2d 45, 47 (1966), where Justice Harlan, acting as Circuit Justice, ordered a stay pending the Court's disposition of a certiorari petition but indicated that if the petition were granted, he would submit the matter to the entire court “so that it may determine whether a further stay should be granted”; and *English v.*

Continued on next page.

Here, the court of appeals flatly denied Consumers' request for a stay of the *Aeschliman* mandate pending the filing of a petition for certiorari (while granting such relief in a companion case). In the period since certiorari was granted, Consumers has not asked the court of appeals to recall its mandate or asked the Supreme Court to stay the effect of that mandate. And the Supreme Court has taken no such action of its own accord in connection with the grant of certiorari. Thus, the mandate in *Aeschliman*, not having been stayed, remains in full effect.³⁰

2. In an attempt to avoid the force of these straight-forward propositions, Consumers argues that the mandate "in no way requires . . . the Commission to conduct the remanded proceedings."³¹ It first supports this assertion by referring us to earlier statements of the Commission, which downplayed the importance of the question whether the mandate had issued while noting both that "the relationship between the Commission and the Court of Appeals is quite different than that between an inferior and superior court," and that "technical rules derived from the relationship of superior and subordinate judicial tribunals should not be mechanically applied to the relationship between administrative agencies and reviewing courts . . ."³²

What Consumers overlooks is that those Commission statements were made in a quite different context and involved a response to an entirely different question than that presented here. There, the issue was whether the Commission

Continued from previous page.

Cunningham, 4 L. Ed. 2d 42, 44 (1959), where Justice Frankfurter, acting as Circuit Justice, declined to issue a stay pending disposition of a certiorari petition but noted that if the petition were granted the Court could then act on "the ancillary question of a stay."

One court of appeals has said that "the actual granting of a writ of certiorari does operate as a stay." *Glick v. Ballentine Produce*, 397 F.2d 590, 594 (8th Cir. 1968); see also *United States v. Eisner*, 323 F.2d 38, 42 (6th Cir. 1963). The statement was, however, *dictum*. Moreover, *Glick* cited only *Eisner* as authority; it in turn had only referred to, without approving, two lower court decisions which predated the Supreme Court's decision in *Magnum Import*, *supra* (i.e., *Waskey v. Hammer*, 179 F. 273 (9th Cir. 1910), and *Orth v. Steger*, 258 F. 625 (S.D.N.Y. 1919)).

³⁰ At one point, the Commission said that the nonfuel cycle issues in *Midland* would not be heard until the *Aeschliman* decision became "final." See p. 777, *supra*. Consumers' attempt to rely on two criminal cases to establish that *Aeschliman* is not now final is unavailing. Motion, p. 9, citing *Linkletter v. Walker*, 381 U.S. 618, 622 (1965); and *Long v. Robinson*, 316 F. Supp. 22, 31 (D. Md. 1965). Although the decision may not be final for certain purposes (the cases cited involved the question of finality for purposes of applying on appeal a change in the law), it is presently fully effective and binding on us, and it was in that sense that the Commission meant that it had to be final.

³¹ Motion, p. 10.

³² Motion, pp. 10-11, quoting from and paraphrasing *Vermont Yankee/Midland*, CLI-76-14, *supra*, NRCI-76/9 at 166.

could and should proceed to implement a judicial decision before the court's mandate had issued. In the circumstances then present, the Commission believed it had a responsibility to act notwithstanding that the formal mandate had not yet come down.

It was in that context that the Commission regarded the question of the issuance of the mandate as of subordinate importance. That its relationship with the courts permits an agency to proceed in advance of the issuance of a mandate does not establish the contrary, *viz.* that it may refuse to proceed after the mandate has issued.

Consequently, Consumers can draw no support from the Commission statements upon which it relies. Its reliance upon Section 10(d) of the Administrative Procedure Act (5 U.S.C. 705) is similarly misplaced. As is obvious from its terms, that section pertains to an agency's right to stay action "taken by it" pending judicial review of that action. In other words, when the impetus for the action in question comes from the agency, it may decide to wait pending judicial review of its decision. Here, however, the impetus came from elsewhere; *i.e.*, from a court directive. The APA confers no freedom on the agency to postpone taking action in that circumstance.

In a related vein, Consumers claims that the Commission has broad discretion in implementing judicial mandates, that this discretion gives it the authority to stay the remanded proceedings pending Supreme Court review, and that the Commission should do so for reasons of administrative efficiency and fairness. In this regard, Consumers contends that the Commission has already recognized that it has authority to postpone the hearings notwithstanding the court's mandate. As Consumers sees it, the Commission merely declined to do so in the belief that the court of appeals, by issuing its mandate, expected it "to proceed with all remanded issues promptly."³³ According to Consumers, such an expectation "can no longer be assumed to exist in the light of the Supreme Court's decision to review the *Aeschliman* decision."³⁴

We are unpersuaded by Consumers' reasoning. To be sure, the Commission does have, as Consumer contends, "broad discretion in implementing judicial mandates."³⁵ But this discretion is not unbridled; the Commission has recognized a concomitant "responsibility to act promptly and constructively in effectuating the decisions of the courts" even before a mandate issues.³⁶ And it has said it "cannot disregard the court's issuance of its mandate . . ."³⁷ Here, Consumers is not asking the Commission simply to select among several permissible

³³ Motion, p. 10

³⁴ *Ibid.*

³⁵ CLI-76-14, *supra*, NRCI-76/9 at 166 n. 1.

³⁶ *Id.* at 166.

³⁷ *Id.* at 166, fn. 1.

methods for carrying out the court's decision in *Aeschliman*. It (or we) certainly would have the authority to do that much. But it is an entirely different matter to refrain from taking any steps whatsoever towards implementing a judicial mandate which is in full force and effect. Consumers has not directed us to anything which could serve as the source of such remarkable power. To the contrary, as the Commission has stated in no uncertain terms, upon issuance of the mandate the court's "decision [becomes] fully effective and binding on the Commission, and it must proceed to implement it."³⁸

We need add only that, contrary to what Consumers asserts, it is by no means "pointless" to allow this proceeding to continue pending completion of Supreme Court review. A grant of certiorari is not the equivalent of a reversal. Consequently, as Dow Chemical cogently argues (March 15th Statement, p. 2): "By allowing the present hearings to continue without interruption, unnecessary delay may be avoided since, should the Supreme Court affirm the Court of Appeals' decision pursuant to which the hearings are being conducted, the ASLB will already have reached a decision. If the hearings are suspended, additional time may be lost following the Supreme Court's decision pending the completion of the hearings." In any event, the decision whether or not to continue the administrative proceedings rests, in our judgment, with the court of appeals or the Supreme Court, forums which are open to Consumers Power Company. Unless the former recalls its mandate or the latter stays its effect, we deem it improper for us to call a halt to the pending proceedings.

II

Two matters raised by the intervenors are before us. In neither instance may we grant relief.

A. We must reject the intervenors' request that construction be halted pending the outcome of further proceedings before the Licensing Board. Their motion contains virtually no elucidation of the facts and legal principles which might support it. And, even were its premises more carefully articulated, it would have to be considered in the first instance by the Licensing Board rather than by us or the Commission.

The Court of Appeals remanded the *Midland* matter to the Commission for further consideration of environmental issues and the resulting cost-benefit analysis without enjoining construction of the nuclear facility in the interim. The court's restraint in this regard mirrors the rule that a stay of the underlying activity does not follow automatically where review discloses inadequacies in an

³⁸CLI-76-14, *supra*, NRCI-76/9 at 166; see also *Midland*, CLI-76-19 (*supra*, fn. 18), NRCI-76/11 at 475.

agency environmental impact statement prepared in good faith.³⁹ As the Commission recently observed in analogous circumstances, whether the project need be stayed essentially must “be decided on the basis of (1) traditional balancing of equities and (2) consideration of any likely prejudice to further decisions that might be called for by the remand.”⁴⁰

The instant motion, to stay further construction of the Midland plant pending completion of the remanded proceedings before the Licensing Board, inadequately addresses those factors. Its three pages amount to no more than a general broadside based on the “record thus far developed” at the hearings. We are left on our own to discover in that record (now more than five thousand—5,000—transcript pages long) any evidence which bears on the movants’ right to the relief sought. Such arguments are patently inadequate. At the least, one seeking a stay bears the burden of marshalling the evidence and making the arguments which demonstrate his entitlement to it. It is hardly a novel proposition that, like general principles, unsupported assertions do not decide concrete cases.⁴¹ For this reason alone we would be compelled to deny relief.

Second, a motion for a stay perforce turns in no small measure on the underlying facts. The Board hearing the case is manifestly closer to those facts than we are. Consequently, it is in a better posture to evaluate initially whether the record warrants interim relief. For this reason, while not mandatory under the Commission’s rules, we have stressed before that the appropriate practice is to seek a stay in the first instance from the trial board before turning to us for assistance. *Toledo Edison Co.* (Davis-Besse Nuclear Power Station, Units 1, 2 and 3), ALAB-364, 5 NRC 35 (1977). *Cf.*, Rules 8 and 18, Federal Rules of Appellate Procedure. We have been offered no explanation why that salutary practice could not have been followed here.⁴² This is another reason for our disinclination to grant a stay.

³⁹*City of New York v. United States* 337 F. Supp. 150, 163-64 (E.D.N.Y. 1972) (three-judge court) (per Friendly, Ch. Cir. J.); *Greene County Planning Board v. FPC*, 455 F.2d 412, 424-25 (2nd Cir.), *certiorari denied*, 409 U.S. 849 (1972); *Environmental Defense Fund v. Froehke*, 477 F.2d 1033 (8th Cir. 1973).

⁴⁰*Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), CLI-77-8, 5 NRC 503, 521 (March 31, 1977). The Commission further noted that “[t]his test is to be distinguished from the more stringent test of *Virginia Petroleum Jobbers’ Association v. FPC*, 259 F.2d 921, 925 (D.C. Cir. 1958), which has been used in ruling on stays pending [appellate] review.” *Ibid.* The *Virginia Petroleum Jobbers* test, of course, presumes the validity of the underlying administrative action, a prop no longer in place where the impact statement has been found below standard by the reviewing tribunal. 259 F.2d at 925.

⁴¹*Cf.*, *Consumers Power Company* (Midland Plant, Units 1 and 2), ALAB-270, 1 NRC 473, 475 (1975); *United States v. White*, 454 F.2d 435, 439 (7th Cir. 1971), *certiorari denied*, 406 U.S. 962 (1972).

⁴²*Cf.*, *Public Service Co. of New Hampshire* (Seabrook Units 1 and 2), ALAB-338, NRCI-76/7 10, 12-13 (1976), where sufficient justification was shown for presenting a stay motion directly to us.

Accordingly, if the movants elect to renew their application for relief *pendente lite*, they should present their motion to the Board below rather than to ourselves.⁴³ At the minimum, those papers should address the factors mentioned in the Commission's *Seabrook* opinion, *supra*. We are confident that the Licensing Board appreciates as fully as we do that a serious request for a stay requires prompt determination.⁴⁴ We therefore harbor no doubt that (after allowing suitable time for responses) that Board will rule on any such motion with all reasonable dispatch.

B. In sending the financial assistance question to us, the Commission noted that, insofar as the intervenors' motion might be deemed an appeal from, or request for review of, our ruling denying financial assistance (ALAB-382, 5 NRC 603, March 18, 1977), it was impermissible to file it with the Commission.⁴⁵ This in itself might be grounds for denying the motion. We are conscious, however, of the intervenors' claim that they are caught in a "procedural conundrum." We, then, will follow the Commission's alternative suggestion and treat the motion as a petition for reconsideration of our recent ruling. In that connection, we will also exercise the special authority conferred on us by the Commission to act for it in this proceeding.

The Commission has told us that the authority must be exercised "subject to otherwise applicable rules and established Commission policies."⁴⁶ We do not read that limitation as precluding us from acting on such matters (normally reserved to the Commission) as (1) requests for "exemptions" from regulatory requirements as are authorized by law and are in the public interest;⁴⁷ and (2) attempts to invoke "special circumstances" to avoid application of a rule on the ground that to do otherwise "would not serve the purposes for which [it] was adopted."⁴⁸ It is not difficult to envision circumstances in which we could do so without running counter to "established Commission policies."

The request for financial assistance does not, however, fit into such a mold.

⁴³The applicant had to present its stay motion directly to the Commission because it was at express Commission direction that the proceeding below was moving ahead. In contrast, the Commission's orders to the Licensing Board leave it ample room to consider requests for stays of construction; indeed, it has been told explicitly to consider whether suspension of construction is required.

⁴⁴The Board below has been enmeshed for some time in lengthy hearings on whether suspension of construction is required in the interim before it can decide the merits of the issues remanded by the court of appeals. The Commission's refusal to act summarily itself in that regard, and its instructions to the Board concerning the need for "formal proceedings," did not leave the Board powerless to take action on an abbreviated record to prevent the possibility that otherwise reasonable alternatives will be foreclosed.

⁴⁵See 10 CFR §2.786(b).

⁴⁶CLI-77-12, *supra*, 5 NRC at 726.

⁴⁷10 CFR § §50.12 and 51.4

⁴⁸10 CFR §2.758.

In issuing its general ruling on the matter of financial assistance (CLI-76-23, NRCI-76/11 494, November 12, 1976), the Commission in effect made it clear that there were to be no exemptions, waivers or special circumstances that would justify a departure from its terms. It did so by expressly rejecting the notion that, at least for now, financial assistance decisions are to be made—even by the Commission—on a case-by-case basis. NRCI-76/11 at 498, fn. 4. This leaves us no room, even acting in our special capacity for the Commission, to grant the request made in this case.

III

For the foregoing reasons, the three requests for relief referred to us by the Commission are *denied*.⁴⁹

It is so ORDERED.

FOR THE ATOMIC SAFETY AND LICENSING APPEAL BOARD

Margaret E. Du Flo
Secretary to the Appeal Board

Separate Statement of Dr. Quarles:

I participated in the discussions among the members of this Board several weeks ago which culminated in unanimous agreement respecting not only the result which is today announced but as well the underlying reasoning assigned in the Board's opinion. Thereafter, my attention was brought to a letter dated April 5, 1977, which was sent to the Licensing Board in this proceeding by counsel for certain intervenor organizations and individuals. That letter was in response to a motion filed by the NRC staff on March 25, 1977, which sought the censure of counsel for conduct alleged not to conform to the standards of conduct required in the courts of the United States. See 10 CFR §2.713(b). In the course of the letter, counsel referred, *inter alia*, to the Emergency Core Cooling System rulemaking proceeding which was conducted several years ago by the then Atomic Energy Commission (Docket RM 50-1). After leveling the accusation that perjury was committed by staff witnesses testifying at the adju-

⁴⁹It remains for us to consider, under the Commission's recent fuel cycle ruling (CLI-77-10, 5 NRC 717, April 1, 1977), what action to take in that regard here. We left that matter open in our own order dealing with all the other fuel cycle cases (ALAB-392, 5 NRC 759, 764, fn. 6, April 21, 1977). We expect to issue an order on that subject shortly.

dicatory-type hearings which were held as part of the ECCS proceeding, counsel made the following representation (letter, p. 3):

Indeed, now that we are "searching for the truth" let it be known now that during those ECCS hearings, I was summoned to a private meeting by Hearing Board members asking me to halt my intervention and opposition because I had "done enough" to demonstrate improprieties and if I went any further I would only begin to destroy the fabric of the AEC.

I was one of the members of the ECCS Hearing Board. Its other two members join me in stating unequivocally that there never was any discussion, suggestion or request—private or public—addressed to the possible withdrawal of the intervention of counsel's then clients from the rulemaking proceeding. Nor did the Board or any members thereof entertain at any time during the course of that proceeding the views now attributed to them by counsel's recent letter. In short, counsel's assertion is wholly false. It might be noted in this regard that, despite the fact that the ECCS hearings were concluded in 1973, insofar as I am aware this is the first time that counsel has advanced this claim.

The Code of Professional Responsibility expressly provides that "[a] lawyer shall not knowingly make false accusations against a judge or other adjudicatory officer." Disciplinary Rule 8-102(B). I must leave it to others to enforce that proscription in this instance. My present concern is a different one—*viz.* whether, in the circumstances, I should now refrain from further participation as a member of the *Midland* Appeal Board. I conclude that, to avoid the slightest possibility of even the appearance of partiality in the determination of the matters which very well may come before this Board in the future (including the censure motion still pending below), that is the appropriate course.

I reach this conclusion with some reluctance. It seems to me unthinkable that a lawyer should be able to dictate the removal of an adjudicatory officer assigned to his cause by the simple expedient of directing a both false and irresponsible charge of serious misconduct against that officer. Thus, were it not for the broader consideration that the objectivity of our decisional process must never be allowed to be brought into legitimate doubt, I would not be at all inclined to lend myself to the accomplishment of such a result.

For the above reasons, I am recusing myself from further service on the *Midland* Appeal Board. The Chairman of the Appeal Panel has been requested to assign another member of the Panel to the Board in my stead.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Ivan W. Smith, Chairman
John M. Frysiak
Daniel M. Head

In the Matter of

FLORIDA POWER & LIGHT CO.	Docket Nos. 50-335A
(St. Lucie Plants, Units 1 and 2)	50-389A
FLORIDA POWER & LIGHT CO.	Docket Nos. 50-250A 50-251A
(Turkey Point, Units 3 and 4)	April 5, 1977

The Licensing Board grants a joint petition for leave to intervene out of time and a request for an antitrust hearing in the St. Lucie, Unit 2, proceeding but dismisses the petition insofar as it seeks antitrust review as to three other operating units.

RULES OF PRACTICE: NONTIMELY ANTITRUST INTERVENTION PETITIONS

Licensing boards do not have jurisdiction to order a hearing on antitrust matters in the absence of a pending construction permit or operating license proceeding.

ATOMIC ENERGY ACT: PRELICENSING ANTITRUST REVIEW

Where an antitrust hearing is ordered, a construction permit ordinarily could not issue until that hearing is completed. But where all parties are in agreement, prelicensing antitrust review would not be required. *Louisiana Power & Light Co.* (Waterford, Unit 3), 6 AEC 48, 50 n. 2 (1973); 6 AEC 619, 621-22 (1973).

MEMORANDUM AND ORDER GRANTING JOINT PETITION FOR LEAVE TO INTERVENE OUT OF TIME AND REQUEST FOR ANTITRUST HEARING

The Florida Municipal Utilities Association and twenty-one municipal electric power utilities have by petition dated August 6, 1976, petitioned for an antitrust hearing and leave to intervene out of time in these proceedings.¹ The Joint Petition, filed pursuant to 10 CFR 2.714, requests antitrust review in a hearing to determine whether, under the Atomic Energy Act of 1954, as amended, 42 U.S.C. 2011 *et seq.* (the Act), an unconditional construction permit can lawfully issue for St. Lucie Unit No. 2, Docket No. 50-389A. Specifically, petitioners seek this hearing pursuant to Section 105(c)(6) of the Act.

The petitioners seek also a review of the operating licenses for Turkey Point Units 3 and 4 and St. Lucie Unit No. 1 (Docket Nos. 50-250A, 50-251A, 50-335A) (the operating plants) to determine whether the Commission has met the requirements of Section 104b of the Act which requires the Commission to "impose a minimum amount of regulations in terms of license as will permit the Commission to fulfill its obligations under this Act." Cities rely upon Sections 104, 105, 186, 187, 188 of the Act as their authority for reviewing the operating licenses of the operating plants.

The Joint Petition is opposed by the Applicant and the Staff of the Nuclear Regulatory Commission.

Licensing Background

Each of the operating plants, Turkey Point 3 and 4 and St. Lucie 1, have been licensed pursuant to Section 104(b) of the Act. Turkey Point 3 received its operating license on July 19, 1972, Turkey Point 4 received an operating license on April 10, 1973, and St. Lucie No. 1 received its operating license on March 1, 1976. Currently there are no proceedings pending before the Commission on any of the operating licenses. No requests for antitrust review were made pursuant to the provisions of Section 105(c)(3) or any other provision of the Act. The first request for an antitrust hearing is the instant petition.

¹ The municipal utilities are: Fort Pierce Utilities Authority of the City of Fort Pierce, the Gainesville-Alachua County Regional Electric Water and Sewer Utilities, the Lake Worth Utilities Authority, the Utilities Commission of the City of New Smyrna Beach, the Orlando Utilities Commission, the Sebring Utilities Commission, and the Cities of Alachua, Bartow, Bushnell, Chattahoochee, Daytona Beach, Fort Meade, Key West, Leesburg, Mount Dora, Newberry, Quincy, St. Cloud, Tallahassee and Willston, Florida.

The cities of Bushnell, Chattahoochee, and Willston subsequently withdrew as participants in the Joint Petition.

With respect to St. Lucie No. 2 the application, under Section 103 of the Act, was docketed September 4, 1973. Pursuant to the provisions of Section 105(c) the Attorney General, on November 14, 1973, advised the Commission that the Department did not at that time recommend an antitrust hearing. However the Attorney General recommended that the Commission abide the outcome of certain future developments (see Attorney General's Advice, *infra*). The Commission published the Notice of Receipt of Attorney General's Advice and Time for Filing of Petitions to Intervene on Antitrust Matters on November 21, 1973. December 28, 1973, was the final date set for filing petitions for leave to intervene.

The instant Joint Petition is the only antitrust petition filed in the St. Lucie No. 2 proceeding. The St. Lucie No. 2 construction permit proceeding is pending before an Atomic Safety and Licensing Board constituted to decide radiological health and safety and environmental matters.

The Operating Plants

The Atomic Safety and Licensing Appeal Board in *Houston Lighting and Power Company* (South Texas Project, Units 1 and 2), ALAB-381, 5 NRC 582, issued March 18, 1977, has decided that a petitions board does not have the authority to reopen a terminated construction permit proceeding by ordering a hearing on supervening antitrust questions. The Appeal Board stated:

We experience no greater difficulty in concluding that a licensing board has not been bestowed with jurisdiction to direct a hearing on antitrust matters—by a grant of an intervention petition or otherwise—in the absence of a pending construction permit or operating license proceeding. *Ibid.* 5 NRC at 592.

Therefore the Joint Petition For Leave to Intervene insofar as it relates to the operating licenses of Turkey Point Units 3 and 4 and St. Lucie Unit No. 1 must be and is dismissed.

On October 29, 1976, with reference to 10 CFR Section 2.206, Florida Cities "lodged" this Joint Petition with the Director of Nuclear Reactor Regulation. The Cities advised the Director that they do not request that he now initiate a proceeding separate and apart from considerations presently before this Board. The papers filed with the Director of Nuclear Regulation are not before us for disposition.

St. Lucie No. 2

Surviving before this Board is the issue of whether the Joint Petition as it relates to St. Lucie No. 2 should be granted. None of the participants disputes

our authority to entertain the petition and to order an antitrust hearing provided that it is appropriate to do so under 10 CFR §2.714.

We must therefore determine whether Petitioners have shown an interest sufficient to sustain intervention, whether there is at least one relevant contention which is set forth with reasonable specificity and with some basis assigned for it,² whether Petitioners have made a substantial showing of good cause for failure to file their Joint Petition on time, and whether other factors under §2.714(a) weigh in favor of or against ordering an antitrust hearing.

Contentions and Petitioners' Interest

The members of this petition review board also serve as members of the licensing board in *Florida Power and Light Company* (South Dade Plant) Docket No. P-636A, in which substantially the same group of Florida cities together with the Florida Municipal Utilities Association appear as party intervenors. In this petition as in the petition in the South Dade proceeding, Florida Cities assert that a situation inconsistent with the antitrust laws cognizable under Section 105 of the Act would exist under an unconditioned license because of four general antitrust charges. Petitioners' allegations raise the issues of: (1) nuclear monopoly in the State of Florida, (2) past acquisition attempts by the Applicant in the geographic market, (3) refusals to deal and, (4) territorial agreements.

In the South Dade proceeding the Applicant, while vigorously denying the truth of Florida Cities' contentions, conceded that at least one contention, monopolization in contravention of Section 2 of the Sherman act, could be construed to meet the bare jurisdictional requirements of Section 2.714. The Applicant, therefore, acquiesced to an antitrust proceeding in South Dade. In its response to this petition the Applicant continues specifically to dispute the contentions on their merits but declines to "go through the exercise of identifying technical faults in these same contentions," relying instead upon its arguments with respect to the timeliness of the intervention (pp. 40, 61, Applicant's Response).

The NRC Staff recognized several valid contentions in the South Dade intervention petition. In this proceeding the Staff does not address the contentions on their merits. It opposes intervention principally on the basis of the lateness of the petition. The Board observes, and the parties concede, that the contentions in the instant petition are virtually identical with those in the South Dade proceeding.³

²*Northern States Power Company* (Prairie Island Nuclear Generating Station) ALAB-107, 6 AEC 188, 194 (1973).

³Somewhat different contentions are asserted in the South Dade proceeding by another Intervenor, Seminole Electric Cooperatives, Inc. Seminole is not a petitioner in this proceeding.

The Board finds that the petitioners have identified at least one relevant contention that meets the requirements of Section 2.714. Specifically, the Board finds that the petitioners' contention concerning the possession of nuclear generated power monopoly by the Applicant and the exercise of that power in an identifiable geographic market is at least minimally an acceptable contention (Joint Petition p. 55 *et seq.*). The Board finds further that the allegations concerning territorial agreements between the Applicant and the Florida Power Corporation (*Ibid.* pp. 67-70) and the allegations with respect to refusals to deal (*Ibid.* p. 70 *et seq.*) are each acceptable contentions satisfying the requirements of Section 2.714. Other allegations in the Joint Petition also may be acceptable contentions but it is not necessary to discuss them at this stage of the proceeding.

The petitioners have an interest in the proceeding sufficient to sustain intervention. This is patent from their positions in the relevant market and the competitive situation in Florida. Their interest is not controverted by the Applicant or Staff. The Board finds that petitioners have satisfied the interest requirements of Section 2.714.

Late Filing

The Joint Petition, dated August 6, 1976, was filed approximately 31 months after December 28, 1973, the date provided in the *Federal Register* notice of the receipt of the Attorney General's advice letter.

Section 10 CFR 2.714(a) provides in pertinent part:

Nontimely filings will not be entertained absent a determination by the Commission, the presiding officer or the atomic safety and licensing board designated to rule on the petition and/or request that the petitioner has made a substantial showing of good cause for failure to file on time, and with particular reference to the following factors in addition to those set out in paragraph (d) of this section:

- (1) The availability of other means whereby the petitioner's interest will be protected.
- (2) The extent to which the petitioner's participation may reasonably be expected to assist in developing a sound record.
- (3) The extent to which petitioner's interest will be represented by existing parties.
- (4) The extent to which the petitioner's participation will broaden the issues or delay the proceeding.

In applying the somewhat confusing standards of Section 2.714(a) the Board is controlled by the Commission's decision in *Nuclear Fuel Services, Inc., et al.* (West Valley Reprocessing Plant), CLI-75-4, 1 NRC 273 (1975). In *West*

Valley the Commission addressed itself directly to the standards to be applied in interpreting Section 2.714(a). The Commission stated that, where a petitioner has failed to show good cause for his tardiness, §2.714(a) does not bar inquiry into the purpose to be served, or hindered, by accepting an untimely petition. The Commission stated further:

Rather, the purpose of Section 2.714(a) is to establish appropriate tests for disposition of untimely petitions in which the reasons for the tardiness as well as the four listed factors should be considered, thus giving licensing boards broad discretion in the circumstances of individual cases.

* * * * *

Late petitioners properly have a substantial burden in justifying their tardiness. And the burden of justifying intervention on the basis of other factors in the rule is considerably greater when a latecomer has no good excuse.

* * * * *

... [W]e stress that favorable findings on some or even all of the other factors in the rule need not in a given case outweigh the effect of inexcusable tardiness. Conversely, a showing of good cause for a late filing may nevertheless result in a denial of intervention where assessment of the other factors weighs against the petitioner. *Ibid.* p. 275.

Good Cause For Untimely Filing

The petitioners assert two basic reasons why their petition to intervene was not filed on time, (1) the Applicant is failing to honor certain licensing commitments and other statements have misled small utilities and (2) rising fossil fuel costs and recent anticompetitive activities by the Applicant since the time provided for intervention constitute changed conditions justifying late filing.

Applicant's Commitments

Apparently at a time nearly contemporaneous with the period provided for intervention, Applicant and the NRC Staff agreed upon certain license conditions which were to attach to any St. Lucie 2 construction permit.⁴ Pertinent to our consideration are the following provisions:

⁴While the proposed license conditions were agreed to by the Applicant for settlement purposes only, the Applicant subsequently, by letter dated March 18, 1977, stated that the conditions may attach to any construction permit issued for St. Lucie No. 2 notwithstanding the pendency of the request for the antitrust hearing. Whether these conditions should attach and whether they would remain effective after a full antitrust hearing is beyond the purview of this Board. Our authority is limited to granting intervention and ordering an antitrust hearing.

1. With regard to [six Florida rural electric cooperatives] and the municipalities of New Smyrna Beach and Homestead:
 - a. Licensee will offer each the opportunity to purchase, at licensee's costs, a reasonable ownership share (hereafter, "Participant's Share") of the St. Lucie Plant, Unit No. 2 (the Unit).

(Footnote omitted)

4. At a time when licensee plans for the next nuclear generating unit to be constructed after St. Lucie No. 2 has reached the stage of serious planning, but before firm decisions have been made as to the size and desired completion date of the proposed nuclear unit, licensee will notify all nonaffiliated utility systems with peak loads smaller than licensee's which serve either at wholesale or at retail adjacent to areas served by applicant that licensee plans to construct such nuclear unit.

Florida Cities assert that New Smyrna Beach, one of the petitioners herein, had a good reason not to file timely a petition to intervene because one of the proposed license conditions provided that Applicant would offer to New Smyrna Beach a reasonable ownership share in St. Lucie Unit No. 2. Petitioners now state that, despite New Smyrna Beach's best efforts, agreement upon a reasonable ownership share has not yet been reached between that municipality and the Applicant (Joint Petition, p. 16).

The Board agrees that New Smyrna Beach had the right to rely upon the conditions. Its failure to file timely an intervention petition would be justified. However it does not follow therefore that an antitrust hearing should be ordered on this account. Petitioners are failing to consider two circumstances: (1) that the breach is only anticipatory—nowhere have the petitioners demonstrated to this Board that Applicant has had a duty to enter into an agreement with New Smyrna Beach before the effective date of the conditions; and (2) even if the Applicant later fails to honor its commitment to afford an opportunity to participate in St. Lucie No. 2, an antitrust proceeding before a licensing board would not be mandated. Petitioners do not claim that they seek relief on behalf of New Smyrna Beach greater than conditions Applicant has agreed to. It is possible that, after a full hearing, a licensing board would do no more than to impose on behalf of New Smyrna Beach those very conditions which may automatically go into effect with the possible issuing of the St. Lucie construction permit. Even if the Applicant continues to refuse to honor its commitment under the conditions after and if they become effective, New Smyrna Beach will be free to seek enforcement of the conditions under Section 2.200 of the Commission's rules. The petitioners' similar arguments relative to the Florida Cooperatives are no more persuasive.

However the situation with respect to the Orlando Utilities Commission, another petitioner, is different from that of New Smyrna Beach. In late 1972 and early 1973 officials of Florida Power and Light, of Orlando's Utility Com-

mission and others met to discuss possible joint generation projects. According to the affidavit of Harry C. Luft, Jr., General Manager of Orlando Utilities Commission, Applicants' representative indicated:

... that capacity from the St. Lucie 2 nuclear project was needed by Florida Power and Light for their system and was not available for sale to other utilities. However, he assured the other participants at the meetings of Florida Power and Light's willingness to share future generating capacity, both nuclear and nonnuclear. (Luft Affidavit p.4.)

Subsequently the agreement between the NRC Staff and Applicant provided that smaller utility systems would be advised of the next nuclear generating unit to be constructed after St. Lucie No. 2 before firm decisions have been made as to the size and other details of the proposed unit. Petitioners argue that these circumstances served to mislead Orlando as to Florida Power and Light's intentions with regard to sharing nuclear generating capacity and that Orlando relied upon these promises in not petitioning timely in these proceedings. Subsequently, on March 30, 1976, Applicant advised Orlando that it had decided to proceed independently with development of the South Dade project (which was the next nuclear generating unit after St. Lucie No. 2) and to utilize the project's generating capability to meet its own needs, thus denying Orlando access to nuclear generation.

Orlando's claim that it would have submitted a timely intervention petition were it not for Applicant's promises and the proposed license conditions is credible.⁵ The Applicant does not meet this charge directly or factually. It asserts solely that whether Orlando may participate in the South Dade plant will be resolved in the South Dade proceeding (Applicants' Response, p. 43). While this may be true if that proceeding continues⁶ this does not meet the issue of whether Orlando has shown good cause for filing its petition in this proceeding now instead of within the period provided by the Notice.

The Board finds that the Orlando Utilities Commission has made a substan-

⁵It is true that the relevant license condition (page 795, *supra*) provides only for notification to smaller utilities and does not promise participation in the next nuclear unit. There is no basis upon which the Board can determine the significance of this feature. On one hand it seems that the careful lawyers involved in drafting these commitments would not leave such an important consideration to chance. On the other hand the notification procedure must have had some purpose other than advising the smaller utilities that they would not be permitted to participate in the next nuclear project, or perhaps to keep in touch with old friends in the industry. In the absence of a better explanation, the Board believes it is reasonable to assume that the notification provision suggests that at least the opportunity would be afforded to negotiate participation in the nuclear unit.

⁶Based upon Applicants' advice to the Board that it intends to cancel its South Dade nuclear unit, the South Dade proceeding has been suspended at the parties' request.

tial showing of good cause for failure to file its petition to intervene and request for antitrust hearing on time. However there is no basis to impute this showing of good cause to the other Florida cities or to the Florida Municipal Utilities Association.

Petitioners contend that since the November 1973 Attorney General's advice letter,

partially as a result of the OPEC oil boycott and subsequent OPEC-related oil price increases prices for all fossil fuels have skyrocketed and a severe shortage or potentially severe shortage of some fossil fuels has developed.

Petitioner's argument goes on to stress that the effect of petitioner's nuclear monopoly is exacerbated by the high cost of fossil fuels and the instability in the fuels market, and that Applicant is "at the very least, taking advantage of unanticipated dislocations in the fuels market and large price increases in alternative fuels to suppress competition." It is asserted that the exercise of nuclear monopoly in conjunction with the fossil fuel situation endangers wholesale and resale competition throughout Florida (Joint Petition, pp. 21-22).

In response Applicant acknowledges the energy crisis and, in fact, candidly reinforces petitioner's argument by referring to natural gas curtailments following 1973 (Applicants' Response, p. 47 *et seq.* referring to p. 54 *et seq.* of Joint Petition). However, in defense, Applicants point to the fact that the energy crisis resulting from the OPEC boycott was well known even prior to the publication of the Attorney General's advice letter and that the threat of natural gas shortages has long been known to petitioners (Response, p. 45 *et seq.*). At least as early as May 1972, the significance of a potential natural gas shortage was known to Florida municipalities.

To this Florida Cities reply that they were not unaware of the possibility of oil or gas curtailments in 1974, but state in effect that the extent, duration, and consequences of fossil fuel shortages and price increases did not become apparent until later. Moreover, according to petitioners (47-49 Petitioners' Reply to Applicants' Response to Joint Petition) the combined effects of the energy crisis and the Applicants' later anticompetitive conduct were not clear to the petitioners in 1974.

The beginning of the fossil fuel energy crisis in late 1973 and its continuation at least until the date of the filing of the petition establishes substantial good cause for late filing.⁷

Related to these circumstances, and supporting the decision to grant the late petition, is the fact that, if Applicants do in fact possess a nuclear power monop-

⁷None of the papers considered by the Board with respect to fossil fuel prices and shortages takes into account the cold winter of January and February 1977 and the resulting fossil fuel crisis.

oly, as alleged by petitioners, its monopoly power will be enhanced by its decision not to afford shares in its South Dade plant even if that project should be revived. (No decision has been made to withdraw the South Dade application.) Petitioners did not learn of Applicant's decision not to share South Dade until March 30, 1976.

In light of these circumstances, the Board has concluded that the interests of these petitioners, and in fact the public interest in Florida, cannot adequately be protected without a hearing to consider fully the serious antitrust issues raised by the Joint Petition.

Supervening Anticompetitive Practices

Petitioners allege that, since the 1973 Attorney General's advice letter, Applicant has engaged in anticompetitive behavior. These include attempts to acquire competing systems, refusals to enter into an integrated power pool, predatory efforts against smaller systems in the Florida legislature (Joint Petition, p. 22), opposition to joint ownership of 500 KV transmission by Cities (p. 23, *Ibid.*), price squeeze practices (p. 53, *Ibid.*), refusal to wheel (p. 75, *Ibid.*) and discriminatory refusal to sell wholesale power (p. 76, *Ibid.*). Petitioners argue that these acts constitute changed circumstances, justifying their failure to file on time.

Petitioners leave to the Board the task of searching through hundreds of pages of pleadings, affidavits and attachments to find the specifics of these charges (see footnote 1, p. 21, Joint Petition). We have tried to do this, and, in the process, have identified charges, which against an appropriate background, could constitute important allegations of behavior inconsistent with the antitrust laws, arising since December 1973. For example, Mr. Luft, in his affidavit of April 14, 1976, states that in October 1975, Applicant indicated a complete unwillingness to participate in any pooling in Florida, thus departing from its earlier position on that issue (pp. 5, 6, *Ibid.*).

The petitioners seem to invite the Board to infer from their allegations of recent anticompetitive practices that the Cities are now driven to protect their interests by intervention when they were not so moved when the time for intervention was ripe. Petitioners do not expressly state that this was the case⁸ nor do they present any analysis of the effects of differences in the alleged situation inconsistent with the antitrust laws as it prevailed in 1973 compared with the later situation. The Board has been unable to find that the alleged recent anticompetitive practices by the Applicant have so materially changed

⁸ Except, as we noted at p. 797, *supra*, petitioners allege that these practices exacerbate the effects of the post-1973 fossil fuel shortages, and the enhanced monopoly enjoyed by Applicant. We have considered this in our assessment of the changed fossil fuel circumstances.

petitioners' circumstances that these practices alone constitute substantial good cause for the lateness of their petition. This is not to say that the Board has entirely discounted these charges. These factors appropriately may be considered in the evaluation of petitioners' contentions and whether the public interest will be served by the resolution of these issues notwithstanding the lateness of the petition.

Other Factors Under Section 2.714(a)

Having found that substantial good cause exists for the late filing of the petition and that substantial public interest lies in granting the late petition, the Board nevertheless must consider the four factors specified under Section 2.714(a) of the Commission's Rules of Practice.

(1) Availability of Other Means Whereby the Petitioners' Interests Will Be Protected

Applicant claims that the intervention petition should be denied because "petitioners' remedies are as many and as varied as their imagination in framing complaints (Response, p. 50)." Applicant goes on to suggest that remedies can be afforded by the Federal Power Commission, the Federal Trade Commission and the Federal courts, or petitioners can attempt to convince the Department of Justice to initiate an action in their behalf (*Ibid.*). While it is true that each of these avenues might afford related relief, none of them has the jurisdiction to provide petitioners access to nuclear generation. Nor do the same statutory standards with respect to the antitrust laws prevail in the other forums suggested by Applicant.

The Staff in its response (p. 8) argues that relief can be afforded to the petitioners in the South Dade proceeding. The Staff observes that almost the identical group of cities has intervened in that proceeding and identical issues are to be resolved. The immediate answer to Staff's argument is, of course, that the South Dade proceeding is suspended and may never come to hearing. However, even if the South Dade hearing should proceed, and we recognize that that is a possibility, the Staff's reliance upon *Duquesne Light Company* (Beaver Valley Power Station, Unit No. 2) ALAB-208, 7 AEC 959, 969 (1974) is not adequate.

In *Beaver Valley* the Appeals Board denied the intervention petition of the City of Cleveland in the *Beaver Valley* No. 2 generation unit because Cleveland's interests could be as well protected in the ongoing Davis-Besse and Perry proceedings. We distinguish the instant consideration because, in *Beaver Valley*, the facility was located at the greatest distance from the City of Cleveland and would be the last to come on line. Recognizing the Licensing Board's authority to provide relief in the Davis-Besse and Perry proceedings on a systemwide basis, the Appeal Board saw no reason why intervention in *Beaver Valley* was necessary for the protection of the petitioner's interest.

In this case, however, the situation is entirely different. South Dade is only a place-marker designation of the proposed unit. Its location has not yet been determined, the timing of its construction remains indefinite although it is certain to be many years later than St. Lucie No. 2. In the matter with which this Board is now confronted our option is to allow intervention in St. Lucie No. 2 or to face the possibility that the issues raised by the petition will never be resolved.

(2) The Extent to Which the Petitioners' Participation May Reasonably Be Expected to Assist in Developing a Sound Record.

(3) The Extent to Which the Petitioners' Interests Will Be Represented by Existing Parties.

Neither of these factors are directly applicable to the case before us. Without the petitioners' participation there may be no record whatever. No other party will protect petitioners' interest. The Staff, as we have noted, does not favor a hearing in St. Lucie No. 2 and it has not yet taken a position in the South Dade proceeding. The Department of Justice has not expressed an interest in participating in either proceeding. In the South Dade proceeding the Inter-venors, Seminole Electric Cooperatives, pursue different contentions.

(4) The Extent to Which the Petitioners' Participation Will Broaden the Issues or Delay the Proceeding.

The first portion of the factor, of course, is not applicable to this petition because, unless the petition is granted, there will be no issues. However the second factor is quite relevant to our consideration. Ordinarily, if this Board were to order an antitrust hearing, the construction permit could not issue until that hearing is completed. *Louisiana Power and Light Co.* (Waterford Steam Electric Generation Station, Unit 3), 6 AEC 48, 50, n. 2 (February 23, 1973); 6 AEC 619, 621-22 (September 28, 1973); *Duke Power Co.* (Catawba Nuclear Station, Units 1 and 2), 7 AEC 307, 309 (April 8, 1974); *Toledo Edison Co.* (Davis-Besse Nuclear Power Station, Unit 1), ALAB-323, 3 NRC 331, 340 (April 14, 1976). However, in *Waterford, Ibid.*, the Commission held that, with the agreement of all of the parties involved, preclicensing antitrust review would not be required. Throughout the Joint Petition, and Petitioners' Reply, references are made to the fact that Florida Cities do not seek to delay the issuance of the St. Lucie 2 construction permit. *E.g.*, p. 43 Joint Petition, p. 61 Reply. In addition, the Board in oral arguments inquired exhaustively as to petitioners' statement that no delay in the construction permit is requested nor expected. The response was unqualified (Tr. 5-12). Petitioners agree that the construction permit would issue (Tr. 11). Likewise the NRC Staff, which does not favor the antitrust hearing in the first instance, agrees that the ordering of an antitrust hearing in this proceeding should not serve to delay the issuing of a construction permit (Tr. 17-18).

Because of the lateness of the petition we regard the agreement to permit

the construction permit to issue before the completion of an antitrust hearing to be a material aspect of the considerations underlying this Order.

In addition to the four factors set forth under Section 2.714(a) a petition review board is required to consider three additional factors under §2.714(d) pertaining to the nature of the petitioners' right to be made a party to the proceeding, the nature and extent of the petitioners' interest and the possible effect of any order which may be entered in the proceeding on the petitioners' interest. Neither the Applicant (Response, p. 40) nor the NRC Staff contend that these factors are a bar to granting the Petition For Leave to Intervene. The Board has considered §§2.714(d)(1), (2) and (3) and finds that our action in granting the petition and ordering the antitrust hearing is consistent with these factors.

Attorney General's Advice

Section 105c(5) of the Act provides in pertinent part, that . . . The Commission shall give due consideration to the advice received from the Attorney General and to such evidence as may be provided during the proceedings in connection with such subject matter

Since the Attorney General's advice traditionally, and in this instance, is largely concerned with whether an antitrust hearing should be conducted it is appropriate for a petition review board to consider such advice. In this proceeding the advice was in the form of a letter dated November 14, 1973, from Bruce B. Wilson, Acting Assistant Attorney General, Antitrust Division to Howard K. Shapar, Assistant General Counsel, Atomic Energy Commission (Attachment A, Applicant's Response to Petition). The Attorney General's conclusions are germane to our consideration:

Conclusion

Our antitrust review led us to the following conclusions: (1) Applicant is the dominant electric utility in Florida and because of its ownership of transmission, has the power to grant or deny other systems in its area the access to coordination—and thus the nuclear power—needed to compete in bulk power supply and retail distribution markets; (2) there is some indication Applicant's dominance may have been enhanced through conduct inhibiting the competitive opportunities of the smaller systems in its area; and (3) construction and operation of St. Lucie No. 2, and the sale of power therefrom to meet Applicant's load growth and compete with the smaller systems in its area could create or maintain a situation inconsistent with the

antitrust laws if access to nuclear generation were denied those smaller systems.

We related our concern over these matters to representatives of the Applicant. While denying construction and operation of St. Lucie Unit No. 2 could have the effect we feared, they advised us that Applicant would nevertheless seriously consider offering participation in St. Lucie Unit No. 2 (with the transmission services, reserve sharing, and other coordination necessary to support such participation) to the three utilities who, prior to our rendering this advice, have given Applicant notice of their interest in such participation to meet a portion of their future power supply requirements—*i.e.*, Homestead, New Smyrna Beach and Seminole Electric Cooperative. Further, because of the status of Applicant's transmission network as the key to coordination by these systems with others; the Department requested Applicant also to consider adopting a policy to facilitate their efforts to obtain access to other economical power sources. It was indicated that the Applicant's final position on these matters will be determined within the next 90 days; this would appear to leave sufficient time to formulate such license conditions as may be appropriate.

In view of the consideration Applicant is now giving to the question of access by other entities to nuclear generation, and the probability that participation in St. Lucie Unit No. 2 will be made available to certain of these entities, the Department does not at this time recommend an anti-trust⁸ hearing. Considering that issuance of the construction permit for St. Lucie Unit No. 2 is not contemplated until early in 1975, we believe it reasonable to ask the Commission to abide the outcome of Applicant's 90-day consideration prior to ultimately deciding whether or not to hold an antitrust hearing. The Department would, of course, be pleased to advise the Commission further on this question or other relevant questions, in the light of whatever offers Applicant may make and other intervening developments.

⁸In this connection we note also that Applicant will almost certainly apply to the Commission for licenses to construct and operate additional nuclear generation units. Further questions concerning the opportunities of its neighboring systems (including systems other than Homestead, New Smyrna Beach, and Seminole) for access to the benefits of nuclear generation may be ripe for resolution in the antitrust review of such license applications.

Each of the parties point to the Attorney General's advice in support of their respective positions. The advice is strongly conditioned. We see nothing in the advice letter inconsistent with the grant of the petition herein in view of the seriousness of the charges made by Petitioners. Moreover we note now that Petitioners allege that Applicant has expressed an unwillingness to engage in any

pooling arrangement in Florida and has refused to deal with smaller utilities in providing access to alternative power supply arrangements (Joint Petition, p. 75) and has expressly denied the opportunity to neighboring systems for access to the benefits of new nuclear generation. Therefore it appears that important premises supporting the Attorney General's advice that no antitrust hearing is required are no longer valid. An antitrust hearing is fully consistent with the Attorney General's advice.

CONCLUSION

The Board grants the Joint Petition of Florida Cities For Leave to Intervene Out of Time; Petition To Intervene; and Request For Hearing in St. Lucie No. 2, Docket No. 50-389A. It is ordered that an antitrust hearing be held to determine whether the activities under the license applied for would create or maintain a situation inconsistent with the antitrust laws pursuant to the provisions of Section 105c(5) of the Atomic Energy Act. This Board is issuing a Notice of Hearing to effectuate its Order which Notice will be published in the *Federal Register*.

IT IS SO ORDERED.

FOR THE ATOMIC SAFETY AND LICENSING BOARD

John M. Frysiak, Member
Daniel M. Head, Member
Ivan W. Smith, Chairman

Issued at Bethesda, Maryland
this 5th day of April 1977.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Michael L. Glaser, Chairman

Marshall E. Miller

Kenneth G. Elzinga

In the Matter of

Docket Nos. 50-348A
50-364A

ALABAMA POWER COMPANY

(Joseph M. Farley Nuclear Plant,
Units 1 and 2)

April 8, 1977

Upon consideration of antitrust aspects of the potential operation of the Joseph M. Farley Nuclear Plant, Units 1 and 2, the Licensing Board concludes, pursuant to Section 105(c) of the Atomic Energy Act, that the unconditioned licensing of the facility would create or maintain a situation inconsistent with the antitrust laws and the policies underlying those laws.

Parties directed to negotiate concerning license conditions; if unsuccessful, provision made for further proceedings to determine the exact relief to be granted.

ATOMIC ENERGY ACT: ANTITRUST PROVISION

Section 105 of the Atomic Energy Act reflects a basic Congressional concern over access to power produced by nuclear facilities, and a Congressional recognition that the nuclear power industry originated as a government monopoly and is in great measure the product of public funds. *Louisiana Power and Light Co.* (Waterford, Unit 3), CLI-73-25, 6 AEC 619, 620 (1973).

ATOMIC ENERGY ACT: ANTITRUST PROVISION

The Commission's statutory obligation, pursuant to Section 105(c) of the Atomic Energy Act, is not limited to investigation of the effects of construction and operation of the facility to be licensed, but rather includes an evaluation of "the relationship of the specific nuclear facility to the applicant's total system or power pool." *Louisiana Power & Light Co.* (Waterford, Unit 3), CLI-73-25, 6 AEC 619, 620-21 (1973).

ATOMIC ENERGY ACT: SITUATION INCONSISTENT WITH ANTITRUST LAWS

Under the Federal Trade Commission Act, conduct which does not *per se* violate the other antitrust laws may still be illegal if it imposes an unreasonable restraint on trade. Pursuant to that Act and the Atomic Energy Act, as amended in 1970, the NRC is empowered to stop in their incipiency acts and practices related to the licensing of nuclear facilities which, when full-blown, would violate the antitrust laws.

ATOMIC ENERGY ACT: ANTITRUST PROVISION

The standard to be applied by the NRC under Section 105(c) of the Atomic Energy Act is whether there is a "reasonable probability" that a situation inconsistent with the antitrust laws and the policies underlying those laws would be created or maintained by the unconditioned licensing of the facility.

ATOMIC ENERGY ACT: SITUATION INCONSISTENT WITH ANTITRUST LAWS

In evaluating whether activities under a nuclear plant license would create or maintain a situation inconsistent with the antitrust laws or their clearly underlying policies, the Clayton Act is among those which must be considered. With regard to Section 7 of the Clayton Act, significant factors to be examined include easy access to markets or the foreclosure of business, and the ready entry of new competition or the erection of barriers to prospective entrants. Both Section 3 and Section 7 of the Act are designed to arrest monopolies in their incipiency under a "reasonable probability" standard.

ATOMIC ENERGY ACT: DECLARATION OF ANTITRUST POLICY

The Sherman Act's fundamental national policy of preserving free competition is applicable to the regulated electric utility industry (*Otter Tail Power Co. v. United States*, 410 U.S. 366 (1973)) and is explicitly introduced into the declaration of policy of the Atomic Energy Act.

ATOMIC ENERGY ACT: SITUATION INCONSISTENT WITH ANTITRUST LAWS

The possession or use of monopoly power may constitute a situation inconsistent with the antitrust laws. "[T]he material consideration in determining whether a monopoly exists is not that prices are raised and that competition

actually is excluded, but that power exists to raise prices or to exclude competition when it is desired to do so." *American Tobacco v. United States*, 328 U.S. 781, 811 (1946).

A utility's use of monopoly power is illegal if the utility has "a strategic dominance in the transmission of power in most of its service area," and it uses this dominance "to foreclose potential entrants into the retail area from obtaining electric power from outside sources of supply." *Otter Tail Power Co. v. United States*, 410 U.S. 366, 377 (1973), quoting from 331 F. Supp. 54, 60 (D. Minn. 1971). It is not necessary for the monopoly to be a complete one. Agreements not to compete, with the aim of preserving or extending a monopoly, are also illegal. *Ibid.*

ATOMIC ENERGY ACT: SITUATION INCONSISTENT WITH ANTITRUST LAWS

Unfair trade practices may constitute a situation inconsistent with the antitrust laws. A "price squeeze," such as may result when the differential between wholesale rates and retail rates prevents an entity purchasing electricity at wholesale from competing with its supplier for retail customers, is an unfair trade practice if deliberately imposed. *FPC v. Conway*, 425 U.S. 957 (1976).

ATOMIC ENERGY ACT: SITUATION INCONSISTENT WITH ANTITRUST LAWS (RELEVANT MARKET)

For antitrust purposes, the relevant market is defined as the area of effective competition within which the parties operate, and the definition turns on discovering patterns of trade which are followed in practice. The area of effective competition must be determined by reference to a product market and a geographic market. *Brown Shoe Co. v. United States*, 370 U.S. 294, 324 (1962). The product market "is composed of products that have reasonable interchangeability for the purposes for which they are produced — price, use and qualities considered." *United States v. E.I. duPont de Nemours and Co.*, 351 U.S. 377, 404 (1956). There is no barrier to combining in a single market a number of different products or services where that combination reflects commercial realities, *United States v. Grinnell Corp.*, 384 U.S. 563, 572-73 (1966). Other factors which should be considered to determine the boundaries of a product market are such "practical indicia as industry or public recognition of the [market] as a separate economic entity, the product's peculiar characteristics and uses, unique production facilities, distinct customers, distinct prices, sensitivity to price changes, and specialized vendors." *Brown Shoe Co. v. United States*, 370 U.S. 294, 325-26 (1962). "The criteria to be used in determining the appropriate geographic market are essentially similar to those used to determine the

relevant product market.” The approach prescribed by Congress is pragmatic and factual, not formal or legalistic. *Id.* at 336.

ATOMIC ENERGY ACT: ANTITRUST PROVISION

Within the meaning of Section 105 of the Atomic Energy Act, the presence and observance of a state regulatory scheme confers no antitrust immunity on an electric utility. *Cantor v. Detroit Edison Co.*, 49 L. Ed. 2d 1141, 1152-53 (1976). The power to grant exemptions or immunity from the antitrust laws resides exclusively in Congress, and consequently neither Federal nor state officials have any power to grant immunity when Congress has not done so. *United States v. Socony-Vacuum Oil Co.*, 310 U.S. 150, 225-27 (1940). It is no defense that the challenged conduct was known or even approved by Federal officials, unless such action was taken pursuant to Congressional authorization. *Hecht v. Pro-Football, Inc.*, 444 F.2d 931 (D.C. Cir. 1971).

ATOMIC ENERGY ACT: ANTITRUST PROVISION

The doctrine of Sherman Act immunity for official state actions where the state is acting as sovereign was established by *Parker v. Brown*, 317 U.S. 341, 350-52 (1943), but this doctrine does not apply to private activities permitted, but not required, by state law. *Continental Ore v. Union Carbide & Carbon Corp.*, 370 U.S. 690, 706-07 (1962).

ATOMIC ENERGY ACT: ANTITRUST PROVISION

The Noerr-Pennington doctrine confers immunity from liability under the antitrust laws for actions, regardless of their anticompetitive intent, which genuinely seek to influence the passage or enforcement of laws, or to invoke governmental decision-making processes involving the courts or administrative agencies. Such immunity is limited by the “sham exception,” which applies to conduct ostensibly directed toward influencing governmental action, but which is a mere sham to cover what is actually nothing more than an attempt to interfere directly with the business relationships of a competitor. In the adjudicatory context, the sham exception may involve such matters as misrepresentation, conspiracy with a licensing authority, a pattern of baseless claims amounting to abuse of the judicial process, or repetitive use of insubstantial litigation to suppress competition. Another exception to the doctrine is that purpose and character inferences relating to nonexempt transactions may be drawn in part from participation in immunized activities, provided such evidence is deemed probative and not unduly prejudicial to a jury. Notwithstanding the *Noerr* doctrine, patent infringement litigation violates the Sherman Act where it is an integral part of a pattern

of conduct designed to restrain trade or to monopolize over and beyond the monopoly created by the patent. *Noerr-Pennington* immunity is also inapplicable to efforts to influence a governmental body acting in a commercial or proprietary capacity rather than in a policy-making capacity.

ATOMIC ENERGY ACT: ANTITRUST PROVISION (PRIMARY JURISDICTION)

“Congress rejected a pervasive regulatory scheme for controlling the interstate distribution of power in favor of voluntary commercial relationships.” *Otter Tail Power Co. v. United States*, 410 U.S. 366, 373-74 (1973). Thus neither the FPC nor the SEC has primary jurisdiction of antitrust matters with regard to electric power facilities. The legislative history of the 1970 amendments to Section 105c of the Atomic Energy Act indicates that, if any Federal agency has primary jurisdiction of antitrust review for nuclear licensing purposes, it is the NRC.

ATOMIC ENERGY ACT: SITUATION INCONSISTENT WITH ANTITRUST LAWS

Monopoly as such is not unlawful, and there is no violation of the Sherman Act where monopoly power has been “thrust upon” a company. However, this defense is not available where the acquisition or retention of monopoly power was in part caused by business conduct having an anticompetitive or exclusionary effect.

ATOMIC ENERGY ACT: SITUATION INCONSISTENT WITH ANTITRUST LAWS

Insofar as it bears upon a situation inconsistent with the antitrust laws, the “business justification” argument of promotion of self-interest is not sufficient to immunize otherwise illegal conduct. *Otter Tail Power Co. v. United States*, 410 U.S. 366, 369-70 (1973).

ATOMIC ENERGY ACT: ANTITRUST PROVISION

“Repeals of the antitrust laws by implication from a regulatory statute are strongly disfavored and have only been found in cases of plain repugnancy between the antitrust and regulatory provisions.” *United States v. Philadelphia National Bank*, 374 U.S. 321, 368 (1963). There has been no such finding of repeal in relation to the electric power industry. *Otter Tail Power Co. v. United States*, 410 U.S. 366, 374-75 (1973).

ATOMIC ENERGY ACT: SITUATION INCONSISTENT WITH ANTITRUST LAWS (RELEVANT MARKET)

Competition between retail distribution systems, if it is of only inframarginal proportions, is presumably outside the scope of antitrust remedy and does not in this case constitute a relevant market for purposes of antitrust analysis under Section 105 of the Atomic Energy Act.

ATOMIC ENERGY ACT: SITUATION INCONSISTENT WITH ANTITRUST LAWS

“The offense of monopoly under Section 2 of the Sherman Act has two elements: (1) the possession of monopoly power in the relevant market and (2) the willful acquisition or maintenance of that power as distinguished from the growth or development of a superior product, business acumen, or historic accident.” *United States v. Grinnell Corp.*, 384 U.S. 563, 570-71 (1966).

ATOMIC ENERGY ACT: SITUATION INCONSISTENT WITH ANTITRUST LAWS

A price squeeze involves the economic behavior of a vertically integrated firm *vis-a-vis* a rival who is not similarly integrated. The appropriate focus of a price squeeze charge is on the integrated firm and its costs. One should inquire whether its rates at wholesale are significantly above its costs and whether its rates at retail are below its costs. In a nuclear licensing proceeding the usual role of a price squeeze allegation is to cast light on the purpose or intent of an applicant as to its competitive behavior.

ATOMIC ENERGY ACT: ANTITRUST PROVISION

The legislative history of Section 105 of the Atomic Energy Act discloses that the issue of fair access to nuclear facilities should be approached on a case-by-case basis and could be satisfied by contractual arrangements for unit power as well as by ownership shares.

INITIAL DECISION (ANTITRUST)

Appearances

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This proceeding arises under Section 105c of the Atomic Energy Act of 1954, as amended, 42 U.S.C. Section 2135(c) (1970), to determine whether the activities under licenses for the Joseph M. Farley Nuclear Plant, Units 1 and 2, would create or maintain a situation inconsistent with specified antitrust laws of the United States.

This Atomic Safety and Licensing Board (Board) concludes, on the basis of the evidence of record and findings of fact set forth in this decision, that the activities under the licenses for the Joseph M. Farley Nuclear Plant, Units 1 and 2, would create or maintain a situation inconsistent with the antitrust laws and the policies underlying those laws. We further conclude that certain relief is necessary, and accordingly, that further proceedings must be promptly held to specify the exact nature of the relief.

I. BACKGROUND OF THIS PROCEEDING

On October 10, 1969, Alabama Power Company (Applicant) filed with the Atomic Energy Commission (Commission), pursuant to Section 104 of the Atomic Energy Act of 1954, as amended, 42 U.S.C. Section 2134, an application for a construction permit for a nuclear generating facility to be located in Houston County, Alabama. The application requested authority to construct a pressurized water nuclear reactor designed to operate initially at power levels of 807 megawatts electric, and ultimately, at 844 megawatts electric. On June 26, 1970, Applicant filed an amendment to its application which requested authority to construct and operate a second, identical nuclear generating facility at the same location. These proposed nuclear facilities were originally designated the Southeast Alabama Nuclear Plant, but later were renamed the Joseph M. Farley Nuclear Plant, Units 1 and 2.

Following amendments to the Atomic Energy Act in December 1970, the Department of Justice (Department), pursuant to Section 105c(1) of the Atomic Energy Act, advised the Commission, in a letter dated August 16, 1971, that a hearing should be held to consider whether the activities of Applicant under the licenses for the Joseph M. Farley Nuclear Plant would create or maintain a situation inconsistent with the antitrust laws.

In accordance with required procedures, the Commission published the Department's letter of advice, and gave notice that petitions for leave to intervene and requests for a hearing on the antitrust aspects of the applications for the Joseph M. Farley Nuclear Plant should be filed within thirty days. On September 21, 1971, Alabama Electric Cooperative (AEC), petitioned for leave to intervene in connection with these applications and requested a hearing. Applicant opposed AEC's petition. On February 23, 1972, the Municipal Electric Utility Association of Alabama (MEUA) also petitioned for leave to intervene and requested a hearing. Applicant opposed this petition and request for hearing as well.

On June 28, 1972, the Commission issued a Notice of Antitrust Hearing on Applicant's applications for the Farley Nuclear Plant. The Commission appoint-

ed this Board¹ and directed that the Board rule on the pending petitions for leave to intervene.

On July 21, 1972, this Board issued a Notice and Order for a prehearing conference to be held on September 27, 1972. On that date, a prehearing conference was held, and after oral argument, this Board granted petitions for leave to intervene of AEC and MEUA. The Attorney General of the United States, through the Antitrust Division of the Department of Justice, and the Staff (Staff) of the Nuclear Regulatory Commission (Commission)² are statutory parties to this proceeding. The Board also heard argument on Applicant's motion to limit the scope of antitrust review in this proceeding.

Subsequently, on December 4, 1972, we issued a Notice and Order for a second prehearing conference to hear oral argument on Applicant's motion to limit the scope of this proceeding and on a motion by the Department to consolidate this proceeding with the applications of Georgia Power Hatch, Units 1 and 2, which had also been noticed for antitrust review. We held a second prehearing conference on December 11, 1972, at which time we heard oral argument on the aforementioned motions.

On January 24, 1973, we denied the Department's motion to consolidate, for antitrust review, Applicant's applications for the Farley units with the applications of Georgia Power Company for the George I. Hatch Nuclear Power Plant.

On February 9, 1973, this Board issued its Memorandum and Order denying Applicant's motion to limit the scope of this proceeding, and on the same day we issued our prehearing conference order regarding issues and procedures to be followed in this proceeding. We tentatively specified in that prehearing conference order the issues to be tried in this proceeding, and established procedures for discovery to be followed by the parties.

We held a further prehearing conference on March 20 and March 21, 1973, to consider the appropriate scope of the proceeding, discovery and proposed issues to be tried. On April 26, 1973, we issued another prehearing conference order which reviewed the actions taken at our prehearing conference of March 20 and March 21, 1973. We also set forth a statement of the issues and subissues to be tried. We ordered that discovery proceed, and directed the parties to file periodic reports with the Board describing the status and progress of discovery.

¹The Commission appointed the Honorable Walter W. K. Bennett, Carl W. Schwarz, Esq., and Michael L. Glaser, Esq., as members of the Board. Subsequently, the composition of the Board was reconstituted to designate Michael L. Glaser Chairman, Carl Schwarz and Dr. Kenneth G. Elzinga as members. After evidentiary hearing began, the membership of the Board was further reconstituted to name Marshall E. Miller as a member of the Board replacing Carl W. Schwarz.

²On October 11, 1974, the Energy Reorganization Act (P.L. 93-438) was enacted. Pursuant to the Act, the regulatory and licensing functions of the Atomic Energy Commission were transferred to the new Nuclear Regulatory Commission on January 19, 1975.

A final prehearing conference was held on September 24, 1973, to consider various matters involved in discovery, and to establish a tentative schedule for commencement of evidentiary hearing. Subsequently, we issued a prehearing conference order ruling on various discovery matters and setting forth the tentative date for commencement of evidentiary hearing.

Thereafter, Applicant filed a motion to bifurcate this proceeding. Applicant sought the first phase to be concerned only with a determination of whether the activities under the licenses for the Farley Plant would create or maintain a situation inconsistent with the antitrust laws, and requested a second phase, in the event we found inconsistencies, to deal with the appropriate remedy or relief in terms of conditions to be placed on the licenses for the Farley Units. We held oral argument on Applicant's motion on May 15, 1974, and issued a brief order on May 23, 1974, granting Applicant's motion. We issued a Memorandum and Order on September 3, 1974, setting forth our reasons for granting Applicant's motion, and designating the conditions under which the bifurcated hearing would be held.

On December 4, 1974, the evidentiary hearing began. Hearings were continued from that date. The final evidentiary session was held on April 9, 1976. On April 26, 1976, we closed the record in the first phase of this proceeding and directed the parties to file proposed findings of fact and conclusions of law by June 30, 1976, and replies, if desired, by August 16, 1976. All parties timely filed proposed findings of fact and conclusions of law, and reply findings.

Because of the nature of this proceeding and the complexity of the issues, we ordered that oral argument be held on November 22, 1976.

During the course of this proceeding, the former Atomic Energy Commission, on August 15, 1972, issued construction permits for Applicant's Farley Nuclear Plant, Units 1 and 2. The construction permits were issued subject to the outcome of this proceeding. The permits recited that they were granted without prejudice to any subsequent licensing action, including the imposition of appropriate conditions which the Commission might make after the conclusion of this case.

The Department proposed that Applicant be required, as a condition of the licenses of the Farley Units, to: (1) grant equal participation (ownership or unit power purchase) in both Units and all future nuclear units installed by Applicant for the term of the Farley licenses; (2) sell bulk power at wholesale for resale to any person engaging or proposing to engage in the sale of electric power at retail; (3) interconnect and share reserves with any electric utility in its area engaging or proposing to engage in the generation and transmission of electric power, on fair reserve-sharing principles equivalent essentially to those required by the Federal Power Commission in the *Gainesville*³ decision; (4) engage in coordi-

³*Gainesville Utilities Department v. Florida Power Corp.*, 402 U.S. 515 (1971).

nated development with any electric utility or group of electric utilities engaging in or proposing to engage in bulk power supply with which Applicant is or may feasibly be interconnected by incorporating the load requirements of such utility or utilities into the load requirement of Applicant and cooperating in planning and constructing large base-load units to satisfy the pooled load growth requirement, and to provide for reasonable charges, the transmission services associated with such coordinated development: (5) provide wheeling services so that independent electric systems in central and southern Alabama may coordinate among themselves and with other electric utilities located outside central and southern Alabama; (6) provide other coordinating arrangements, such as maintenance power and economy energy, on reasonable terms; and (7) advise each major neighboring utility and each smaller utility in central and southern Alabama that it will not directly or indirectly enter into, adhere to, continue, maintain, renew, enforce or claim any rights under any contract, agreement, understanding, joint plan or joint program with any other electric utility system to limit, allocate, restrict, divide, or assign, or to impose any limitation or restrictions respecting the persons to whom, or the market or territories in which any other electric utility may sell or supply firm power in bulk or power exchange services.

II. CONTENTIONS OF THE PARTIES

A. The Department

The Department contends that there is a situation inconsistent with the antitrust laws in central and southern Alabama. It asserts that Applicant has monopolized the wholesale-for-resale firm-power market in central and southern Alabama which has restricted competition in the retail distribution, firm-power market in the same area. The Department claims that the activities under the licenses would maintain and aggravate this situation because low cost, nuclear power to be supplied by the Farley Plant will actually strengthen and expand Applicant's electric system and increase Applicant's future ability to install and obtain low cost power from additional generating units.

More specifically, the Department contends that Applicant has illegally monopolized the wholesale-for-resale firm-power market in central and southern Alabama, and as a result, has monopolized the retail distribution, firm-power market in that same area, in violation of Section 2 of the Sherman Act, 15 U.S.C. Section 2. According to the Department, Applicant has monopoly power, the power to control prices and exclude competition in three relevant markets: (1) the retail distribution, firm-power market in which electric distribution systems supply firm power to consumers; (2) the wholesale-for-resale firm-power market in which producers of firm electric power in bulk furnish that power to

distribution systems; and (3) the regional power exchange market, in which producers of firm electric power engage in transactions with one another for the factors of production used in making bulk firm power.

The Department alleges that Applicant has misused its monopoly power to stifle competition and to maintain and enhance its market position. Thus, the Department claims that Applicant has attempted to prevent AEC from developing a bulk power supply for its member cooperatives by preventing AEC from installing generation. Moreover, the Department asserts that Applicant has maintained low wholesale rates for electric power in order to discourage its wholesale customers, including AEC, from developing and installing their own generation facilities.

The Department also states that Applicant misused its monopoly power in other instances. For example, the Department urges that Applicant refused to engage in coordination with AEC after completion of two of AEC's steam generating units in 1955, and later Applicant refused to offer AEC a fair coordination arrangement after AEC had constructed additional generating facilities in the 1960's. Finally, the Department claims Applicant has denied AEC access to the factors of production of firm electric power which takes place through power exchange services among electric utilities in the southeast region of the United States, by reason of the terms and conditions of an interconnection agreement between Applicant and AEC which was entered into in June 1972. The Department states that Applicant has denied AEC and municipally owned distribution systems in central and southern Alabama the opportunity to share ownership in the Farley Nuclear Plant.

The Department asserts that Applicant has also manifested its monopoly power in respect to its dealing with municipally owned distribution systems in central and southern Alabama. The Department points to Applicant's alleged refusal to consider coordination with the City of Dothan in the mid-1960's when the City was contemplating building a steam generating plant to supply its own power needs, instead of purchasing power from Applicant at wholesale. The Department says Applicant has included conditions in its contractual arrangements with municipally owned distribution systems which prohibit these systems from installing their own generation or from entering into agreements with other utilities for alternative sources of power. In this respect, the Department claims Applicant took steps to foreclose the development by others, including the Federal government through the Southeastern Power Administration, of hydroelectric generation sites along the rivers in Alabama. Applicant is purported to have offered special rate reductions to municipal and cooperative wholesale customers as a condition of Applicant's obtaining the rights to develop all the hydroelectric generating sites in Alabama.

The Department notes that Applicant controls virtually all high voltage transmission lines essential to the operation of an electric utility system in

central and southern Alabama. Applicant is alleged to have taken steps to prevent the Southeastern Power Administration (SEPA) from constructing its own transmission system to distribute and deliver power to preference customers from Federal hydroelectric projects in accordance with Section 5 of the Flood Control Acts of 1944, 16 U.S.C. 325s.

The Department further contends that Applicant, in conjunction with others, precluded small electric utility systems from regional economic coordination after the introduction in Congress of reliability legislation following the massive blackout in northeastern United States in late 1965. In this respect, the Department contends that Applicant and other utilities in the southeast region of the United States engaged in various types of economic coordination among themselves, and when the Southeastern Electric Reliability Council (SERC) was formed, took steps to insure that its purpose was limited to reliability and not economic coordination. Finally, the Department alleges that Applicant acquired a large part of its retail market by the acquisition of electric distribution systems over the years, and by limiting or preventing the construction of transmission lines by its competitors.

B. AEC

AEC makes these same contentions, but adds that Applicant has used the administrative and judicial processes against AEC to suppress AEC's efforts to acquire and expand its own generation and transmission facilities, and to eliminate or reduce competition from AEC in the wholesale-for-resale firm-power market. AEC claims that such activities on the part of Applicant are not constitutionally protected, and fall into a pattern evidencing a course of conduct inconsistent with the antitrust laws. AEC states that Applicant's uses of administrative and judicial processes against AEC demonstrate Applicant's purpose and intent to monopolize generation and transmission of electric power in central and southern Alabama.

C. MEUA

MEUA concurs in the Department's and AEC's contentions of conduct on the part of Applicant inconsistent with the antitrust laws, and also argues that Applicant has used its monopoly power to place the members of MEUA in a "price squeeze," in violation of the antitrust laws. In this regard, MEUA contends Applicant has adopted a policy of charging wholesale customers rates which do not allow them to compete with Applicant for a certain class of retail customer. In particular, MEUA charges that Applicant has adopted a policy of setting its retail rates to industrial customers at such a level that if a municipal system, which purchases its power from Applicant at Applicant's wholesale

rates, attempted to compete with Applicant for industrial customers, the municipality would have to sell at a loss. MEUA contends this policy results in a price squeeze designed to force the members of MEUA out of the retail market, and to insure that Applicant maintains its monopoly in this market.

D. Staff

The Staff is in accord with the contentions made by the Department, and further argues that Applicant's conduct and activities have created a situation inconsistent with Section 5 of the Federal Trade Commission Act, 15 U.S.C. Section 45, in that they represent unfair methods of competition. The Staff contends that Applicant presently dominates generation and transmission in central and southern Alabama, and uses and will continue to use this dominance to control the extent of competitive activity in that area if the Farley Units are licensed without conditions. The Staff states that ultimately competition will cease to exist in this area if Applicant is permitted to continue exercising monopoly power in the electric utility business in central and southern Alabama with sole access to nuclear power.

E. Applicant

Applicant vigorously denies the allegations and charges of the Department, AEC, MEUA and Staff. Moreover, Applicant claims it does not now and never has possessed monopoly power. Applicant asserts that it is subject to extensive regulation by both Federal and state authorities which precludes its ability to control prices or exclude competitors. In addition, Applicant argues that it is not subject to antitrust liability under the doctrine of *Parker v. Brown*, 317 U.S. 305 (1943), because the State of Alabama has adopted a pervasive system of regulation of electric utilities as a substitute for competition, and such regulation imposes a restraint which Applicant is lawfully compelled to observe. Specifically, Applicant states that the pervasive regulation and supervision by the Alabama Public Service Commission over Applicant's rates and practices, including the commencement and cessation of electric service, immunizes Applicant's activities from the reach of the antitrust laws.

Applicant also claims that its conduct has not been anticompetitive. Applicant says that its entire history, as well as the nature of the electric utility business, mandate a finding that the activities under the Farley licenses will not create or maintain a situation inconsistent with the antitrust laws. Applicant contends that it does not have a monopoly because, while it faces limited competition in the retail distribution, firm-power market regarded as a natural monopoly, it has vigorous competition in the wholesale-for-resale firm-power market. Applicant affirmatively argues that it has engaged in fair and reasonable

coordination with AEC, but that the type of coordination has necessarily been limited by deficiencies in AEC's electric system. Applicant points out that many of the events and occurrences cited by the Department and the other parties to this proceeding as evidence of Applicant's anticompetitive behavior, actually constitute fair and reasonable competition in the wholesale-for-resale power market. Applicant observes that the largest supplier of electric power in the wholesale market is the Tennessee Valley Authority (TVA) which has an overwhelming majority of sales and revenues in Alabama, thereby demonstrating Applicant's lack of monopoly power in the relevant market.

Applicant denies the existence of the so-called regional power exchange market described by the Department.

Applicant states that it has never refused to coordinate its electric system with AEC's system; or to wheel power as a part of such coordination, and indicates that it will do so on fair and reasonable terms as long as it is not subjecting itself to becoming a common carrier.

Finally, Applicant argues that it has been and is willing to negotiate with AEC and others for the purchase of unit power from the Farley Units, but that discussions among the parties never addressed this subject because of AEC's insistence on ownership shares in the Farley Plant.

III. THE PARTIES

A. Applicant

Applicant is a vertically and horizontally integrated electric utility engaging in generation, transmission and distribution of electricity in Alabama (APP. X, JMF-A, pp. 1-576; DJ 1,001, DJ 1,004).⁴

Applicant distributes electricity for consumption by residential, commercial and industrial users in 639 communities and rural areas in central and southern Alabama including users in the cities of Birmingham, Montgomery, Mobile,

⁴In this decision, the Board uses abbreviations in referring to exhibits, testimony, transcript citations, proposed findings of fact and conclusions of law, and briefs of the parties. The following abbreviations are used:

Applicant - APP.; Department of Justice - DJ; Alabama Electric Cooperative - AEC; Nuclear Regulatory Commission Staff - Staff; Municipal Electric Utility Association - MEUA; Proposed Findings of Fact and Conclusions of Law - PFF; Brief - Br; Transcript - Tr.; and Exhibits - X.

Where the decision refers to the written testimony of a witness, his name appears prior to the page citation of the testimony along with an indication of whether it is the witnesses' direct or rebuttal testimony. The Board has received certain written testimony of witnesses into evidence as exhibits, and has given the same an exhibit number or letter. In those instances where we refer to such testimony, the witnesses' name as well as the exhibit number or letter is cited.

Gadsden, Tuscaloosa, and Anniston (DJ 1,002). Central and south Alabama is that part of the state excluding the eleven most northern counties (DJ 1,006; DJ 1,007).

Applicant also provides electricity at wholesale to fifteen municipalities having their own electric distribution systems, eleven rural distribution cooperatives, and to AEC. All of these wholesale customers are located in central and southern Alabama (DJ 1,001, DJ 1,002, DJ 1,004, St. John, Direct, p. 4, Wein, Direct, p. 62).

Applicant owns and operates 8,057 miles of transmission and subtransmission lines (44 kilovolt to 230 kilovolt), 37,948 pole miles of lower voltage (13 kilovolt) overhead lines, and 817 miles of underground cable used in the distribution of electricity (DJ 1,004, DJ 1,005, APP. X 97, p. 442a-b). Applicant's electric facilities exist in all but the eleven most northern counties of Alabama, which are served by TVA (APP. X JMF-81, pp. 3, 11-14).

Applicant owns and operates 13 hydroelectric and six fossil-fired electric generating plants. These generating plants are:

	Capacity (Kilowatts)
Hydroelectric	
John Hillis Bankhead Hydro Plant	42,225
Walter Bouldin Dam	225,000 ⁵
H. Neely Henry Dam	72,900
Holt Hydro Plant	40,000
Jordan Dam	100,000
Lay Dam	177,000
Logan Martin Dam	128,250
Martin Dam	154,200
Mitchell Dam	72,500
Lewis Smith Dam	157,500
Thurlow Dam	50,000
Weiss Dam	87,750
Yates Dam	32,000
Total hydroelectric capacity	1,339,325
Fossil Fuel	
Ernest C. Gaston Unit No. 5	880,000
Barry Steam Plant (includes combustion turbine units)	1,583,500

⁵This hydroelectric facility was removed from service for an indefinite period in February 1975 due to a break in the dam. As of the close of the record in this proceeding, the Federal Power Commission was investigating the matter (APP. X FPC Form 1 for 1975, pp. 109(a), 112(c)).

Chickasaw Steam Plant	120,000
Gadsden Steam Plant	120,000
Gorgas Steam Plant	1,341,250
Greene County Steam Plant (60% share)	300,000
Demopolis Combustion Turbine Plant	48,860
Total fossil fuel capacity	<u>4,393,610</u>
Total hydroelectric and fossil fuel generating capacity	<u>5,732,935</u>
Ernest C. Gaston Steam Plant (50% share) ⁶	<u>509,840</u>
Total owned capacity and one- half share of Gaston Steam Plant	<u>6,242,775</u>

Applicant plans the following additions to its generating facilities: (Miller, Direct, p. 14; Tr. 19, 430)

	Date Planned In-Service	Capacity Kilowatts	Type Fuel
Joseph M. Farley Nuclear Plant – Unit No. 1	1977	860,000	Nuclear
– Unit No. 2	1979	860,000	Nuclear
James H. Miller, Jr., Steam Plant			
– Unit No. 1	1978	660,000	Coal
– Unit No. 2	1980	660,000	Coal
– Unit No. 3	1981	660,000	Coal

Applicant also plans to construct a new 135 megawatt hydroelectric plant on the Tallapoosa River in Randolph and Clay Counties, Alabama. This plant is scheduled for operation in 1980.

Applicant has applications pending before this Commission for authorization to construct four 1,200 megawatt nuclear power units at its Alan R. Barton Nuclear Plant site. At the present time, Applicant has deferred the construction

⁶ This facility is owned by Southern Electric Generating Company (SEGCO) which owns and operates four units at the Gaston Steam Plant. This plant is a coal fuel plant with a total capacity in excess of 1,000,000 kilowatts of installed capacity (APP. X JHM-A, p. 63). The capacity in this plant is sold in equal shares by SEGCO to its two owners, Applicant and Georgia Power Company which each own one-half of SEGCO in common stock (APP. X 97; APP. X JHM-A, p. 63).

of these facilities because of economic conditions (Tr. 22,293-22,300; Statement of Applicant's counsel Tr. 25,549-25,557). In addition, Applicant plans to increase the capacity of its Mitchell Dam and Martin Dam hydroelectric generating plants by 80 and 60 megawatts, respectively, in the early 1980's (APP. X JHM-A, pp. 14-15).

Applicant's electric system experiences its peak demand during the summer months. In July 1974, Applicant's summer peak demand was 5,381 megawatts. Applicant's installed generating capacity at that time was 6,246 megawatts (APP. X 97, p. 431; APP. X JHM-A, p. 12). In August 1975, Applicant reported a peak demand of 5,508 megawatts. Applicant's installed generating capacity at this time was 6,021 megawatts (APP. X JHM-A, p. 12; APP. X FPC Form 1, 1975, p. 431, p. 112 (c)).

Over the years, Applicant has grown through a series of mergers with, and acquisitions and consolidations of other electric and public utility companies (APP. X JMF-A, pp. 28-45, 54-57, 79-80, 86-91, 93-98; DJ 601). The Board does not consider these mergers, acquisitions and consolidations, and the facts surrounding them, to be of decisional significance in this proceeding because of their remoteness and because they were consistent with industry practices and requirements at the time and not contrary to antitrust policy as then understood.

As of December 31, 1974, Applicant's total utility plant investments approximated \$2.515 billion and its total assets equaled \$2.332 billion. Applicant's total electric operating revenues approximated \$489 million by the end of 1974 (APP. X 97, pp. 110, 114; DJ 1,003, p. 34).

Applicant is a wholly owned subsidiary of the Southern Company, a registered public utility holding company formed in 1947 under the Public Utility Holding Act, 15 U.S.C. 79 (APP. X JMF-A, pp. 484-486; APP. X 97). The Southern Company owns all the outstanding share of common stock of Applicant, as well as of Georgia Power Company, Gulf Power Company and Mississippi Power Company. These four companies comprise the operating companies of the Southern Company (APP. X JMF-A, pp. 484-486).

The Southern Company also owns all of the shares of Southern Services, Inc. (Southern Services), a service company which provides services to the four operating companies of the Southern Company in respect to power pooling, central dispatching, negotiation and administration of power sales and purchase agreements, and executive advisory services with regard to design and engineering, power purchasing, accounting, financing, and rate making (DJ 1,002, p. 11, Tr. 25,989-25,992).

Southern Services also acts as an agent for the four operating companies in connection with coordination of their electric generation and transmission facilities, and in regard to their operation with interconnected utilities (Tr. 25,989-25,992).

Applicant is involved in ownership of generation and transmission facilities with other operating companies of the Southern Company. Applicant and Georgia Power Company each own one-half of the common stock of SECO which owns the steam electric generating plant in Shelby County, Alabama (APP. X JMF-A, p. 268-269). SECO owns the Ernest C. Gaston Steam Plant which has an installed capacity of 1,019.68 megawatts. The plant has four steam units with a rated capacity of 250 megawatts each, and one combustion turbine unit which has a capacity of 19.68 megawatts (APP. X JHM-A, p. 13; APP. X JMF-A, p. 268-270).

Applicant also owns 60% of the Green County Generating Station near Demopolis, Alabama, as tenants-in-common with Mississippi Power Company, which owns 40%. This generating facility has an installed capacity of 500 megawatts, and is operated as a joint venture (APP. X JHM-A, p. 13; APP. X JMF-A, pp. 274-275, 306).

In 1974, Applicant generated 24,319,541 megawatt hours (MWH), purchased 3,115,771 MWH, and netted 852 MWH on interchanges with other utilities. In the same year, Applicant netted 21,584 MWH on wheeling for others. Applicant thus had a total of 27,457,748 MWH available for sale to wholesale and retail customers (APP. X 97, p. 431). At the end of 1975, Applicant reported it had generated 25,898,026 MWH, purchased 1,878 MWH, netted 10,576 MWH on interchanges, and netted 23,518 MWH on wheeling for others, for a total of 27,810,140 MWH (APP. X FPC Form 1, p. 431).

Over the years, Applicant has had a fairly constant load growth of about 8% per year. In the last several years, however, energy has grown only at about 1% and demand has grown about 6% per year (Tr. 22,507).

B. Alabama Electric Cooperative (AEC)

AEC is a nonprofit electric generation and transmission cooperative which is organized under Title 18 of the Code of Alabama.⁷ AEC is owned, controlled and operated by its members as a generation and transmission agent. AEC is governed by a board of trustees which is composed of two representatives from each of its members. AEC was formed in 1941, and as a generation and transmission agent for its members, holds itself out to furnish directly the power needs of its membership to the extent that it can physically and economically do so. AEC's members in Alabama receive their electric service physically either from AEC or from Applicant. AEC is not restricted to service inside Alabama, and has two member cooperatives located in northwest Florida. These two Florida cooperatives also receive service physically from Gulf Power Company (AEC X 3,

⁷Title 18, Code of Alabama, 1940 (Recomp. 1958).

(Lowman) pp. 2-4; AEC X CRL-1A, p. 23; Tr. 9,223; 9,272-9,275; 9,281; DJ 1,006). AEC is unregulated.

AEC's members include 14 rural electric cooperatives, four municipally owned electric distribution systems, and two industrial mills. The member cooperatives are Baldwin County Electric Membership Cooperative, Central Alabama Electric Cooperative, Clarke-Washington Electric Membership Cooperative, Coosa Valley Electric Cooperative, Dixie Electric Cooperative, Pea River Electric Cooperative, Pioneer Electric Cooperative, South Alabama Electric Cooperative, Covington Electric Cooperative, Southern Pine Electric Cooperative, Tallapoosa Electric Cooperative, Wiregrass Electric, all of which are in Alabama, and two members in northwest Florida, Gulf Coast Electric Cooperative, Inc., and Choctawhatchee Electric Cooperative, Inc. The four municipal electric system members of AEC are the cities of Andalusia, Brundidge, Elba and Opp. The two industrial members of AEC are Micolas Cotton Mills and Opp Cotton Mills (AEC X 3, (Lowman) pp. 3-4).

There are two other rural distribution electric cooperatives in central and southern Alabama, but they are not members of AEC. These two cooperatives are Black Warrior Electric Membership Cooperative and Tombigbee Electric Cooperative, Inc. (AEC X CRL-1, AEC X CRL-1A).

AEC physically delivers all of the bulk power supply requirements to three of its fourteen member cooperatives, to its four municipal members, and to its two industrial members, by its own transmission facilities (AEC X 3, (Lowman) pp. 2-6, AEC X CRL-1, AEC X CRL-1A).

The three cooperative members for whom AEC furnishes directly all of the power requirements are Covington Electric Cooperative at 15 delivery points, South Alabama Electric Cooperative at seven delivery points, and Southern Pine Electric Cooperative at six delivery points (AEC X 3, (Lowman) pp. 2-6).

AEC furnishes a portion of the power requirements of Baldwin County Electric Membership Corporation at one delivery point, of the Clarke-Washington Electric Membership Corporation at six delivery points, of the Pea River Electric Cooperative at eight delivery points, of Wiregrass Electric Cooperative at three delivery points, and of the Choctawhatchee Electric Cooperative at nine delivery points.

Those members of AEC in Alabama which are served with part of their requirements by AEC have their remaining requirements furnished by direct physical connection with Applicant. Applicant furnishes power to Baldwin County Electric Membership Corporation at six delivery points, to the Clarke-Washington Electric Membership Corporation at five delivery points, to the Pea River Electric Cooperative at four delivery points, and to the Wiregrass Electric Cooperative at seven delivery points. Gulf Power Company serves Choctawhatchee Electric Cooperative at three delivery points.

These members of AEC which take all or part of their power from AEC are

referred to in this decision as the "on-system" members (AEC X 3, AEC X CRL-1).

AEC lacks any direct physical access to five of its members in Alabama which presently receive all of their power physically from Applicant, and to Gulf Coast Electric Cooperative, located in northwest Florida, which takes all of its power from Gulf Power Company (AEC X 3, (Lowman); AEC X CRL-1; AEC X CRL-1A; AEC X CRL-2, AEC X CRL-3).

AEC's members in Alabama with which it has no direct or physical connection are Coosa Valley Electric Cooperative, Central Alabama Electric Cooperative, Dixie Electric Cooperative, Pioneer Electric Cooperative and Tallopoosa Electric Cooperative. These entities receive all of their power from Applicant. Those systems which take all of their power requirements from Applicant or from Gulf Power Company are referred to in this decision as "off-system" members (AEC X 3, (Lowman) pp. 5-6; AEC X CRL-1, pp. 14-15; AEC X CRL-1A, pp.16-17; AEC X CRL-2; AEC X CRL-3).

AEC purchases 67 megawatts of dependable capacity and 50 megawatts of standby capacity from SEPA, which acts as the marketing agent of the Department of Interior in disposing of electricity generated by Federal hydroelectric projects constructed on rivers in the southeastern United States (DJ 401; AEC X CRL-1, CRL-1A).

AEC's generation resources include the following:

Facility	Capacity (Kilowatts)	Type
McWilliams (Nos. 1, 2 and 3)	45,000	Steam
Tombigbee (Jackson)	75,000	Steam
Point A Hydro	5,000	Hydroelectric
Gantt Hydro	42,000	Hydroelectric
Portland	<u>10,000</u>	Gas Turbine
 Total	 137,000	

AEC currently has under construction two coal-fired 210 megawatt generating units at its Tombigbee Plant site. The units are scheduled to begin operation in 1978 and in 1979 (Tr. 8,615-17; Tr. 26,362; Tr. 26,398-26,400; AEC X CRL-1A; APP. X, 146; DJ 1,006 at p. 11).

AEC does not have sufficient installed capacity to meet the requirements of its on-system members. Consequently, it serves its members not only from its own generating facilities, but also from power purchased from Applicant and from its SEPA allocation of power. In 1974, AEC generated 346,485,400 megawatt hours, purchased 552,995,521 megawatt hours from Applicant, and re-

ceived 67,867 megawatt hours from SEPA (AEC X 3, (Lowman) pp. 2-8; APP. X 146).

AEC has 995 miles of transmission and subtransmission lines, including 380 miles of 115 KV lines, 29 miles of 69 KV lines, and 586 miles of 46 KV lines. AEC's system is a summer peaking system. In the summer of 1974, AEC's peak demand was 217.8 megawatts (AEC X CRL-1A).

AEC's transmission system is interconnected at three points with Applicant's transmission system. AEC is also interconnected to the Walter F. George Federal hydroelectric facility. AEC purchased approximately 57% of its power requirements from Applicant in 1974 (AEC X 3, (Lowman) pp. 2-8; APP. X 146). AEC's principal source of capacity and energy is Applicant (APP. X 146, APP. X 306).

The members of AEC pool their power costs so that all members pay the same rate for bulk power, regardless of source. Thus, on-system and off-system members pay the same rate to AEC for bulk power, even though the off-system members in Alabama receive their bulk power supply directly from Applicant. Applicant delivers power to the off-system members and on-system members which take part of their power requirements from Applicant, and it bills AEC for the charges. AEC, in turn, bills each of its members for the bulk power delivered by Applicant at a rate higher than that which Applicant charges AEC. This surcharge and billing procedure is known as power pooling (AEC X 3, (Lowman) pp. 104-105; Tr. 7,151-7,155; Tr. 7,244-7,245; Tr. 20,476).

Applicant and AEC are the only entities engaged in the generation and transmission of electricity in central and southern Alabama.

C. Municipal Electric Utility Association of Alabama (MEUA)

MEUA is composed of 12 cities or municipal utility boards located in central and southern Alabama which own and operate municipal electric distribution systems. The cities and municipal utility boards who are members of MEUA are the City of Alexander City, the City of Dothan, the City of Fairhope, the Utility Board of the City of Foley (Riviera Utilities), the City of LaFayette, the City of Lanett, the City of Luverne, the City of Opelika, the City of Piedmont, the Utilities Board of the City of Sylacauga, the City of Troy, and the Utilities Board of the City of Tuskegee (St. John, Direct, p. 3).

None of the members of MEUA owns and operates any generating facilities. Except for Riviera Utilities and the City of Fairhope, none of the members of MEUA owns any transmission facilities. The Riviera Utilities and the City of Fairhope own and operate a total of 71 miles of 44 KV transmission lines (Porter, Direct, p. 13). All of the members of MEUA purchase most of their power supply from Applicant. They receive the rest from SEPA as preference

customers. The City of Troy purchases its entire bulk power supply from Applicant (St. John, Direct, p. 7; Porter, Direct, p. 15).

In Alabama, there are 22 municipalities located in central and southern Alabama which own and operate municipal electric distribution systems. As noted earlier, four of these municipalities (Andalusia, Brundidge, Elba and Opp) are members and wholesale customers of AEC. Of the other 18 municipally owned electric distribution systems, 15 systems purchase their entire power requirements (except for SEPA preference customer allocations amounting to approximately 44 megawatts) from Applicant. In addition to the 12 members of the MEUA, the cities of Fulton, Evergreen and Hartford, which are not members of MEUA, purchase bulk power from Applicant. The City of Robertsdale is supplied at wholesale by Riviera Utilities. The cities of Bessemer and Tarrant City, located near Birmingham, are served at wholesale by TVA, through an arrangement with Applicant which delivers power to them by displacement. The City of Robertsdale has recently entered into an agreement with Applicant to purchase power at wholesale from Applicant (St. John, Direct, p. 4; Crawford, Tr. 23, 477-23,487).

IV. OTHER UTILITIES AND SOURCES OF ELECTRIC POWER IN THE SOUTHEAST

As indicated, Applicant is a member of the Southern Company which is comprised of the Georgia Power Company, the Gulf Power Company, the Mississippi Power Company, and Applicant. Applicant is bounded on three sides by one of its affiliates in the Southern Company system. Thus, Georgia Power Company bounds Applicant on the east, Gulf Power Company bounds Applicant on the south, and Mississippi Power Company bounds Applicant to the west. TVA is adjacent to Applicant on the north (DJ 1,008).

A. Georgia Power Company

Georgia Power Company (Georgia Power) is the largest operating company of the Southern Company. Georgia Power serves the entire State of Georgia except for a few northern counties which are served by TVA. In 1974, Georgia Power's peak demand was 8,936 mw (DJ 1,008; DJ 3,015; Schedule C, p. 2). As one of the Southern Company's operating companies, Georgia Power is physically interconnected with Applicant and Gulf Power Company (Gulf Power), another affiliated company of the Southern Company. Georgia Power also has physical interconnections with TVA, Duke Power Company (Duke), South Carolina Electric and Gas Company (SCEGC), and Florida Power Corporation (Florida Power) (DJ 3,003, DJ 3,004, DJ 3,007, DJ 3,008).

B. Mississippi Power Company

Mississippi Power Company (Mississippi Power), another member company of the Southern Company, operates in the southeastern part of Mississippi from the City of Meridian south to the Gulf Coast (DJ 1,008). Mississippi Power's projected peak demand for 1974 was 1,263 mw (DJ 3,015, Schedule C, p. 2). Mississippi Power is physically interconnected with Applicant. Mississippi Power also has physical interconnections with Mississippi Power and Light Company (MP&L) and Louisiana Power and Light Company (LP/L), both of which are operating subsidiaries of Middle South Utilities, Inc., a registered holding company under the public Utility Holding Company Act (DJ 1,008).

C. Gulf Power Company

Gulf Power Company (Gulf Power) is the smallest operating company of the Southern Company. It serves the western part of the Florida panhandle, including the cities of Pensacola and Panama City (DJ 1,008). Gulf Power's projected peak demand for 1974 was 1,141 mw (DJ 3,015, Schedule C, p. 2). As noted above, Gulf Power is physically interconnected with Applicant and Georgia Power. Gulf Power is also physically interconnected with Florida Power (DJ 1,008).

D. Tennessee Valley Authority

TVA is a corporate agency of the United States, created by the Tennessee Valley Authority Act of 1933, 16 U.S.C. 831-831dd. TVA is engaged in the generation, transmission and sale of electricity to municipally owned and cooperatively owned utilities in the Tennessee Valley, to other Federal government agencies and to industry in that area. TVA is the supplier of electricity in the State of Tennessee, but also serves parts of Kentucky, Mississippi, North Carolina, Georgia, Virginia, and the 11 most northern counties in Alabama. TVA also supplies power at wholesale to two municipal systems in central and south Alabama, Bessemer and Tarrant City (DJ 1,007).

Applicant has direct interconnections with TVA. TVA's service area is limited by the 1959 TVA Bond Act, 16 U.S.C.831, which prohibits the sale of electricity by TVA in areas not served by TVA on July 1, 1957.

Applicant has interchange agreements with TVA for various types of power and energy transactions, including emergency, economy, seasonal capacity and surplus capacity (DJ 3,007). Applicant also wheels power (by displacement) for TVA's wholesale customers, the City of Bessemer and Tarrant City (DJ 3,010).

TVA's peak demand occurs in the winter months whereas most electric utilities in the southeastern part of the United States have their peak demands

occurring in the summer months. This difference in seasonal peaks allows TVA and other electrical systems in the southeast to engage in an exchange of seasonal power (APP. X WRB-A, pp. 12-14). In 1974, Applicant and TVA engaged in an exchange of seasonal power due to the difference in times when each electric utility experienced its peak demands (APP. X 97, p. 424(c)).

E. Mississippi Power and Light Company

MP&L is an operating subsidiary of Middle South Utilities, Inc., a registered holding company under the Public Utility Holding Company Act. MP&L serves the western part of the State of Mississippi. MP&L is not directly interconnected with Applicant. However, MP&L is directly interconnected with Mississippi Power, one of Applicant's affiliates in Southern Company (DJ 1,008). Since 1953, Middle South Utilities, Inc., and the Southern Company have maintained a contractual relationship under which power exchange transactions such as emergency, economy, diversity, peaking capacity, and firm power mutually take place between their respective operating companies (DJ 3,002). MP&L engages in power exchange transactions with Applicant through this physical interconnection with Mississippi Power (DJ 3,002).

F. Duke Power Company

Duke Power is a vertically and horizontally integrated electric utility serving the central portion of North Carolina and the western portion of South Carolina. Applicant does not have a direct interconnection with Duke Power, but Georgia Power, Applicant's Southern Company affiliate, does. This interconnection permits Applicant to engage in power exchanges with Duke Power through the agency of Southern Service, Inc., an affiliated company of the Southern Company, which contracts on behalf of the Southern Company with Duke Power, as well as other utilities, for a variety of power exchanges (DJ 3,003). The power exchange arrangements between the Southern Companies and Duke Power include emergency, economy, energy, short-term, diversity, peaking capacity, seasonal capacity and purchases and sales of firm power (DJ 3,003).

G. South Carolina Electric and Gas Company

SCEGC is a vertically and horizontally integrated electric utility serving central, southern and southwestern South Carolina. SCEGC is not interconnected with Applicant, but is interconnected with Georgia Power. SCEGC has an interchange agreement with Southern Company for exchange of surplus energy, emergency service, and surplus spinning capacity, and engages in various power transactions with Applicant under this agreement (DJ 3,004).

H. Florida Power Corporation

Florida Power serves the central and western area of the Florida peninsula and eastern portions of the Florida panhandle. Florida Power is interconnected with Gulf Power and Georgia Power. Florida Power and the Southern Company have a contractual agreement for the exchange of emergency service, economy energy, seasonal capacity and short-term power exchanges, and sales and purchase of firm power (DJ 3,008). In the last few years, there has not been any exchange of seasonal capacity between Florida Power and Southern Company under this agreement, because Florida Power's load growth has required all of its generating capacity (APP. X WRB-A, pp. 12-14). Applicant has received and delivered power to Florida Power pursuant to the Southern Company agreement with Florida Power (DJ 3,008).

I. The Southeastern Power Administration (SEPA)

SEPA was established in 1950 as an agency of the United States Department of the Interior to carry out the functions assigned to the Secretary of the Interior by Section 5 of the Flood Control Act of 1944, 16 U.S.C. Section 825s (DJ 401). Section 5 of the Flood Control Act provides that surplus electric power and energy generated at Federal hydroelectric power projects under the control of the United States Army Corps of Engineers must be delivered to the Secretary of the Interior who is charged with the responsibility of transmitting and disposing of such power and energy. Section 5 of the Act further directs the Secretary to give a preference in the sale of such power and energy to public bodies and cooperatives (DJ 3,012, pp. 1-2; Tr. 14,688-14,692; Tr. 14,694-14,696).

SEPA, however, is not a public utility. SEPA's function is limited to marketing surplus power made available to it by the Corps of Engineers from Federal hydroelectric projects. SEPA has no transmission system and is therefore dependent upon operating electric utilities for delivery of power which the Secretary of the Interior disposes of pursuant to Section 5 of the Flood Control Act (Tr. 15,175-15,189; Tr. 15,199-15,203; Tr. 15,219; DJ 1,008).

SEPA markets power and energy from 20 hydroelectric projects in ten southeastern states (Tr. 14,689). SEPA will have additional power to market in the future from new Federal hydroelectric projects as they are constructed (St. John, Direct, p. 8).

In June 1970, SEPA and Applicant entered into a contractual agreement which provides for the scheduling by Applicant and Georgia Power for use in their electric systems: (1) the SEPA capacity and energy allocated to preference customers (except for AEC) in Georgia and Alabama; (2) the outright purchase of 395 megawatts of capacity and associated energy; (3) the firming of the

remaining output of Federal hydroelectric projects; and (4) the delivery of the firm power from SEPA to preference customers connected to Applicant's transmission system (AEC X CRL-79; DJ 3,012; APP. X JHM-A, pp. 42-43; Tr. 21,679). Under this contractual agreement, Applicant receives a large amount of low cost energy for use in its electric system (APP. X 97, DJ 1,001).

J. The Southern Company Pool

Since the mid-1920's, Applicant, Georgia Power, Mississippi Power and Gulf Power, have engaged in common planning, development and operation of their electric utility systems (APP. X JHM-A, p. 93; APP. X JMF-83). Since 1930 a central dispatching center located in Birmingham, Alabama, has coordinated the use of the generating capacity and exchanges of power among Applicant, Georgia, Mississippi, and Gulf Power Company pursuant to contractual agreements (APP. X JHM-A, p. 94).

On October 16, 1950, Applicant, Georgia Power, Gulf Power, Mississippi Power, and Southern Services entered into an interchange contract under which each of the operating companies utilizes the services of Southern Services to assist them in the design, construction and coordination of the operation of their respective electric systems. The contract is known as the Southern Company Power Pool Intercompany Interchange Contract (Interchange Contract), and enables the operating companies to achieve substantial economies and benefits in the utilization of their electric systems. The operation of the interchange among the companies is referred to as the Southern Company Pool. The 1950 Interchange Contract specifies prices for various transactions between the operating companies, including the interchange of power, the pooling of reserves, the provision of transmission services, coordination of scheduled maintenance, seasonal exchanges of power with other electric systems in the southeastern part of the United States, coordination of spinning reserves, and computerized central dispatch of generating resources to make optimum use of generating facilities (APP. X JHM-A, pp. 97-98; Mayben, Direct, pp. 54-55).

The transmission facilities of each of the members of the Southern Company Pool are connected to each of their respective generating facilities, and are interconnected with the transmission facilities of each other by means of high voltage transmission lines so that power generated or received from any member of the pool at any point on the Southern System may be utilized at any other point in the Southern System. The operation of the pool is highly sophisticated (APP. X BMG-1; APP. X BMG-2).

The Interchange Contract is amended on an annual basis, and is filed with the Federal Power Commission. The transactions which take place among members of the Southern Company Pool cannot take place except by means of a contractual agreement filed with the Federal Power Commission. Such transac-

tions are permissible ones among operating subsidiaries of a public utility holding company under the Holding Company Act (15 U.S.C. 79; 16 U.S.C. 8241d; APP. X JMF-A, pp. 491-495; APP. X JMF-73; Tr. 21,298-21,299).

The coordination achieved through operation of the Southern Company Pool enables each of the members to receive substantial cost savings in operating expenses and fixed charges, as well as other benefits such as increased reliability (APP. X JHM-A, p. 99; APP. X JMF-A, pp. 512-514).

V. POWER SUPPLY PRODUCTION AND COORDINATION OF ELECTRIC SYSTEMS

The efficient generation of bulk power and the coordination⁸ of its development and integration among electric systems are fundamental to the satisfactory performance and operation of an electric utility.

The methods which electric utilities use to produce their bulk power supply and to coordinate their electric systems are key to an understanding of the activities under the licenses for the Farley Units and the issues in this proceeding. Indeed, the Department and the other parties to this proceeding contend

⁸Coordination is an established concept in the electric utility business. Coordinator refers to cooperative action by two or more electric utilities to achieve the economies of overall power supply and electric network integration. Coordination takes place in two categories. First, coordination takes place in the development of electric utility systems. In this regard, it is referred to as coordinated development. Secondly, coordination takes place in operation of electric systems. In this regard, it is referred to as coordinated operations (Mayben, Direct, pp. 8-8, 61-62; Tr. 5,578-5,586).

Coordinated development includes the following: (1) coordinated development of generation by means of staggered construction of units; (2) coordinated development of generation by means of joint ventures; (3) coordinated development of generation by means of jointly owned, separate operating companies; (4) coordinated development of transmission by way of contracts for wheeling services; and (5) coordinated development of transmission by way of joint ownership arrangements (Mayben, Direct pp. 61-62; Tr. 5,580-5,586).

Coordinated operations include the following: (1) reserve sharing; (2) automatic pool assistance under a plan of tie-line biased control; (3) arrangements for handling inadvertent flows; (4) emergency service and maintenance power service under a plan of reserve sharing; (5) economy energy service; (6) seasonal power under a plan of diversity exchange; and (7) hydrothermal coordination (Mayben, Direct, pp. 61-62; Tr. 5,576-5,580).

Coordination among electric utilities is conducted to enhance reliability and to obtain financial (economic) benefits (APP. X JHM-A, (Miller) pp. 97-100; Tr. 1,780-1,783; APP. X WRB-A, (Brownlee) pp. 7-8; FPC *National Power Survey*, Part I, Chapter 17, "Coordination for Reliability and Economy," December 1971).

Applicant denies that the term "coordination" and its variations are terms of art in the electric utility industry (APP. PPF., Part II, pp. 185-186). We reject Applicant's position on this matter as contrary to the testimony of its own witnesses, as well as the weight of evidence adduced in this proceeding.

that Applicant's ability to produce an economical bulk power supply, while preventing AEC and other electric utilities in central and southern Alabama from doing the same, demonstrates Applicant's monopolization of the wholesale and retail sales of electricity in that area.

The principles of electric power supply production and coordination are generally applicable throughout the electric utility industry (Mayben, Direct, pp. 3-9). These principles do not vary significantly among electric utilities regardless of differences in locations, although they may change to a certain extent depending on corporate policy and financial requirements (Mayben, Direct, pp. 8-9; Tr. 5,576-5,586; FPC *National Power Survey*, Part I, Chapter 17 "Coordination for Reliability and Economy," December 1971).

The methods of producing bulk power and coordination are essential to an electric utility's ability to sell firm power. In the electric utility industry, firm power is defined as a power supply considered to be continuously available to serve a particular load or demand of a particular size at a particular location. Users of electric power desire and expect such power to be continuously available (Mayben, Direct, p. 9). Electric utilities produce electric power by means of generation, which involves the conversion of energy in some other form into electricity. Generation may consist of hydroelectric facilities, fossil-fueled facilities, and nuclear facilities. Applicant generates electric power by ownership and operation of all of these types of facilities (JHM-A, p. 12).

Generating units are subject to mechanical failures which necessitate their removal from service. Mechanical failure of generators is referred to in the electric utility industry as "forced outage." Generating units are also subject to scheduled maintenance which requires their removal from service. Because of such outages, generating units are not continuously available to generate electric power. Consequently, electric utilities must maintain generating facilities in excess of the amount required for them to provide firm power to meet the needs of their customers. The maintenance of generating facilities by electric utilities in excess of the amount required to meet the needs of their customers is known as "reserves" (Mayben, Direct, pp. 9-10, 14).

Electric utilities have developed standards for the maintenance of reserves. These standards vary among utilities. For small electric systems operating in isolation, the "single largest unit down" standard is commonly applied. This standard requires the small electric system to set aside as reserves an amount of generating capacity equal to the capacity of its largest generating unit. Following this criterion, the small utility can meet its load even in the event its largest unit suffers a "forced outage," or is otherwise removed from service. For example, a small electric system with a load of 10 megawatts could serve this load with two 10 megawatt generating units, one to serve the load, and one to be held in reserve for use in the event of a forced outage of the first unit (Mayben, Direct, pp. 9-10, 14, 18-20).

When a small electric system installs larger generating units, and follows the single largest unit down standard of reserves, the electric system must increase the amount of reserves required. Correspondingly, the electric system's cost of producing its electric power supply increases because it experiences additional fixed charges on the reserve equipment which is not used except during periods of forced outage or scheduled maintenance.

The amount of reserves can be reduced by using several smaller generating units to generate power, but a small electric system which installs only small generating units loses the benefit of economies of scale which are achieved from the installation of larger generating units (Mayben, Direct, pp. 9-10, 14-15, 17-19). For example, a small electric utility system could install eleven 1 megawatt generating units in lieu of two 10 megawatt generating units to serve its load of 10 megawatts. In this instance, the electric system could lose its largest generating unit (1 mw) through forced outage, and still supply its 10 megawatt load (with its remaining installed ten 1 mw units). The electric system, however, would lose the benefits of the economies of scale which would result from the installation of a larger generating unit (Mayben, Direct, pp. 14-15).

The interconnection of two electric utilities by means of high voltage transmission lines allows the use of larger generating units while keeping reserves to a more economical level. Interconnection permits electric systems to avoid using the "single largest unit down" standard. By interconnection, two or more electric utilities can join their electric systems and share their reserve capacity. As a result, each utility can make greater use of the generating units which it has installed and which would have to be held in reserve if each system was operating in isolation. In turn, this permits each electric utility to serve more load with less total capacity than each would have been able to serve operating in isolation. Reserve sharing is a form of coordination (Mayben, Direct, pp. 18-20, 61-62).

A reserve sharing arrangement between two or more electric utilities generally consists of an agreement to maintain minimum amounts of reserve capacity necessary to maintain adequate reliability on their combined electric systems, with an allocation of the reserves among the utilities in the sharing arrangement (Mayben, Direct, pp. 19-28; Tr. 1,780). A reserve sharing arrangement can be best understood by reference to an example. Assume a small electric utility, which has a 10 megawatt load and serves that load with two 10 megawatt units, had an opportunity to interconnect with another small electric system which also had a 10 megawatt load and served that load with 10 megawatt units. These two electric utilities, while operating in isolation, have a total installed capacity of 40 megawatts, and if they followed the single largest unit down standard, would have only 20 megawatts of firm capacity. If the two utilities interconnect their electric systems and agree to share their reserves (10 megawatts), the 40 megawatts of installed capacity could be used to serve firm load requirements of

30 megawatts. Through interconnection, the two electric systems have gained 10 megawatts of firm capacity without additional investment in generating units. Thus the two electric systems, by utilizing installed capacity which would have to be held in reserve if they were operating in isolation, are able to serve more load than they would have been able to serve on an isolated basis. In this way, each utility has gained the benefits of more economical operation (Mayben, Direct, pp. 19-20). Moreover, if each utility shared reserves on an equalized basis, each would only be required to maintain five megawatts of generation in reserve, and would be able to utilize 15 megawatts of their generating capacity to sell firm power (Mayben, Direct, pp. 19-20).

There are alternative ways of sharing reserves by utilities which permit them to maintain adequate reliability of their electric systems and at the same time achieve economic benefits in the form of savings in capital investment. These ways include merging or consolidating two or more electric utilities into a single integrated system, or operating electric systems as subsidiary corporations of a public utility holding company (Mayben, Direct, pp. 19-20, 22, 28-29).

There are also a number of ways to express the reserve obligation of electric systems which interconnect and share reserves. These ways include the expression of reserves in the form of a megawatt obligation (where each utility agrees to maintain a certain amount of megawatt capacity in reserve); as a percentage of load (e.g., the reserve is equal to 20% of the utility's total demand); and as a percentage of the largest unit of each electrical system participating in a sharing arrangement (Mayben, Direct, pp. 21-24).

There are also various other coordinating arrangements which are commonly employed among two or more utilities in the electric utility industry to achieve economies in power supply and electric network integration. These arrangements include maintenance power, which is energy supplied by one utility to another to replace energy which is unavailable to the receiving electric system due to outage of a generating unit for scheduled maintenance; emergency power, which is energy supplied by one utility to another on an if-and-when available basis to replace energy which is not available to the receiving electric system due to a forced outage; economy energy, which is energy supplied by one utility to another generally on a "split the savings" basis; diversity seasonal power exchanges; surplus power sales and purchases; and hydrodump energy (Mayben, Direct, pp. 38-40, 60-62).

Economies in overall power supply and electric network integration are also achieved through coordination by two or more electric utilities in the construction and operation of transmission lines for power exchanges between them; through wheeling over an intervening electric system's transmission line, which involves the transfer of electric power over a transmission line either by direct transmission or displacement; through joint construction or joint ventures in ownership of generating units; through staggered construction of generating

units, which involves the installation of a generating unit larger than the installing utility needs, but which permits the installing utility to sell power generated from the excess capacity to a second utility for a period of time; and through similar forms of joint planning of electric power supply (Mayben, Direct, pp. 34-37, 57-58).

The Department and the other parties to this proceeding focus upon the various types of transactions and arrangements which take place in coordination and in the production of bulk power among electric utilities, and urge that such transactions and arrangements constitute a market which they call the power exchange market. The Department and the other parties contend that Applicant engages in these various types of arrangements and transactions as a part of its production of bulk power while, at the same time, denying AEC and other electric systems in central and southern Alabama access to the same. As a result, the Department and the other parties assert that Applicant monopolizes the wholesale and retail sales of electric power in central and southern Alabama. The Department and the other parties state that Applicant's unconditioned use of the Farley Nuclear Units will aggravate this situation, and extend Applicant's monopoly.

VI. LEGAL STANDARDS

A. Antitrust Review Under Section 105c

This case involves the 1970 amendments in Section 105c of the Atomic Energy Act,⁹ which require that the Commission shall make a finding as to "whether the activities under the license would create or maintain a situation inconsistent with the antitrust laws as specified in subsection 105a." The specified antitrust laws referred to are the Sherman Act,¹⁰ Wilson Tariff Act,¹¹ Clayton Act,¹² and Federal Trade Commission Act.¹³ The Board's task is to construe this statute to ascertain the Congressional intent and to apply it to the facts as determined from a voluminous record of over 26,900 pages.

The "situation inconsistent with" terminology first was used in the 1954 Act, and it has never been judicially interpreted in any reported case. Its statutory antecedents appear in prior legislation dealing with the disposal of surplus

⁹ 42 U.S.C. 2135c.

¹⁰ 15 U.S.C. 1-7.

¹¹ 15 U.S.C. 8-11.

¹² 15 U.S.C. 12-27, 44; 18 U.S.C. 402; 29 U.S.C. 52-53.

¹³ 15 U.S.C. 41-49.

Federal property.¹⁴ Some consideration of the legislative history of the 1970 antitrust review amendments may assist in their interpretation.

From the outset, Congress has been sensitive to the effect of nuclear energy upon the economic, social and political structure of the nation. The declaration of policy in the Atomic Energy Act of 1946 (McMahon Act) stated that the utilization of atomic energy should be "directed toward. . .strengthening free competition in private enterprise. . . ."¹⁵ The Commission was directed by Section 7(c) to condition or deny licenses where activities under a license "might serve to maintain or to foster the growth of monopoly, restraint of trade, unlawful competition, or other trade position inimical to the entry of new, freely competitive enterprises in the field."

By 1954, the state of the art had reached a point where competitively priced nuclear generated electric power was on the horizon, and it was therefore decided to increase the role of private industry in this new field.¹⁶ The prior statute was substantially rewritten by the Atomic Energy Act of 1954. The language of Section 7 (c) was eliminated, and the declaration of policy stated that the use of atomic energy should be directed so as to ". . .increase the standard of living, and strengthen free competition in private enterprise." The new Section 105(c) provided that when the Commission proposed to issue a commercial license it should notify the Attorney General, who was to advise "whether, insofar as he can determine, the proposed license would tend to create or maintain a situation inconsistent with the antitrust laws." There was no express provision for an antitrust hearing prior to the Commission's acting on a proposed license, nor any requirement that it follow the advice of the Attorney General.

The 1970 amendments with which we are presently concerned deleted the "tend to" create or maintain language of prior Section 105(c), and established the current preclicensing antitrust review. The Commission is directed to determine whether the activities under the license would create or maintain a situation inconsistent with the specified antitrust laws.

One of the major questions explored by the Joint Committee on Atomic Energy during its hearings on the proposed 1970 amendments concerned the issue of access by smaller utilities to ownership of, or to power generated from large nuclear power plants.¹⁷ Generally, those speaking on behalf of large, inves-

¹⁴In 1948, Section 108 of H.R. 6276 used this "situation inconsistent with" language in drafting a proposed Federal Property Act. It was carried over verbatim the following year in Section 207 of the Federal Property and Administrative Services Act of 1949 (40 U.S.C. 488), and it was deemed by the House Committee on Government Operations to broaden the prior statutory determination of whether a proposed disposal of government property "would violate" the antitrust laws.

¹⁵Atomic Energy Act of 1946, P.L. 79-585, 60 Stat. 755, Section 1(a).

¹⁶S. Rep. No. 1699, reprinted in U.S. Code Cong. Serv. 3457-8 (1954).

¹⁷Preclicensing Antitrust Review Hearings, 91st Cong., 1st Sess., pt. 2, p. 320 *et seq.* (1970), hereafter "Hearings."

tor-owned utilities opposed any antitrust review, or at least that which would consider or affect the access to nuclear power plants or the pooling arrangements between electric generating companies.¹⁸ If there were to be a review, it was urged that it be limited to actual or prospective violations of the antitrust laws.¹⁹ Some sought to eliminate from the review matters which were the subject of regulation by a state or Federal agency.²⁰ Others considered the Commission to be an inappropriate forum in which to resolve issues relating to monopolization, exclusive dealing arrangements and possible antitrust implications regarding interconnection and power pooling agreements.²¹

The Department of Justice and others urged that access to a nuclear facility might well be required for the continued operation of a given company or section of the industry, and that exclusion probably would create a decisive competitive advantage and should not be permitted.²² It was urged that the general policy is to allow monopoly only to the extent necessary, and to preserve competition where feasible. Cases were cited to show that a lawful monopolist controlling a unique resource must grant access on equal and non-discriminatory terms, and that a monopolist may not use its position to extend its monopoly to related areas of business.²³ The Department further expressed the view that fair access could be afforded by ownership shares, or by contract,²⁴ and that it would not always be satisfactory for the sale of wholesale power to be made at the average cost of the selling utility.²⁵ Mr. Roland W. Donnem further observed with reference to fair access to nuclear power that "it may well be necessary in some circumstances to make explicit allowance for the competitive advantage conferred on municipally owned companies by virtue of their tax-exempt status. Failure to make such allowance might confer an unfair competitive advantage on municipally owned companies who are permitted to participate. . . ."²⁶ The "price squeeze" problem was also considered in regard to the price at which nuclear generated wholesale power should be made available to smaller electric companies.²⁷ It was further stated that "We do not regard such a licensing proceeding as an appropriate forum for wide ranging

¹⁸ Hearings, pt. 2, pp. 323-330, 527-537, 566, 569, 610-623.

¹⁹ Pt. 2, pp. 323-324 (Carl Horn, Jr., of Duke Power Co., on behalf of Edison Electric Institute); pp. 397-398 (Sherman R. Knapp of Northeast Utilities).

²⁰ Pt. 2, p. 647 (Joseph M. Farley of Alabama Power Co.).

²¹ Pt. 2, pp. 528-529 (Donald G. Allen of New England Electric System).

²² Hearings, pt. 1, pp. 9-11, 118, 128-131, 145-147.

²³ Hearings, pt. 1, pp. 9-10 (Roland W. Donnem of the Antitrust Division, Department of Justice).

²⁴ *Id.*, p. 10.

²⁵ *Id.*, pp. 128-130.

²⁶ *Id.*, p. 10.

²⁷ *Id.*, pp. 10, 147

scrutiny of general industry affairs essentially unconnected with the plant under review.”²⁸ On a number of occasions during the hearings on amending Section 105c, access to transmission was also discussed in terms of the asserted need of smaller utilities to have low cost power wheeled to them across the lines of larger companies. *Kansas Gas and Electric Co. et al.* (Wolf Creek Generating Station, Unit 1), ALAB-279, 1 NRC 559, 571 (1975).

In considering the access issue, the former AEC held in *Waterford I* that intervention petitions by certain cities who sought access to the nuclear facility and who had alleged that the proposed license conditions would not grant such access, satisfied the requirements for intervention and admission as parties.²⁹ And in *Waterford II*, the AEC discussed the statutory policy of widespread access to nuclear facilities in these terms:

As stated in our original Memorandum and Order, the requirement in Section 105 for preclicensing antitrust review reflects a basic Congressional concern over access to power produced by nuclear facilities. The Commission's antitrust responsibilities represent *inter alia* a Congressional recognition that the nuclear industry originated as a Government monopoly and is in great measure the product of public funds. It was the intent of Congress that the original public control should not be permitted to develop into a private monopoly via the AEC [now NRC] licensing process, and that access to nuclear facilities be as widespread as possible. The Commission is determined strictly to enforce this Congressional intent, and to work with other responsible agencies, such as the Department of Justice and the Federal Power Commission, to assure that AEC-licensed activities accord with the antitrust laws and the policies underlying those laws.³⁰

The Appeal Board has also recognized the responsibility of NRC concerning the access question. In *Wolf Creek*, where the issue arose on the pleadings, it stated:

By virtue of Section 105c of the Atomic Energy Act, the Commission may be called upon to determine whether its licensing the construction or the operation of any commercial nuclear power facility “would create or maintain a situation inconsistent with the antitrust laws.” A license need not be withheld where it is determined that such a situation would be created or maintained, but the Commission may place conditions on the license designed to correct the anticompetitive situation. 42 U.S.C. §2135(c). In its

²⁸ Pt. 2, p. 366 (Walker B. Comegys of the Antitrust Division, Department of Justice); Pt. 1, p. 97 (Joseph F. Hennessey, AEC General Counsel).

²⁹ *Louisiana Power & Light Co.* (Waterford Steam Generating Station, Unit 3), 6 AEC 48 (1973) (Waterford I).

³⁰ *Louisiana Power & Light Co.* (Waterford Steam Generating Station, Unit 3), 6 AEC 619, 620 (1973).

Waterford decisions, the Commission explained the reasons underlying its involvement in antitrust matters. "The requirement in Section 105 of the Atomic Energy Act for preclicensing antitrust review reflects a basic Congressional concern over access to power produced by nuclear facilities." [*Waterford I* citation omitted.] The antitrust responsibilities placed on the Commission are "a Congressional recognition that the nuclear industry originated as a Government monopoly and is in great measure the product of public funds. It was the intent of Congress that the original public control should not be permitted to develop into a private monopoly via the AEC licensing process, and that access to nuclear facilities be as widespread as possible." [Citation omitted.]³¹

Another Licensing Board has held that under the circumstances of particular cases involving monopolization and restraints of trade, a denial of access to nuclear generation on reasonable terms and conditions itself constituted anti-competitive conduct cognizable in a Section 105c antitrust review.³²

The Appeal Board also considered other aspects of the statutory duty of the Commission to make antitrust findings in its *Wolf Creek* decision.³³ In that case, a cooperative was offered an ownership interest in a nuclear facility, but it alleged that the Applicant refused to wheel or transmit supplemental power without unreasonable conditions. The Applicant was the dominant utility which controlled the essential transmission facilities in the area, and allegedly the practical effect of its refusal to wheel would prevent the cooperative from gaining meaningful access to the nuclear plant, and hence from competing.³⁴ There were two major issues on appeal, first whether an "anticompetitive situation" was alleged, *i.e.*, facts demonstrating that granting a license would either create or maintain a situation inconsistent with the antitrust laws; and second, whether there was a nexus between that conduct and the activities to be licensed.

In construing the phrase "activities under the license," the Appeal Board refused to consider the nuclear plant in isolation so as to foreclose inquiry into whether the Applicant had engaged in anticompetitive conduct which was not traceable immediately and directly to operations of the licensed facility itself. The Appeal Board stated that "to the extent that the Applicant's argument suggests that the Commission's cognizance under Section 105c is limited to

³¹ *Kansas Gas and Electric Co. and Kansas City Power and Light Co.* (Wolf Creek Generating Station, Unit 1), ALAB-279, 1 NRC 559, 564 (1975).

³² *The Toledo Edison Company, et al.* (Davis-Besse Nuclear Power Station, Units 1, 2 and 3), *The Cleveland Electric Illuminating Company, et al.* (Perry Nuclear Power Plant, Units 1 and 2), LBP-77-1, 5 NRC 133, 144, 175-176, 186-187, 223, 232 (January 6, 1977).

³³ *Kansas Gas and Electric Co., et al.*, *supra*.

³⁴ The Applicant had not refused all wheeling; it was the limitations on its obligation to wheel supplemental power which were at issue.

anticompetitive consequences directly attributable to Applicant's use of the nuclear plant and its output, it makes no sense. As the Staff points out, for activities under a license to 'maintain' a preexisting situation inconsistent with the antitrust laws, some conduct of the Applicant apart from its license activities must have been the 'cause' for bringing about those anticompetitive conditions."³⁵

It was observed that the phrase "activities under the license" is defined neither in Section 105 nor elsewhere in the Atomic Energy Act. The only direct discussion in the Joint Committee Report appears at page 31, following a discussion of the antitrust "standard" of judging anticompetitive conduct as being based on "reasonable probability" in contradistinction to absolute "certainty" on one hand or "mere possibility" on the other. The Appeal Board continued,

In our judgment, two conclusions may properly be drawn from the statutory phrase as illuminated by the Committee's discussion. First, the Joint Committee expected the Commission to concentrate its antitrust scrutiny on the activities of license applicants before it and not to concern itself with anticompetitive conduct in other branches of the electric power industry (e.g., vendors, manufacturers, etc.) except where the applicant was implicated in that conduct. Second, as the Commission's antitrust responsibilities are linked to license applications, the Commission's antitrust mandate extends only to anticompetitive situations intertwined with or exacerbated by the award of a license to construct or operate a nuclear facility.³⁶

The Appeal Board further considered the implications of review of situations allegedly inconsistent with the antitrust laws, as follows:

Accordingly, we conclude that the legislative history of Section 105c does not support the applicant's argument that the Commission must consider the operations of each nuclear plant in isolation when making its precensuring antitrust review. On the contrary, the Commission's statutory obligation is to weigh the anticompetitive *situation* – which to us means that operations in an "air tight chamber" were not intended. A review conducted under the artificial restraints suggested by the applicant would allow long understood and well recognized patterns of anticompetitive conduct to evade Commission notice. It is far too late in the day to dispute that it runs counter to basic antitrust precepts to exercise monopoly power – however lawfully acquired initially – to foreclose competition or to gain competitive advantage, or to use dominance over a facility controlling market access to exclude competition and preserve a monopoly position. Electric utility companies are no more free than others to engage in those practices; their

³⁵ Wolf Creek, *supra*, p. 568.

³⁶ *Id.*, p. 569.

unjustified refusals to wheel power to or to interconnect with smaller entities in the field have regularly been called to account as violative of antitrust policies. It was a key purpose of the preclearance review to “. . . nip in the bud any incipient antitrust situation.” [Citations omitted.]³⁷

With reference to the nexus contention, the Appeal Board observed that the Commission has required a petitioner to plead a meaningful nexus between the activities under a nuclear license and the situation alleged to be inconsistent with the antitrust laws. This is necessary because if the activities relating to a facility have no substantial connection with alleged anticompetitive practices, there is no need for a hearing.³⁸ The Appeal Board did not find any absence of nexus in that case, and held that the petition was reasonably clear about how the “situation” complained of related to the licensing of the nuclear facility.³⁹ It was further stated:

The Commission has never considered itself limited under Section 105c to evaluating the anticompetitive aspects of any nuclear facility *in vacuo*. On the contrary, the Commission has reiterated that far more is required of it by that provision. In *Waterford I, supra*, although commenting that investigation of every aspect of an applicant’s electric generation, transmission and distribution activities would not always be required, the Commission explicitly stated that “activities under the license, in most instances, would *not* be limited to construction and operation of the facility to be licensed.” 6 AEC at 49 (emphasis added). Again, in *Waterford II, supra*, the Commission stated that, though the precise scope of antitrust review may vary from case to case in other respects, nevertheless “[t]he relationship of the specific nuclear facility to the applicant’s total system or power pool should be evaluated in every case.” 6 AEC at 621.⁴⁰

The courts have also discussed the issue of a required nexus or connection between activities licensed by various regulatory agencies and anticompetitive conduct by the licensee. For example, *Gulf States Utilities Co. v. FPC*⁴¹ involved the question whether the FPC, in passing upon the application of a public utility for authority to issue bonds, must consider the issue’s anticompetitive effect in determining whether it is “compatible with the public interest.” Several

³⁷*Id.*, p. 572. See also *Toledo Edison Co., et al.* (Davis-Besse Nuclear Power Station, Units 1, 2 and 3), *Cleveland Electric Illuminating Company, et al.* (Perry Nuclear Power Plant, Units 1 and 2), ALAB-385, 5 NRC 621, 631-634 (March 23, 1977).

³⁸*Id.*, p. 566.

³⁹*Id.*, p. 575.

⁴⁰*Id.*, p. 573.

⁴¹411 U.S. 747 (1973).

municipals and cooperatives opposed the issue on the grounds that the utility had engaged in activities violative of the antitrust laws and that these activities in effect would be financed or refinanced by the bonds. The FPC held that such alleged violations were irrelevant to an application that only sought to issue long-term bonds to refund existing short-term notes. The Supreme Court held that under the "public interest" standard of the statute, there was a requirement "that the Commission consider matters relating to both the broad purposes of the Act and the fundamental national economic policy expressed in the antitrust laws. . . . Consideration of antitrust and anticompetitive issues by the Commission, moreover, serves the important function of establishing a first line of defense against those competitive practices that might later be the subject of antitrust proceedings."⁴² The Court felt that the summary decision of the FPC on the nexus issue provided an inadequate explanation of its reasons for disposing of the antitrust objections on their merits, if that was what had occurred, and accordingly remanded the case.⁴³

The *Gulf States* decision, *supra*, was based in part on the Supreme Court's prior holding in *Denver & R. G. W. R. Co. v. United States*⁴⁴ that the Interstate Commerce Commission was required under the "public interest" provisions of its statute to consider the anticompetitive consequences of its approval of a sale to Greyhound Corporation by the Railway Express Agency of 20% of the latter's stock. Competitors such as freight forwarders and other bus companies successfully urged that such a 20% stock acquisition would likely result in cooperation between the two companies, which consequently would seriously harm both competition and the public interest.

In a case involving SEC approval of stock acquisitions by electric utility companies in two nuclear powered electric generating companies, it was held that there was a sufficient nexus between allegations of the monopolizing of electric generation in New England through the systematic exclusion from nuc-

⁴²*Id.*, p. 759. The anticompetitive conduct allegedly consisted of repetitive litigation and a lobbying and public relations drive against a cooperative which delayed an REA loan for five years, by which time the loan was sufficient only for some generation construction, but not for transmission lines.

⁴³In his dissenting opinion, Justice Powell argued that the FPC had already properly found that the claims lacked a "reasonable nexus" with the purpose of the securities issuance and should be sustained. In his view, the majority apparently considered that the claim of anticompetitive conduct was at least colorably relevant to the proposed refinancing. 411 U.S. at 767, 776.

⁴⁴387 U.S. 485 (1967). See also *Toledo Edison Co., et al.* (Davis-Besse Nuclear Power Station, Units 1, 2 and 3), *Cleveland Electric Illuminating Co., et al.* (Perry Nuclear Power Plant, Units 1 and 2), ALAB-385, 5NRC 621, 631-634 (March 23, 1977).

lear power of small electric distributors, and the public interest requirements of the Public Utility Holding Company Act of 1935.⁴⁵

B. Federal Trade Commission Act, Section 5

As the Joint Committee stated in establishing the scope of the Commission's preclearing review, it did not deem it advisable to go beyond the boundaries of the specified antitrust laws and the policies clearly underlying those laws. The broadest of the relevant statutes it specified in Section 105a is the Federal Trade Commission Act, which, as it observed, embodies provisions that "normally are not identified as antitrust law."⁴⁶ Section 5 of that Act states that "Unfair methods of competition in commerce. . .are hereby declared unlawful."⁴⁷

The Supreme Court has described the scope of Section 5 as follows:

The "unfair methods of competition" which are condemned by §5(a) of the Act, are not confined to those that were illegal at common law or that were condemned by the Sherman Act. . . . Congress advisedly left the concept flexible to be defined with particularity by the myriad of cases from the field of business. . . . It is clear that the Federal Trade Commission Act was designed to supplement and bolster the Sherman Act and the Clayton Act. . .to stop in their incipiency acts and practices which, when full-blown, would violate those Acts, as well as to condemn as "unfair methods of competition" existing violations of them. [Citations omitted.]⁴⁸

Accordingly, exclusive contracts for the display of advertising films produced by four companies which involved three-fourths of the theaters using such films were held to have a tendency to restrain competition and to develop a monopoly. Section 5 was applicable even though there was no concerted activity, and only the unilateral action of each company was challenged. Interestingly, the FTC remedy, which was sustained, limited such exclusive contracts to one year; the Court refused to say that they "should have been banned in their entirety or not at all."⁴⁹

The broad sweep of the Federal Trade Commission Act in relation to the Sherman and Clayton Acts is well exemplified by the Supreme Court's opinion in the *Sperry and Hutchinson* decision.⁵⁰ The S & H green stamp company

⁴⁵ *Municipal Electric Association of Mass. v. S.E.C.*, 413 F.2d 1052 (CA DC, 1969). See also *Municipal Electric Association of Mass. v. F.P.C.*, 414 F.2d 1206 (CA DC, 1969).

⁴⁶ H.R. Rep. No. 91-1470, reprinted in U.S. Code Cong. Serv. 4995 (1970).

⁴⁷ 15 U.S.C. Section 45(a) (1).

⁴⁸ *F.T.C. v. Motion Picture Advertising Service Co., Inc.*, 344 U.S. 392, 394 (1953).

⁴⁹ *Id.*, p. 396.

⁵⁰ *F.T.C. v. Sperry and Hutchinson Co.*, 405 U.S. 233 (1972).

which had about 50% of the trading stamp business was held by the FTC to have violated Section 5 by attempting to suppress the operation of trading stamp exchanges and other free and open redemption of stamps. S & H appealed that portion of a cease-and-desist order dealing with its practice of successfully prosecuting or threatening to sue stamp exchanges which redeemed various trading stamps. S & H contended the FTC could restrain only such practices as are either in violation of the antitrust laws, deceptive, or repugnant to public morals. The Fifth Circuit Court of Appeals agreed, holding that to be the type of practice that could be declared "unfair," the conduct must be (1) a *per se* violation of antitrust policy, (2) a violation of the letter of either the Sherman, Clayton, or Robinson-Patman Acts, or (3) a violation of the spirit of those acts as recognized by the Supreme Court. The Supreme Court found this to be an erroneous construction of the reach of Section 5. It held that Congress had explicitly considered, and rejected, the notion that the ambiguity of the phrase "unfair methods of competition" be reduced by tying the concept of unfairness to a common law or statutory standard or by enumerating the particular practices to which it was intended to apply.⁵¹ The Court observed that "Since the sweep and flexibility of this approach were thus made crystal clear, there have twice been judicial attempts to fence in the grounds upon which the FTC might rest a finding of unfairness⁵² . . . neither of these limiting interpretations survives to buttress the Court of Appeal's view of the instant case. . . . But frequent opportunity for reconsideration has consistently and emphatically led this Court to the view that the perspective of Gratz is too confined. As we recently unanimously observed: 'Later cases of this Court . . . have rejected the Gratz view and it is now recognized in line with the dissent of Mr. Justice Brandeis in Gratz that the Commission has broad powers to declare trade practices unfair.' *FTC v. Brown Shoe Co.*, 384 U.S. 316, 320-321, 16 L. Ed. 2d 587, 591, 86 S. Ct. 1501 (1966)."⁵³ The Court then concluded by stating the rule as follows:

Thus, legislative and judicial authorities alike convince us that the Federal Trade Commission does not arrogate excessive power to itself if, in measuring a practice against the elusive, but Congressionally mandated standard of fairness, it, like a court of equity, considers public values beyond simply those enshrined in the letter or encompassed in the spirit of the antitrust laws.⁵⁴

It has long been recognized that although all conduct violative of the

⁵¹ *Id.*, p. 240.

⁵² *F.T.C. v. Gratz*, 253 U.S. 421 (1920); *F.T.C. v. Raladam Co.*, 283 U.S. 643 (1931).

⁵³ Sperry and Hutchinson, *supra*, pp. 241-242.

⁵⁴ *Id.*, p. 244.

Sherman or Clayton Acts may likewise come within the unfair trade practice prohibitions of the Federal Trade Commission Act, the converse is not necessarily true.⁵⁵ In addition, there are many unfair methods of competition which do not assume the proportions of or fall short of antitrust violations but are covered by Section 5. Thus, a multiple basing point system used by cement manufacturers to bring about uniform prices and terms of sale constituted an unfair method of competition where it either restrained free competition, or was an "incipient menace to it."⁵⁶

One of the major purposes of Section 5 is to stop in their incipiency acts and practices which, when full-blown, would violate the antitrust laws.⁵⁷ This ability of the FTC to nip in the bud incipient anticompetitive conduct or practices has been recognized by the courts as one of the functions of the Federal Trade Commission Act. This statute was intended to be prophylactic in its effect, and to reach not merely in their fruition but also in their incipiency trade restraints and practices deemed undesirable.⁵⁸ The Joint Committee which drafted the 1970 amendments to the Atomic Energy Act also took the view that the licensing process should be used to "nip in the bud any incipient antitrust situation" related to the licensing of nuclear facilities.⁵⁹

In accordance with this delineation of the scope and reach of Section 5, the courts have consistently held that the FTC has the power to arrest trade restraints without proof that they amount to an outright violation of the Sherman or Clayton Acts. Thus, in *Brown Shoe*, a manufacturer's restrictive franchise contracts with retail shoe stores were held to constitute unfair competition under Section 5, without proof that their effect "may be to substantially lessen competition or tend to create a monopoly," which would have to be proved under Section 3 of the Clayton Act.⁶⁰ Similarly, in *Atlantic Refining Co.*, a sales commission plan was held to be illegal where a large gasoline distributor agreed with a rubber company to sponsor the sale of the tires, batteries and accessory products (TBA) of the latter to its filling station dealers. The Court expressly found that the contract was not a tying arrangement because the gasoline company was not required to tie its sales of petroleum products to purchases of TBA, nor did it expressly require such purchases of its dealers. Nevertheless, there was a violation of Section 5 because the "central competitive

⁵⁵ *F.T.C. v. Cement Institute*, 333 U.S. 683, 694 (1948).

⁵⁶ *Id.*, pp. 694, 708-709.

⁵⁷ *F.T.C. v. Motion Picture Advertising Service Co., Inc.*, 344 U.S. 392, 394-395 (1953).

⁵⁸ *Fashion Originators' Guild of America v. F.T.C.*, 312 U.S. 457, 466 (1941); *Atlantic Refining Co. v. F.T.C.*, 381 U.S. 357 (1965); *F.T.C. v. Brown Shoe Co., Inc.*, 384 U.S. 316, 322 (1966).

⁵⁹ H.R. Rep. No. 91-1470, reprinted in U.S. Code Cong. Serv. 4994 (1970).

⁶⁰ *F.T.C. v. Brown Shoe Co., Inc.*, *supra* p. 321.

characteristic was the same”; the effect of the plan “was as though” there was such an agreement; and it was “similar to that of a tie-in.”⁶¹

In monopolization situations, it is not determinative that a complete monopoly has not been achieved, but it is sufficient if it “tends to that end and to deprive the public of the advantages which flow from free competition.”⁶² A violation of Section 5 may be found where the basic policies of the Sherman or Clayton Acts are infringed, and an actual violation of the underlying statutes need not be found because “whatever the semantic difference between monopolization and tendency to create a monopoly, it is clear that the ‘basic policies’ of these two prohibitions are the same.”⁶³ It has also been stated that “. . . the Commission [FTC] under Section 5 is not bound to follow antitrust standards as strictly as the courts must in cases under the Sherman and Clayton Acts.”⁶⁴

C. Clayton Act, Sections 3 and 7

In evaluating whether the activities under a nuclear plant license would maintain a situation inconsistent with the antitrust laws or their clearly underlying policies, the Clayton Act⁶⁵ must also be considered. The Joint Committee Report indicates that Congress had certain language of that act in mind when Section 105c was drafted, stating:

The committee is well aware of the phrases “may be” and “tend to” in the Clayton Act, and of the meaning they have been given by virtue of the decisions of the Supreme Court and the will of Congress — namely, reasonable probability. The committee has — very deliberately — also chosen the touchstone of reasonable probability for the standard to be considered by the Commission under the revised subsection 105c of the bill.⁶⁶

Section 7 of the Clayton Act prohibits certain corporate mergers where “. . .the effect of such acquisition *may be* substantially to lessen competition . . or to *tend to* create a monopoly. . . .” (Emphasis supplied.)⁶⁷ The Supreme Court made an extensive analysis of the history and purpose of this statute as amended in *Brown Shoe Co. v. United States*, finding that the intent was to cope with monopolistic tendencies in their incipiency and “to brake this force at its outset” well before it attained such effects as would justify a Sherman Act

⁶¹ *Atlantic Refining Co. v. FTC*, 381 U.S. 357, 369-371 (1965).

⁶² *Fashion Originators' Guild of America v. F.T.C.*, 312 U.S. 457, 466 (1941).

⁶³ *Golden Grain Macaroni Company v. F.T.C.*, 472 F.2d 882, 886 (CA 9, 1972).

⁶⁴ *L. G. Balfour Company v. F.T.C.*, 442 F. 2d 1, 11 (CA 7, 1971). *See also LaPeyre v. F.T.C.*, 366 F.2d 117 (CA 5, 1966).

⁶⁵ 15 U.S.C. 12-27, 44; 18 U.S.C. 402; 29 U.S.C. 52-53.

⁶⁶ S. Rep. No. 91-1247, 91st Cong., 2nd Sess., at 15 (1970).

⁶⁷ 15 U.S.C. 18.

proceeding.⁶⁸ The dominant theme pervading Congressional consideration of the 1950 amendments was the rising tide of economic concentration, as well as “. . . the desirability of retaining ‘local control’ over industry and the protection of small businesses.”⁶⁹ Congressional concern was with the protection of competition, not competitors, and hence conduct had to be viewed functionally in the context of the particular industry. Of significance would be such aspects as easy access to markets or the foreclosure of business, and the ready entry of new competition or the erection of barriers to prospective entrants.⁷⁰ The Court further held that the use of the “may be” language was to indicate that Congressional “concern was with probabilities, not certainties. Statutes existed for dealing with clear-cut menaces to competition; no statute was sought for dealing with ephemeral possibilities. Mergers with a probable anticompetitive effect were to be proscribed by this Act.”⁷¹ It was observed that the tests for measuring the legality of any particular arrangement under the Clayton Act “are to be less stringent than those used in applying the Sherman Act.”⁷² One of the clearly underlying policies of this statute was thus described:

It is competition, not competitors, which the Act protects. But we cannot fail to recognize Congress’ desire to promote competition through the protection of viable, small, locally owned businesses. Congress appreciated that occasional higher costs and prices might result from the maintenance of fragmented industries and markets. It resolved these competing considerations in favor of decentralization. We must give effect to that decision.⁷³

This “may be” language was similarly construed in *United States v. Philadelphia National Bank*,⁷⁴ in which a merger of two banks was held to violate Section 7 of the Clayton Act. A prediction of a merger’s impact upon competitive conditions in the future was required because a “fundamental purpose of amending Section 7 was to arrest the trend toward concentration, the *tendency* to monopoly, before the customer’s alternatives disappeared. . . .”⁷⁵ The Court rejected the contention that the increased lending limit of the resulting bank would enable it to compete with large out-of-state banks, holding that anticompetitive effects in one market could not be justified by procompetitive consequences in another. The underlying policy was described as follows:

⁶⁸ 370 U.S. 294, 318, 346 (1962).

⁶⁹ *Id.*, pp. 315-316.

⁷⁰ *Id.*, pp. 320-322.

⁷¹ *Id.*, p. 323.

⁷² *Id.*, p. 329.

⁷³ *Id.*, p. 344.

⁷⁴ 374 U.S. 321 (1963).

⁷⁵ *Id.*, p. 367.

We are clear, however, that a merger the effect of which “may be substantially to lessen competition” is not saved because, on some ultimate reckoning of social or economic debits and credits, it may be deemed beneficial. A value choice of such magnitude is beyond the ordinary limits of judicial competence, and in any event has been made for us already, by Congress when it enacted the amended §7. Congress determined to preserve our traditionally competitive economy. It therefore proscribed anticompetitive mergers, the benign and the malignant alike, fully aware, we must assume, that some price might have to be paid.⁷⁶

The concept of arresting monopolies in their incipiency under Section 7 has been stated in cases decided under the original Section 7⁷⁷ as well as cases arising under the amended statute.⁷⁸

Section 3 of the Clayton Act is specifically directed at “tying” and other exclusive dealing arrangements, which were believed to impede competition in the distribution process to the extent that Congress decided to proscribe both practices whenever they were reasonably likely substantially to lessen competition, even though actual anticompetitive effects had not yet been shown.⁷⁹ This section prohibits such arrangements where their effect “*may be* to substantially lessen competition or *tend to* create a monopoly in any line of commerce.” (Emphasis supplied.)⁸⁰ This section also has been held to reach agreements in their incipiency, and to be based upon reasonable probability.⁸¹

D. Sherman Act Monopolization

Section 2 of the Sherman Act provides that “Every person who shall monopolize or attempt to monopolize or combine or conspire with any other person or persons, to monopolize any part of the trade or commerce among the several states. . .” shall be deemed guilty of a felony. This basic statute has been regarded as a charter of freedom, possessing a generality and adaptability comparable to constitutional provision.⁸² It has also been described as being as

⁷⁶ *Id.*, p. 371.

⁷⁷ *United States v. E. I. duPont de Nemours & Co.*, 353 U.S. 586, 589, 597 (1957).

⁷⁸ *F.T.C. v. Consolidated Foods Corp.*, 380 U.S. 592 (1965); *United States v. Continental Can Co.*, 378 U.S. 441 (1964).

⁷⁹ *Antitrust Law Development*, American Bar Association (1975), p. 37.

⁸⁰ 15 U.S.C. Section 14.

⁸¹ *Standard Fashion Company v. Magrane-Houston Company*, 258 U.S. 346 (1922); *Brown Shoe Co. v. United States*, 370 U.S. 294, 329 (1962); *United States v. Philadelphia National Bank*, 374 U.S. 321, 365 (1963); *Tampa Electric Co. v. Nashville Coal Co.*, 365 U.S. 320, 364-365 (1961).

⁸² *Appalachian Coals, Inc. v. United States*, 288 U.S. 344, 359 (1933); *United States v. E.I. duPont de Nemours and Co.*, 351 U.S. 377, 386 (1956).

important to the preservation of economic freedom and our free-enterprise system as the Bill of Rights is to the protection of fundamental personal freedom.⁸³ A classic description of the purpose of this act is contained in *Northern Pacific Railway Company v. United States*, wherein it is stated:

The Sherman Act was designed to be a comprehensive charter of economic liberty aimed at preserving free and unfettered competition as the rule of trade. It rests on the premise that the unrestrained interaction of competitive forces will yield the best allocation of our economic resources, the lowest prices, the highest quality and the greatest material progress, while at the same time providing an environment conducive to the preservation of our democratic political and social institutions. But even were that premise open to question, the policy unequivocally laid down by the Act is competition.⁸⁴

This fundamental national policy regarding the preservation of competition is applicable to the regulated electric utility industry,⁸⁵ as well as to other regulated industries under public interest standards.⁸⁶ These goals are rendered explicit in the declaration of policy of the Atomic Energy Act of 1954, wherein Section 1 (42 U.S.C. Section 2011) provides in pertinent part that "the development, use and control of atomic energy shall be directed so as too . . . strengthen free competition in private enterprise."

Monopolization has traditionally been defined as consisting of the possession of monopoly power in the economic sense, plus the element of deliberateness or a general intent or purpose to acquire, use or maintain such power.⁸⁷ Economic monopoly becomes illegal monopolization not only if it was achieved or preserved by conduct constituting unreasonable restraints of trade, but also if it was deliberately obtained or maintained. The Courts have long defined monopoly as the power to control market prices or exclude competition.⁸⁸ In *United States v. Grinnell Corp.*, the Supreme Court thus defined it:

The offense of monopoly under §2 of the Sherman Act has two elements: (1) the possession of monopoly power in the relevant market and (2) the willful acquisition or maintenance of that power as distinguished from

⁸³ *United States v. Topco Associates*, 405 U.S. 596, 610 (1972).

⁸⁴ 356 U.S. 1, 4 (1958).

⁸⁵ *Otter Tail Power Co. v. United States*, 410 U.S. 366 (1973); Meeks, *Concentration in the Electric Power Industry: The Impact of Antitrust Policy*, 72 Col. L. Rev. 64 (1972).

⁸⁶ *Gulf States Utilities Co. v. F.P.C.*, 411 U.S. 747, 759 (1973); *Carnation Co. v. Pacific Westbound Conference*, 383 U.S. 213 (1966); *California v. F.P.C.*, 369 U.S. 482 (1962); Phillips (ed.), *Promoting Competition In Regulated Markets* (Brookings Institution, 1975).

⁸⁷ 1955 Attorney General Rep. 43

⁸⁸ *Standard Oil of New Jersey v. United States*, 221 U.S. 1 (1911); *American Tobacco Co. v. United States*, 328 U.S. 781 (1946).

growth or development as a consequence of a superior product, business acumen, or historic accident.⁸⁹

Under this requirement, there need be no showing that prices have been raised or competitors actually excluded. Thus in *American Tobacco*, *supra*, the Supreme Court held "that the material consideration in determining whether a monopoly exists is not that prices are raised and that competition actually is excluded, but that power exists to raise prices or to exclude competition when it is desired to do so." This concept of monopoly was explained in *ALCOA*, where Judge Learned Hand pointed out that all contracts fixing prices are unconditionally prohibited. There is little real difference between such contracts and monopolies, which necessarily involve an equal or even greater power to fix prices. Therefore, "it would be absurd to condemn such contracts unconditionally, and not to extend the condemnation to monopolies; for the contracts are only steps toward that entire control that monopoly confers; they are really partial monopolies."⁹⁰

Monopoly power or market dominance must be viewed functionally in terms of the structure of the particular industry involved. Measuring monopoly power depends upon a careful evaluation of the market and its functioning, to determine on balance whether the control over the interrelated elements of supply, price and entry are sufficiently great to be classed as monopoly power. With regard to market structure, the factors usually considered by the courts include the relative size and strength of competitors, freedom or ease of entry into the market, and the characteristics of consumer demand.⁹¹ The degree of market dominance is generally a starting point for such analysis, although a mechanical application of percentages of the market would not alone be controlling, because the "relative effect of percentage command of a market varies with the setting in which that factor is placed."⁹² It was said in *United States Steel* that mere size is not outlawed by Section 2 of the Sherman Act.⁹³ However, in *Griffith*, the Court, after acknowledging this statement, went on to assert "But size is of course an earmark of monopoly power. Moreover, as stated by Justice Cardozo, speaking for the Court in *United States v. Swift & Co.*, 286 U.S. 106, 116, 'size carries with it an opportunity for abuse that is not to be ignored when the opportunity is proved to have been utilized in the past.'"⁹⁴

⁸⁹ 384 U.S. 563, 570-71 (1966). See also *United States v. E. I. duPont de Nemours & Co.*, 351 U.S. 377 (1956).

⁹⁰ *United States v. Aluminum Company of America*, 148 F.2d 416, 428 (CA 2, 1945).

⁹¹ 1955 Attorney General Rep. 50, 54.

⁹² *United States v. Columbia Steel Co.*, 334 U.S. 495, 527 (1948).

⁹³ *United States v. United States Steel Corp.*, 251 U.S. 417, 451 (1920).

⁹⁴ *United States v. Griffith*, 334 U.S. 100, 107, n. 10 (1948).

Under the circumstances found to exist in particular cases, it has been held that the requisite monopoly power could be based on findings of control of 90% or more of the relevant market.⁹⁵ In *ALCOA*, Judge Hand remarked that 90% of supply “is enough to constitute a monopoly; it is doubtful whether sixty or sixty-four percent would be enough; and certainly thirty-three percent is not.”⁹⁶ The Court found that monopoly power existed where the defendant controlled about 81% of all championship boxing matches,⁹⁷ and 87% of the accredited central station alarm business. In the latter case, the Court said:

The existence of such [monopoly] power ordinarily may be inferred from the predominant share of the market. . . . In the present case, 87% of the accredited central station service business leaves no doubt that the congeries of these defendants have monopoly power — power which, as our discussion of the record indicates, they did not hesitate to wield.⁹⁸

Market shares of 65 percent⁹⁹ and 70 percent have also been held to constitute monopoly power.¹⁰⁰

The existence of monopoly power (“monopoly in the concrete”)¹⁰¹ does not by itself prove the offense of monopolization. That offense encompasses the power to raise prices or exclude competition, coupled with “the purpose or intent to exercise that power.”¹⁰² The requisite intent is not a specific intent to monopolize, but rather a conclusion based on how the monopoly power was acquired, maintained or used.¹⁰³ The element of deliberateness or a general intent to monopolize is sufficient if the monopoly was a probable result of what was done,¹⁰⁴ “for no monopolist monopolizes unconscious of what he was doing.”¹⁰⁵

These principles are summarized in *Griffith* as follows:

It is, however, not always necessary to find a specific intent to restrain trade

⁹⁵*Standard Oil Co. v. United States*, 221 U.S. 1, 61 (1911); *United States v. American Tobacco Co.*, 221 U.S. 106 (1911).

⁹⁶*United States v. Aluminum Co. of America*, 148 F.2d 416, 424 (CA 2, 1945). Some text writers have viewed this statement as a confusing dictum. See A. D. Neal, *The Antitrust Laws of the U.S.A.*, p. 108, n. 1 (Cambridge Press, 1970).

⁹⁷*International Boxing Club, Inc. v. United States*, 358 U.S. 242 (1959).

⁹⁸*United States v. Grinnell Corp.*, 384 U.S. 563, 571 (1966).

⁹⁹*United States v. Besser Manufacturing Co.*, 343 U.S. 444 (1952).

¹⁰⁰*United Banana Co. v. United Fruit Co.*, 362 F.2d 849 (CA 2, 1966).

¹⁰¹*Standard Oil Co. of New Jersey v. United States*, 221 U.S. 1, 62 (1911).

¹⁰²*American Tobacco Co. v. United States*, 328 U.S. 781, 809 (1946).

¹⁰³1955 Attorney General Rep. at 55.

¹⁰⁴*United States v. Paramount Pictures, Inc.*, 334 U.S. 131, 173 (1948).

¹⁰⁵*American Tobacco Co. v. United States*, *supra.*, at 814, quoting from *United States v. Aluminum Co. of America*, 148 F.2d 416, 432 (CA 2, 1945).

or to build a monopoly in order to find that the antitrust laws have been violated. It is sufficient that a restraint of trade or monopoly results as the consequence of a defendant's conduct or business arrangements. [Citations] To require a greater showing would cripple the Act. . . . So it is that monopoly power, whether lawfully or unlawfully acquired, may itself constitute an evil and stand condemned under §2 even though it remains unexercised. For §2 of the Act is aimed, inter alia, at the acquisition or retention of effective market control. [Citation] Hence the existence of power "to exclude competition when it is desired to do so" is itself a violation of §2, provided it is coupled with the purpose or intent to exercise that power. [Citation] "It is indeed unreasonable, per se, to foreclose competitors from any substantial market." [Citation] The antitrust laws are as much violated by the prevention of competition as by its destruction. . . . It follows a fortiori that the use of monopoly power, however lawfully acquired, to foreclose competition, to gain a competitive advantage, or to destroy a competitor, is unlawful.¹⁰⁶

The conduct of a firm possessing monopoly power, however acquired, is generally scrutinized more closely to determine whether it has monopolized (an active verb) than in the case of firms not possessing such economic power. Practices harmless in themselves will not be tolerated when they tend to create or maintain a monopoly.¹⁰⁷ Thus, in *ALCOA*, a producer of aluminum was held to have monopolized the market in virgin ingot by pursuing certain exclusionary practices, which the court described as follows:

It insists that it never excluded competitors; but we can think of no more effective exclusion than progressively to embrace each new opportunity as it opened, and to face every newcomer with new capacity already geared into a great organization, having the advantage of experience, trade connections and the elite of personnel. Only in case we interpret "exclusion" as limited to maneuvers not honestly industrial, but actuated solely by a desire to prevent competition, can such a course, indefatigably pursued, be deemed not "exclusionary." So to limit it would in our judgment emasculate the Act; would permit just such consolidations as it was designed to prevent.¹⁰⁸

In *United Shoe*, the acquisition of monopoly control of the shoe machinery market rested in part on the leasing system used by the defendant, which leased but never sold its machines. Judge Wyzanski held that this was "the intermediate case where the causes of an enterprise's success were neither common law re-

¹⁰⁶ *United States v. Griffith*, 334 U.S. 100, 105, 107 (1948).

¹⁰⁷ *United States v. Aluminum Co. of America*, 148 F.2d 416, 428-429 (CA 2, 1945).

¹⁰⁸ *Id.*, at 431.

straints of trade, nor the skill with which the business was conducted, but rather some practice which without being predatory, abusive or coercive was in economic effect exclusionary. . . Much of United's market power is traceable to the magnetic ties inherent in its system of leasing, and not selling, its more important machines."¹⁰⁹

Another group of cases concerned with monopolistic practices involve the so-called "bottleneck monopolies."¹¹⁰ In the *Terminal Railroad* case, several railroads set up a joint company which constructed terminal facilities that controlled access to a large city because of its unusual geographical conditions. It was held that although the group's monopoly power was legitimately acquired, it was necessary not to use such power oppressively toward competitors. The Court required the company to be reorganized so as to permit nonproprietary companies to make equal use of the facilities on reasonable and nondiscriminatory terms and conditions.¹¹¹ In a similar case, practically all the local trade in fruit and vegetables was centered in a market building which was leased by a company mostly owned by local wholesalers. One of the latter who got in financial difficulties was denied use of the building after amalgamating with an outside dealer. In condemning this conduct, the Court said:

But it is only at the Building itself that the purchasers to whom a competing wholesaler must sell and the rail facilities which constitute the most economical method of bulk transport are brought together. To impose upon plaintiff the additional expenses of developing another site, attracting buyers, and transshipping his fruit and produce by truck is clearly to extract a monopolist's advantage. . . . The Act does not merely guarantee the right to create markets; it also insures the right of entry to old ones.¹¹²

In *Associated Press*, a large newsgathering agency established a system of bylaws which prohibited members from selling news to nonmembers, and empowered members to block their competitors from membership. The Court held that this arrangement gave many members a competitive advantage over their rivals, and that such a system designed to stifle competition could not be immunized by adopting a membership device to accomplish that purpose. Such a pooling of economic resources and the power it produced to control the dissemination of news violated the Sherman Act.¹¹³ *Lorain Journal* involved a situation where the only local newspaper made it a condition of accepting

¹⁰⁹ *United States v. United Shoe Machinery Corp.*, 110 F. Supp. 295, 344 (D. Mass., 1953), *aff'd. per curiam* 347 U.S. 521 (1954).

¹¹⁰ A. D. Neale, *supra*, at 67-70, 127-133.

¹¹¹ *United States v. Terminal Railroad Association of St. Louis*, 224 U.S. 383 (1912).

¹¹² *Gamco, Inc. v. Providence Fruit & Produce Building, Inc.*, 194 F.2d 484, 487 (CA 1, 1952).

¹¹³ *Associated Press v. United States*, 326 U.S. 1, 16-17 (1945).

advertising that the customer should not advertise over the local radio station. The Court found that the newspaper publisher was illegally seeking to maintain its local advertising monopoly, and, in effect, it was trying to force the advertisers to boycott the radio station, which in itself was an attempt to exclude a competitor.¹¹⁴ Other cases have also held that a refusal by a dominant firm to trade with a small firm, whether as supplier or buyer, may be regarded in effect as a "one-man boycott" and hence as a misuse of market power¹¹⁵

Monopolization principles have also been held applicable to an electric utility under Section 2 of the Sherman Act. In *Otter Tail*, a large investor-owned utility was found to have monopolized the retail distribution of electric power in its service area in violation of Section 2 of the Sherman Act. The company prevented communities in which its retail distribution franchise had expired from replacing it with a municipal distribution system. The principal means employed were refusals to sell power at wholesale to such municipalities, and refusals to "wheel" or transmit power to such systems from other bulk power suppliers which were willing to sell wholesale power but lacked transmission facilities. Each town was held to be a natural monopoly market for the retail distribution and sale of electric power. The Court stated:

The record makes abundantly clear that Otter Tail used its monopoly power in the cities in its service area to foreclose competition or gain a competitive advantage, or to destroy a competitive advantage, or to destroy a competitor, all in violation of the antitrust laws. See *United States v. Griffith*, 334 U.S. 100, 107, 92 L.Ed. 1236, 68 S. Ct. 941. The District Court determined that Otter Tail has "a strategic dominance in the transmission of power in most of its service area" and that it used this dominance to foreclose potential entrants into the retail area from obtaining electric power from outside sources of supply. 331 F. Supp. at 60. Use of monopoly power "to destroy threatened competition" is a violation of the "attempt to monopolize" clause of §2 of the Sherman Act. . . . So are agreements not to compete, with the aim of preserving or extending a monopoly.¹¹⁶

Under some circumstances, a "price squeeze" may constitute anticompetitive conduct under the Sherman Act. A "price squeeze" is the term ascribed to a tactic employed by a vertically integrated firm which competes with its non-integrated customers. This tactic involves the vertically integrated firm either unduly raising the price of its product to its nonintegrated customers (thus

¹¹⁴ *Lorain Journal Co. v. United States*, 342 U.S. 143, 152 (1951).

¹¹⁵ *Eastman Kodak Co. of New York v. Southern Photo Materials Co.*, 273 U.S. 359 (1927); *United States v. Klearflax Linen Looms*, 63 F. Supp. 32 (DC Minn. 1945).

¹¹⁶ *Otter Tail Power Co. v. United States*, 410 U.S. 366, 377 (1973).

increasing their costs), or unduly lowering the price it charges in its own outlets which compete with its nonintegrated customers, or both. For example, in *ALCOA* the dominant producer of ingot aluminum could not hold the price of ingot so high, and set the price of fabricated sheet aluminum so low, as to drive out of business the sheet rollers who bought ingot from it.¹¹⁷ In *Conway*, it was held that the FPC had jurisdiction to consider price squeeze allegations made by wholesale customers in a rate case, where a utility selling electricity at both wholesale and retail sought to raise its wholesale rates. The FPC could examine and evaluate the retail rates, over which it did not have jurisdiction, in determining whether the wholesale rates would have anticompetitive effects. The Court stated:

This argument assumes, however, that ratemaking is an exact science and that there is only one level at which a wholesale rate can be said to be just and reasonable and that any attempt to remedy a discrimination by lowering the jurisdictional rate would always result in an unjustly low rate that would fail to recover fully allocated wholesale costs. As the Court of Appeals pointed out and as this Court has held, however, there is no single cost recovering rate, but a zone of reasonableness. . . . We think the Court of Appeals was quite correct in concluding that "when costs are fully allocated, both the retail rate and the proposed wholesale rate may fall within a zone of reasonableness, yet create a price squeeze between themselves. There would, at the very least, be latitude in the FPC to put wholesale rates in the lower range of the zone of reasonableness, without concern that overall results would be impaired, in view of the utility's own decision to depress certain retail revenues in order to curb the retail competition of its wholesale customers."¹¹⁸

E. Relevant Markets

Although the word "market" does not appear in the antitrust laws, nevertheless it has become a basic concept used in determining whether a firm possesses the power to control prices or exclude competition. Without a definition of the relevant market there is no way to measure a firm's "ability to lessen or destroy competition."¹¹⁹ In determining the relevant market in which monopoly power is to be measured, the Supreme Court has equated the phrase "any part of trade or commerce" contained in Section 2 of the Sherman Act with that of "any line of commerce in any section of the country" contained in Section 7

¹¹⁷ *United States v. Aluminum Company of America*, 148 F.2d 416, 436-438 (CA 2, 1945).

¹¹⁸ *F.P.C. v. Conway Corporation* ____ U.S. ____, 48 L.Ed. 2d 626, 633-634 (1976).

¹¹⁹ *Walker Process Equip., Inc. v. Food Mach. and Chem. Corp.*, 382 U.S. 172, 177 (1965).

of the Clayton Act. Accordingly, market definitions applied in merger cases may be applicable to monopolization analysis.¹²⁰

The appropriate market has been defined as the "area of effective competition"¹²¹ within which the parties operate, and the definition "turns on discovering patterns of trade which are followed in practice."¹²² The market selected must also "correspond to the commercial realities" of the industry and be economically significant.¹²³ For analytical purposes the Courts have traditionally examined both the product and the geographic dimensions of the market. Thus in *Brown Shoe* it was held that "the 'area of effective competition' must be determined by reference to a product market (the 'line of commerce') and a geographic market (the 'section of the country')."¹²⁴ And the Court has pointed out that the Sherman Act has "both a geographical and distributive significance and [applies] to any part of the United States as distinguished from the whole and to any part of the classes of things forming a part of interstate commerce."¹²⁵

Determination of the product market depends on how different from one another the offered commodities are in character or use, and how far buyers will go to substitute one commodity for another. In *Times-Picayune* the Court observed that "for every product, substitutes exist. But a relevant market cannot meaningfully encompass that infinite range. The circle must be drawn narrowly to exclude any other product to which within reasonable variations in price, only a limited number of buyers will turn; in technical terms, products whose 'cross-elasticities of demand' are small."¹²⁶

In the *Cellophane* case, the Court was required to determine whether the relevant product market was cellophane (of which duPont had a 75 percent share) or all flexible packaging material, of which duPont's share was less than 20 percent. The Court stated:

When a product is controlled by one interest, without substitutes available in the market, there is monopoly power. Because most products have possible substitutes, we cannot . . . give "that infinite range" to the definition of substitutes. . . . Nor is it a proper interpretation of the Sherman Act to require that products be fungible to be considered in the relevant market.¹²⁷

¹²⁰ *United States v. Grinnell Corp.*, 384 U.S. 563, 572-573 (1966).

¹²¹ *Standard Oil Co. v. United States*, 337 U.S. 293, 299 (1949).

¹²² *United States v. United Shoe Machinery Corp.*, 110 F. Supp. 295, 303 (D. Mass., 1953), *aff'd. per curiam*, 347 U.S. 521 (1954).

¹²³ *Brown Shoe Co. v. United States*, 370 U.S. 294, 336 (1962).

¹²⁴ *Id.*, at 324.

¹²⁵ *Indiana Farmer's Guide Publishing Co. v. Prairie Farmer Publishing Co.*, 293 U.S. 268, 279 (1934).

¹²⁶ *Times-Picayune Publishing Co. v. United States*, 345 U.S. 594, 612 (1953).

¹²⁷ *United States v. E. I. duPont de Nemours and Co.*, 351 U.S. 377, 394 (1956).

Although cellophane differed from other flexible packaging materials, it also had to meet competition from other materials in every one of its described uses. Finding that “a very considerable degree of functional interchangeability exists between these products,”¹²⁸ the Court held that the product market was that of flexible packaging materials on a national basis. As DuPont had less than 20 percent of this market, monopoly power was found to be lacking. In summary, it was stated:

The “market” which one must study to determine when a producer has monopoly power will vary with the part of commerce under consideration. The tests are constant. That market is composed of products that have reasonable interchangeability for the purposes for which they are produced—price, use and qualities considered.¹²⁹

Narrower markets or submarkets have also resulted from the use of the reasonably interchangeable test. *Paramount Pictures* held that first run showings of motion pictures, rather than all movie exhibitions, constituted a distinct market.¹³⁰ And in *International Boxing Club*, out of the entire field of professional boxing, the Court carved a market in championship contests alone, holding that “Similarly, championship boxing is the ‘cream’ of the boxing business, and, as has been shown above [greater ticket revenue, valuable TV rights, higher Nielsen ratings and saleable movie rights], is a sufficiently separate part of the trade or commerce to constitute the relevant market for Sherman Act purposes.”¹³¹

In *Grinnell*, the Court found no barrier to combining in a single market a number of different products or services where that combination reflected commercial realities. Accordingly a single basic service—the protection of property through the use of an accredited central station—was compared with all other forms of property protection. Accredited central station protective services formed a distinct product market, the Court held, because other types of burglar, fire and water alarm services did not meet the reasonably interchangeable test of substitutability.¹³² The Court relied in part on its previous holding in *Philadelphia National Bank* that “‘the cluster’ of services denoted by the term ‘commercial banking’ is ‘a distinct line of commerce.’”¹³³ *Brown Shoe*, a merger case, found that the relevant lines of commerce were men’s, women’s and children’s shoes, classified separately and independently. The facts

¹²⁸ *Id.*, at 399.

¹²⁹ *Id.*, at 404. See also *Antitrust Law Developments*, American Bar Association (1975), at 49.

¹³⁰ *United States v. Paramount Pictures, Inc.*, 334 U.S. 131 (1948).

¹³¹ *International Boxing Club, Inc. v. United States*, 358 U.S. 242, 252 (1959).

¹³² 384 U.S. 563, 572-573.

¹³³ *United States v. Philadelphia National Bank*, 374 U.S. 321, 356 (1963).

to be considered in defining a product market were thus described by the Court: The boundaries of such a submarket may be determined by examining such practical indicia as industry or public recognition of the submarket as a separate economic entity, the product's peculiar characteristics and uses, unique production facilities, distinct customers, distinct prices, sensitivity to price changes, and specialized vendors.¹³⁴

The geographic reach of the market also must be determined in any consideration of monopoly power. The relevant geographic market has been defined as the area in which sellers of the particular product or services operate, and to which buyers can practicably turn for such products or services.¹³⁵ The applicable principles were described in *Brown Shoe* as follows:

The criteria to be used in determining the appropriate geographic market are essentially similar to those used to determine the relevant product market. . . . *United States v. E. I. duPont de Nemours and Co.*, 35 U.S. 586, 593, 1 L.Ed. 2d 1057, 1066, 77 S. Ct. 872. Moreover, just as a product submarket may have §7 significance as the proper "line of commerce," so may a geographic submarket be considered the appropriate "section of the country." *Erie Sand and Gravel Co. v. Federal Trade Commission*, 291 F.2d 279, 283 (CA 3d Cir.); *United States v. Bethlehem Steel Corp.*, 168 F. Supp. 576, 595-603 (DC SD NY). Congress prescribed a pragmatic, factual approach to the definition of the relevant market and not a formal, legalistic one. The geographic market selected must, therefore, both "correspond to the commercial realities" of the industry and be economically significant. Thus, although the geographic market in some instances may encompass the entire nation, under other circumstances it may be as small as a single metropolitan area.¹³⁶

In *Pabst Brewing Co.*, the Court indicated that "section of the country" does not require delineation by metes and bounds, and accordingly a single or a three state area could comprise a relevant market.¹³⁷ The importance of commercial and economic factors in defining market boundaries was stressed in *Philadelphia National Bank*, where the factor of inconvenience was found to localize banking competition as effectively as high transportation costs in other

¹³⁴ *Brown Shoe Co. v. United States*, 370 U.S. 294, 325-326 (1962).

¹³⁵ *Standard Oil Co. v. United States*, 337 U.S. 293, 299 n. 5 (1949); *Tampa Electric Co. v. Nashville Coal Co.*, 365 U.S. 320 (1961).

¹³⁶ *Brown Shoe Co. v. United States*, 370 U.S. 294, 336 (1962), citing *United States v. Columbia Pictures Corp.*, 189 F. Supp. 153, 193-194 (DC SD NY); *United States v. Maryland and Virginia Milk Producers Ass.*, 167 F. Supp. 799 (DC DC, 1959), *aff'd*. 362 U.S. 458 (1960).

¹³⁷ *United States v. Pabst Brewing Co.* 384 U.S. 546 (1966).

industries. Accordingly, a four-county area was selected as the area of effective competition.¹³⁸ Under this same analytical approach, relevant geographic areas have been held to comprise national markets,¹³⁹ regional markets,¹⁴⁰ single states,¹⁴¹ and metropolitan areas.¹⁴²

One court after reviewing the authorities summarized the relevant market considerations as follows:

It seems clear from the decided cases that (1) while the outer limits of the market may be determined by the competition of interchangeable products, (2) there may be a well defined submarket which constitutes the relevant market for antitrust purposes, which (3) must correspond to the commercial realities of the industry, (4) is affected by price disadvantages due to transportation costs, (5) is affected by availability of a buyer to supply and existence of economic areas which significantly impede competition, (6) is determined in part with relation to the parties affected in the suit, and (7) is a question of fact in the particular case.¹⁴³

F. Regulated Industry Defenses

1. Immunity From Antitrust Coverage

Although Congress has never exempted the electric power industry from the application of the antitrust laws, until recently, antitrust policy was rarely viewed as important in this industry. Regulatory practices almost uniformly reflected the traditional view that the industry was a natural monopoly, ill-adapted to the application of antitrust principles.¹⁴⁴ However, in recent years the courts have held the antitrust laws to be applicable to various regulated industries under the public interest provisions of regulatory statutes.¹⁴⁵ The fundamental national policy embodied in the antitrust laws has been held to

¹³⁸ *United States v. Philadelphia National Bank*, 374 U.S. 321, 358-361 (1963).

¹³⁹ *United States v. Continental Can Co.*, 378 U.S. 441, 447 (1964).

¹⁴⁰ *United States v. Penn-Olin Chem. Co.*, 378 U.S. 158, 161 (1964); *United States v. Jos. Schlitz Brewing Co.*, 253 F. Supp. 129, 146 (ND Cal.), *aff'd mem.*, 385 U.S. 37 (1966).

¹⁴¹ *United States v. El Paso Natural Gas Co.*, 376 U.S. 651, 657 (1964).

¹⁴² *United States v. Von's Grocery Co.*, 384 U.S. 270 (1966); *United States v. Phillipsburg National Bank and Trust Co.*, 399 U.S. 350 (1970).

¹⁴³ *Case-Swayne Co. v. Sunkist Growers, Inc.*, 369 F.2d 449, 456 (CA 9, 1966), *rev'd on other grounds*, 389 U.S. 384 (1967).

¹⁴⁴ Meeks, *Concentration In The Electric Power Industry: The Impact Of Antitrust Policy*, 72 Col. L. Rev. 64, 65-67 (1972).

¹⁴⁵ *McLean Trucking Company v. United States*, 321 U.S. 67 (1944); *FCC v. RCA Communications, Inc.*, 346 U.S. 86 (1953); *California v. FPC*, 369 U.S. 482 (1962); *Federal Maritime Commission v. Svenska Amerika Linien*, 390 U.S. 238 (1968).

apply to regulated industries unless express immunity is conferred by law, and "repeals of the antitrust laws by implication from a regulatory statute are strongly disfavored, and have only been found in cases of plain repugnancy between the antitrust and regulatory provisions."¹⁴⁶

The Supreme Court made it clear in *Otter Tail* that the Federal antitrust laws are applicable to electric utilities, holding that regulation by the Federal Power Commission was not meant to insulate electric companies from monopolization charges based upon refusals to deal. Congress was deemed to have "rejected a pervasive regulatory scheme for controlling the interstate distribution of power in favor of voluntary commercial relationships." Thus, there was no basis for concluding that the limited authority of the Federal Power Commission to order interconnections "was intended to be a substitute for or immunize Otter Tail from antitrust regulation for refusing to deal with municipal corporations."¹⁴⁷ It is important to note that the refusal to deal in *Otter Tail* related to the wholesale power supply level, wherein the dominant utility was not willing to sell power at wholesale or to wheel power over its transmission lines from another supplier to a municipality, where the latter's retail distribution franchise to the dominant utility had expired and it was desired to replace it with a municipal retail distribution systems. Such towns could accommodate only one distribution system, thereby "making each town a natural monopoly market for the distribution and sale of electric power at retail. . . . The antitrust charge against *Otter Tail* does not involve the lawfulness of its retail outlets, but only its methods of preventing the towns it served from establishing their own municipal systems when Otter Tail's franchises expired."¹⁴⁸ Consequently, Otter Tail's consistent refusals to wholesale or wheel power to its municipal customers were held to constitute illegal monopolization. With respect to wheeling, the Court noted that the original draft of the Federal Power Act included a common carrier provision and the power to order wheeling, but these provisions were eliminated and "the common carrier provision in the original bill and the power to direct wheeling were left to the 'voluntary coordination of electric facilities.' Insofar as the District Court ordered wheeling to correct anticompetitive and monopolistic practices of Otter Tail, there is no conflict with the authority of the Federal Power Commission."¹⁴⁹

The recent *Cantor* case involved a claim by a retail druggist selling light

¹⁴⁶ *United States v. Philadelphia National Bank*, 374 U.S. 321, 350 (1963). See also *Silver v. New York Stock Exchange*, 373 U.S. 341, 357-361 (1963).

¹⁴⁷ *Otter Tail Power Co. v. United States*, 410 U.S. 366, 374 (1973). See also *Toledo Edison Company, et al. (Davis-Besse Nuclear Power Station, Units 1, 2 and 3), Cleveland Electric Illuminating Company, et al. (Perry Nuclear Power Plant, Units 1 and 2)*, ALAB-385, 5 NRC 621, 631-634 (March 23, 1977).

¹⁴⁸ *Id.*, at 369-370.

¹⁴⁹ *Id.*, at 374, 376.

bulbs that a utility was using its monopoly power in the distribution of electricity to restrain competition in the sale of light bulbs in violation of the Sherman Act. The utility distributed light bulbs to its customers, who were billed for the electricity they consumed but paid no separate charge for light bulbs. The rates, including the omission of any separate charge for bulbs, had been approved by the Michigan Public Service Commission, and could not be changed without its approval of a new tariff. In reviewing the applicability of the antitrust laws to this situation, the Court stated:

Unquestionably there are examples of economic regulation in which the very purpose of the government control is to avoid the consequences of unrestrained competition. Agricultural marketing programs, such as that involved in *Parker*, were of that character. But all economic regulation does not necessarily suppress competition. On the contrary, public utility regulation typically assumes that the private firm is a natural monopoly and that public controls are necessary to protect the consumer from exploitation. There is no logical inconsistency between requiring such a firm to meet regulatory criteria insofar as it is exercising its natural monopoly powers and also to comply with antitrust standards to the extent that it engages in business activity in competitive areas of the economy.¹⁵⁰

As mentioned earlier, in *Conway* it was held that the FPC had jurisdiction to consider "price squeeze" contentions made by wholesale customers in a rate case, where a power company that sold electricity at both wholesale and retail sought to raise its wholesale rates.¹⁵¹ The FPC could consider the retail rates, over which it did not have jurisdiction, in determining whether the jurisdictional wholesale rates would have anticompetitive effects.

Gulf States also held that the FPC must consider antitrust issues in determining whether a securities issue was in the public interest. In considering the relationship between the Federal Power Act and the antitrust laws, the Court stated:

The Act did not render antitrust policy irrelevant to the Commission's regulation of the electric power industry. Indeed, within the confines of a basic natural monopoly structure, limited competition of the sort protected by the antitrust laws seems to have been anticipated. See *Otter Tail Power Co. v. United States*. . . . Consideration of antitrust and anticompetitive issues by the Commission, moreover, serves the important function of establishing a first line of defense against those competitive practices that might later be the subject of antitrust proceedings.¹⁵²

¹⁵⁰ *Cantor v. Detroit Edison Co.*, ___ U.S. ___, 49 L.Ed.2d 1,141, 1,151-1,153(1976).

¹⁵¹ *F.P.C. v. Conway Corporation*, ___ U.S. ___, 48 L.Ed. 2d 626 (1976).

¹⁵² *Gulf States Utilities v. F.P.C.*, 411 U.S. 747, 759-760 (1973).

2. Governmental Action

The power to grant exemptions or immunity from the antitrust laws resides exclusively in Congress, and consequently neither Federal nor state officials have any power to grant immunity when Congress has not done so.¹⁵³ It is, therefore, no defense to an antitrust action that the challenged conduct was known or even approved by Federal officials, if such action was not taken pursuant to Congressional authorization.¹⁵⁴ For example, the fact that certain restrictive provisions were contained in a contract between an electric utility and the Bureau of Reclamation was deemed immaterial, since "government contracting officers do not have the power to grant immunity from the Sherman Act."¹⁵⁵

The *Parker v. Brown* case involves the inapplicability of the Sherman Act to official state actions where the state purports to act as a sovereign. This decision is regularly invoked in analyzing the relationship between state regulatory action and the Federal antitrust laws. In *Parker*, there was a challenge by a grower under the commerce and supremacy clauses to the constitutionality of the California Agricultural Prorate Act, which authorized the director of agriculture and other state officials to establish a marketing program so as to restrict competition among growers and maintain prices in the distribution of their commodities. The Supreme Court found no conflict between this state statute and the Sherman Act, even though comparable programs organized by private persons would be illegal, stating:

But it is plain that the prorate program here was never intended to operate by force of individual agreement or combination. It derived its authority and its efficacy from the legislative command of the state and was not intended to operate or become effective without that command. We find nothing in the language of the Sherman Act or in its history which suggests that its purpose was to restrain a state or its officers or agents from activities directed by its legislature. In a dual system of government in which, under the Constitution, the states are sovereign, save only as Congress may constitutionally subtract from their authority, an unexpressed purpose to nullify a state's control over its officers and agents is not lightly to be attributed to Congress. The Sherman Act makes no mention of the state as such, and gives no hint that it was intended to restrain state action or official action directed by a state . . . True, a state does not give immunity to those who violate the Sherman Act by authorizing them to violate it, or by declaring that their action is lawful . . . and we have no question of the state or its municipality becoming a participant in a private agreement or combination

¹⁵³ *United States v. Socony-Vacuum Oil Co.*, 310 U.S. 150, 225-227 (1940).

¹⁵⁴ *Hecht v. Pro-Football, Inc.*, 444 F.2d 931 (CA DC, 1971).

¹⁵⁵ *Otter Tail*, *supra*, 410 U.S. at 378-379.

by others for restraint of trade . . . The state in adopting and enforcing the prorate program made no contract or agreement and entered into no conspiracy in restraint of trade or to establish a monopoly but, as sovereign, imposed the restraint as an act of government which the Sherman Act did not undertake to prohibit.¹⁵⁶

Eight years later in *Schwegmann*, the Court invalidated a plaintiff's entire resale price maintenance program, because the nonsigner provisions of the Louisiana Fair Trade law were in conflict with the Sherman Act. This Louisiana statute imposed a direct restraint on retailers who had not signed the fair trade agreements. Thus although the private decision to enforce a statewide fair trade program was not only approved by the state, but actually would have been ineffective without the statutory command to nonsigners to adhere to the prices set by the plaintiff, the rationale of *Parker v. Brown* did not immunize the restraint. The Court said that "when a state compels retailers to follow a parallel price policy, it demands private conduct which the Sherman Act forbids. See *Parker v. Brown*, 317 U.S. 341, 350." It was further emphasized that the "fact that a state authorizes the price fixing does not, of course, give immunity to the scheme absent approval by Congress."¹⁵⁷

The *Parker* doctrine was further clarified in *Continental Ore*, holding that such immunity did not apply to private activities permitted, but not required, by law. In that case, under Canadian law, authority was granted to the Metals Comptroller to allocate and ration metals during the war. This power was delegated to a private firm, which purchased vanadium from two suppliers but excluded a third supplier. The Court held it was no defense that the delegated purchasing agent "was acting in a manner permitted by Canadian law," where there was "nothing to indicate that such law . . . compelled discriminatory purchasing."¹⁵⁸

In two recent decisions, the Supreme Court has further analyzed and discussed the *Parker v. Brown* doctrine. *Goldfarb* involved a minimum fee schedule for lawyers examining real estate titles, which was published by a

¹⁵⁶ *Parker v. Brown*, 317 U.S. 341, 350-352 (1943).

¹⁵⁷ *Schwegmann Bros. v. Calvert Distillers Corp.*, 341 U.S. 384, 386, 389 (1951).

¹⁵⁸ *Continental Ore Co. v. Union Carbide & Carbon Corp.*, 370 U.S. 690, 706-707 (1962). Courts of Appeals have searched for ways to reconcile and harmonize the Federal antitrust laws with permissible state action, with results not totally consistent. See *Hecht v. Pro-Football, Inc.*, 444 F.2d 931, 934 (CA DC, 1971); *Woods Exploration & Producing Co. v. Aluminum Co. of America*, 438 F.2d 1286 (CA 5, 1971); *George R. Whitten, Jr., Inc. v. Paddock Pool Bldgs., Inc.*, 424 F.2d 25 (CA 1, 1970); *Asheville Tobacco Bd. of Trade, Inc. v. F.T.C.*, 263 F.2d 502 (CA 4, 1959). Cf. *Gas Light Co. v. Georgia Power Company*, 440 F.2d 1135 (CA 5, 1971); *Washington Gas Light Co. v. Virginia Electric Power Co.*, 438 F.2d 248 (CA 4, 1971); *Allstate Ins. Co. v. Lanier*, 361 F.2d 870 (CA 4, 1966).

county bar association and enforced by the state bar. This endeavor was challenged as violative of the Sherman Act. The Court states:

The threshold inquiry in determining if an anticompetitive activity is state action of the type the Sherman Act was not meant to proscribe is whether the activity is required by the state acting as sovereign. *Parker v. Brown* . . . although the [Virginia] Supreme Court's ethical codes menuon advisory fee schedules they do not direct either respondent to supply them, or require the type of price floor which arose from respondents' activities . . . Respondents' arguments, at most, constitute the contention that their activities complemented the objective of the ethical codes. In our view that is not state action for Sherman Act purposes. It is not enough that, as the County Bar puts it, anticompetitive conduct is "prompted" by state action; rather, anticompetitive activities must be compelled by direction of the state acting as a sovereign.¹⁵⁹

Cantor involved a fundamental analysis of *Parker v. Brown*, stemming from conduct by a pervasively regulated electric utility in furnishing light bulbs without charge to its customers. Its rates, which reflected the omission of any separate charge for bulbs, had been approved by the state commission and could not be changed without the latter's approval. Justice Stephen's plurality opinion made a detailed study of the history and scope of *Parker*, describing it as a narrow holding limited to official action taken by state officers pursuant to express legislative command by the state acting as a sovereign. The *Parker* opinion with carefully chosen language involving 13 separate references, applied only to official action, as opposed to private action approved, supported or even directed by the State. The only parties in that case were state public officials, and there was no claim that any private person or company had violated the antitrust laws. Justice Stephens observed that the Sherman Act "proscribes the conduct of persons, not programs, and the narrow holding in *Parker* concerned only the legality of the conduct of the state officials charged by law with the responsibility for administering California's program."¹⁶⁰ The light bulb program was considered to be the product of a decision in which both the respondent which initiated it and the state commission which approved it participated. The respondent's participation was held to be "sufficiently significant to require that its conduct implementing the decision, like comparable conduct by unregulated businesses, conform to applicable Federal law."¹⁶¹ The Court further stated:

¹⁵⁹ *Goldfarb v. Virginia State Bar*, 421 U.S. 733, 790-791 (1975).

¹⁶⁰ *Cantor v. Detroit Edison Company*, ___U.S. ___, 49 L.Ed. 2d 1141, 1155 (1976).

¹⁶¹ *Id.*, at 1152.

For typically cases of this kind involve a blend of private and public decisionmaking. The Court has already decided that state authorization, approval, encouragement or participation in restrictive private conduct confers no antitrust immunity . . . [Footnotes and citations omitted] In each of these cases the initiation and enforcement of the program under attack involved a mixture of private and public decisionmaking. In each case, notwithstanding the state participation in the decision, the private party exercised sufficient freedom of choice to enable the Court to conclude that he should be held responsible for the consequences of his decision.¹⁶²

Accordingly, it was held that Michigan's regulation of respondent's distribution of electricity "poses no necessary conflict with a Federal requirement that respondent's activities in competitive markets satisfy antitrust standards," citing *Otter Tail* as establishing that Federal antitrust laws are applicable to electrical utilities in competitive markets.¹⁶³

3. Use of Judicial and Administrative Processes (Noerr-Pennington Doctrine)

An extension of the *Parker v. Brown* concept, *supra*, holding in effect that restraints on trade that are the result of valid governmental action are not within the scope of the Sherman Act, has been the development of the so-called *Noerr-Pennington* doctrine. The latter doctrine involves the applicability of the antitrust laws to various efforts undertaken to influence governmental action, whether legislative, executive, judicial or administrative. In situations where it is applicable, the doctrine confers immunity from liability under the antitrust laws for actions, regardless of their anticompetitive intent or purpose, which genuinely seeks to influence the passage or enforcement of laws, or to invoke governmental decision-making processes involving the courts or administrative agencies. Concomitantly, such antitrust immunity is limited by the "sham exception," which applies to conduct ostensibly directed toward influencing governmental action, but which is a mere sham to cover what is actually nothing more than an attempt to interfere directly with the business relationships of a competitor.¹⁶⁴

In *Noerr*¹⁶⁵ a group of railroads allegedly conspired to monopolize trade in the freight business by instituting an intensive publicity campaign to secure the

¹⁶² *Id.*, at 1150-1151.

¹⁶³ *Id.*, at 1153.

¹⁶⁴ The board made an extensive analysis of the applicable case law on this subject in its Memorandum and Order of November 25, 1975, LBP-75-69, 2 NRC 822.

¹⁶⁵ *Eastern Railroad Presidents Conference v. Noerr Motor Freight, Inc.*, 365 U.S. 127 (1961).

passage and enforcement of legislation unfavorable to the trucking industry. The campaign was described as "vicious, corrupt and fraudulent," with the sole motivation to destroy the truckers as competitors. The Court held that where restraints on trade were "the result of valid governmental action" (citing *Parker v. Brown*), there was no violation of the antitrust laws, and hence no violation could "be predicated upon mere attempts to influence the passage or enforcement of laws." The whole concept of representative government depends on the ability of the people to make their wishes known, and to hold "that the people cannot freely inform the government of their wishes would impute to the Sherman Act a purpose to regulate, not business activity, but political activity," which would be contrary to its legislative history (365 U.S. at 137). Equally significant, such a construction would raise constitutional questions, since the "right of petition is one of the freedoms protected by the Bill of Rights, and we cannot, of course, lightly impute to Congress an intent to invade these freedoms." Accordingly, even if the railroads' sole purpose was to destroy their competitors, that fact did not "transform conduct otherwise lawful into a violation of the Sherman Act." However, the court also articulated a "sham exception" to this antitrust immunity, stating:

There may be situations in which a publicity campaign, ostensibly directed toward influencing government action, is a mere sham to cover what is actually nothing more than an attempt to interfere directly with the business relationships of a competitor and the application of the Sherman Act would be justified. (365 U.S. at 144)

In *Pennington*¹⁶⁶ the *Noerr* principles were extended to other public officials, and the rule was expanded beyond the protection of political activity. The UMW union allegedly conspired with large coal operators to impose high wage and royalty scales which would drive smaller operators out of business. The parties had successfully induced the Secretary of Labor to set high minimum wages under the Walsh-Healey Act for companies selling coal to TVA. The Court held that "Noerr shields from the Sherman Act a concerted effort to influence public officials regardless of intent or purpose Joint efforts to influence public officials do not violate the antitrust laws even though intended to eliminate competition. Such conduct is not illegal, either standing alone or as part of a broader scheme itself violative of the Sherman Act" (381 U.S. at 670). Accordingly there could be no recovery based on the action of the Secretary of Labor. However, it was also held that although the Walsh-Healey episodes were immunized, nevertheless the existence of this protected activity did not immunize other parts of the scheme. In a widely cited footnote the Court said:

It would of course still be within the province of the trial judge to admit

¹⁶⁶ *United Mine Workers of America v. Pennington*, 381 U.S. 657 (1965).

this evidence, if he deemed it probative and not unduly prejudicial, under the “established judicial rule of evidence that testimony of prior or subsequent transactions, which for some reason are barred from forming the basis for a suit, may nevertheless be introduced if it tends reasonably to show the purpose and character of the particular transaction under scrutiny.” (381 U.S. at 670)

The admissible nonimmunized transactions referred to were contemporaneous UMW collective bargaining contracts with the large coal companies agreeing to rapid mechanization and other conditions onerous to the small operators. Lower courts have subsequently followed the rule that purpose and character inferences relating to nonexempt transactions may be drawn in part from participation in protected or immunized activities, provided such evidence is deemed probative and not unduly prejudicial to a jury.¹⁶⁷

Subsequently the Supreme Court in *Trucking Unlimited*¹⁶⁸ held that the “right to petition extends to all departments of the government,” including state and Federal administrative agencies and courts. The right of access to the courts was deemed to be “but one aspect of the right of petition.” However, the Court also considered extensively the sham exception of *Noerr* as adapted to the adjudicatory process. It was alleged that a number of trucking companies had conspired to monopolize trucking in California and to put their competitors out of business. To that end the defendants agreed jointly to finance, carry out and publicize a systematic program of opposing, with or without probable cause and regardless of the merits of the cases, virtually every application for operating rights before the PUC, the ICC, and the courts. The Court stated:

The nature of the views pressed does not, of course, determine whether First Amendment rights may be invoked; but they may bear upon a purpose to deprive the competitors of meaningful access to the agencies and courts. As stated in the opinion concurring in the judgment, such a purpose or intent, if shown, would be “to discourage and ultimately to prevent the respondents from invoking” the processes of the administrative agencies and courts and thus fall within the exception to *Noerr* . . . Petitioners, of course, have the right of access to the agencies and courts to be heard on applications sought by competitive highway carriers. That right, as indicated, is part of the right of petition protected by the First Amendment. Yet that

¹⁶⁷ *Hayes v. United Fireworks*, 420 F.2d 836, 840 (CA 9, 1969); *Household Goods Carrier's Bureau v. Terrell*, 417 F.2d 47, 52, rehearing en banc, 452 F.2d 152, 158 (CA 5, 1971); *Hecht v. Pro-Football, Inc.*, 444 F.2d 931, 940 (CA DC, 1971); *George R. Whitten, Jr., Inc. v. Paddock Pool Builders, Inc.*, 424 F.2d 25, 29 (CA 1, 1970). Cf. *United States v. Johns-Manville Corp.*, 259 F. Supp. 440 (E.D. Pa., 1966); *Lamb Enterprises, Inc. v. Toledo Blade Co.*, 461 F.2d 506, 516 (CA 6, 1972).

¹⁶⁸ *California Motor Transport Co. v. Trucking Unlimited*, 404 U.S. 508 (1972).

does not necessarily give them immunity from the antitrust laws. It is well settled that First Amendment rights are not immunized from regulation when they are used as an integral part of conduct which violates a valid statute . . . First Amendment rights may not be used as the means or the pretext for achieving "substantive evils" (citation omitted) which the legislature has the power to control. Certainly the constitutionality of the antitrust laws is not open to debate. A combination of entrepreneurs to harass and deter their competitors from having "free and unlimited access" to the agencies and courts, to defeat that right by massive, concerted, and purposeful activities of the group are ways of building up one empire and destroying another . . . If these facts are proved, a violation of the antitrust laws has been established. If the end result is unlawful, it matters not that the means used in violation may be lawful. (404 U.S. at 512-515)

The Court noted that the political campaign operated by the railroads in *Noerr* employed deception, misrepresentation and unethical tactics, but also observed that Congress has traditionally exercised extreme caution in legislation respecting political activities. However, it further stated that "unethical conduct in the setting of the adjudicatory process often results in sanctions," citing cases dealing with perjury, use of a patent obtained by fraud to exclude a competitor, conspiracy with a licensing authority to eliminate a competitor, and bribery of a public official. The Court then continued:

There are many other forms of illegal and reprehensible practice which may corrupt the administrative or judicial processes and which may result in antitrust violations. Misrepresentations, condoned in the political arena, are not immunized when used in the adjudicatory process. Opponents before agencies or courts often think poorly of the other's tactics, motions or defenses and may readily call them baseless. One claim, which a court or agency may think baseless, may go unnoticed; but a pattern of baseless, repetitive claims may emerge which leads the factfinder to conclude that the administrative and judicial processes have been abused. That may be a difficult line to discern and draw. But once it is drawn, the case is established that abuse of those processes produced an illegal result, viz., effectively barring respondents from access to the agencies and courts. Insofar as the administrative or judicial processes are involved, actions of that kind cannot acquire immunity by seeking refuge under the umbrella of "political expression." (404 U.S. at 513)

*Otter Tail*¹⁶⁹ is the most recent application of *Noerr* principles by the Supreme Court. The charges of monopolization by a dominant electric utility

¹⁶⁹ *Otter Tail Power Co. v. United States*, 410 U.S. 366 (1973).

were based among other things on its alleged repeated institution and support of baseless litigation designed to prevent or delay the establishment of municipal distribution systems. The district court found that most of the litigation was carried to the highest available appellate court, and although all of it was unsuccessful on the merits, the pendency of litigation prevented the marketing of municipal bonds necessary to establish an electric system. However, the district court held that the *Noerr* doctrine was applicable "only to efforts aimed at influencing the legislative and executive branches of the government" (331 F. Supp. 54, 62). The Supreme Court otherwise affirmed a finding for the government but vacated that phase of the order dealing with sham litigation and remanded for further consideration in the light of its intervening decision in *Trucking Unlimited*, stating:

That was written before we decided *California Motor Transport Co. v. Trucking Unlimited*, 404 U.S. 508, 513, where we held that the principle of *Noerr* may also apply to the use of administrative or judicial processes where the purpose is to suppress competition evidenced by repetitive lawsuits carrying the hallmark of insubstantial claims and thus within the "mere sham" exception announced in *Noerr*. (410 U.S. at 380)

Upon reconsideration the district court reached the same conclusion as before, finding that:

The repetitive use of litigation by Otter Tail was timed and designed principally to prevent the establishment of municipal electric systems and thereby to preserve defendant's monopoly. I find the litigation comes within the sham exception to the *Noerr* doctrine as defined by the Supreme Court in *California Transport*.¹⁷⁰

The Supreme Court affirmed per curiam the judgment entered on remand.¹⁷¹

There is a long line of authority, both before and after the *Noerr* decision, wherein the Federal courts have held that patent infringement litigation violates the Sherman Act where it is an integral part of a pattern of conduct designed to restrain trade or to monopolize over and beyond the monopoly created by the patent.¹⁷² One such case was cited by Justice Douglas in his opinion in *Trucking Unlimited, supra*.¹⁷³

¹⁷⁰ 360 F. Supp. 451 (D. Minn., 1973).

¹⁷¹ 417 U.S. 901 (1974).

¹⁷² *United States v. Singer Manufacturing Co.*, 374 U.S. 174 (1963); *Mach-Tronics, Inc. v. Zirpoli*, 316 F.2d 820 (CA 9, 1963); *Kobe, Inc. v. Dempsey Pump Co.*, 198 F.2d 416 (CA 10, 1952); *United States v. Krasnov*, 143 F. Supp. 184 (E.D. Pa., 1956), *aff'd. per curiam*, 355 U.S. 5 (1957). See also Blecher and Bennett, *Litigation As An Integral Part of a Scheme to Create or Maintain An Illegal Monopoly*, 26 Mercer L. Rev. 479, 491 (1975).

¹⁷³ *Walker Process Equipment, Inc. v. Ford Machinery and Chemical Corp.*, 382 U.S. 172 (1965).

It has been held that the *Noerr-Pennington* immunity is not applicable to efforts to influence a governmental body acting in a commercial or proprietary capacity rather than in a policy-making capacity.¹⁷⁴ And in *Otter Tail* the Court considered evidence relating to contracts and transactions between the utility and the U.S. Bureau of Reclamation, holding that “government contracting officers do not have the power to grant immunity from the Sherman Act” (410 U.S. at 378).

From the foregoing cases it appears that there is no antitrust liability for genuine, as distinguished from sham, attempts to influence valid governmental action by any branch of the government, state or Federal. Within the scope of the constitutional right of petition, the motives which accompany such attempts are irrelevant, regardless of their anticompetitive intent or purpose. Activities in a legislative or other nonadjudicatory setting are not within the antitrust laws even though they may include unethical or reprehensible conduct. However, unethical practices which may corrupt administrative or judicial processes can result in antitrust violations. Joint efforts to influence public officials are not illegal though intended to eliminate competition, either standing alone or as part of a broader scheme itself violative of the Sherman Act. But attempts to influence governmental action, when used as an integral part of conduct which violates the antitrust laws, are not immunized and fall within the sham exception. In the adjudicatory process, the sham exception may involve such matters as misrepresentation, conspiracy with a licensing authority, a pattern of baseless claims amounting to abuse of the judicial process, or repetitive use of insubstantial litigation to suppress competition.

4. Primary Jurisdiction

The judicial doctrine of “primary jurisdiction” is concerned with promoting proper relationships between the courts and administrative agencies charged with particular regulatory duties. It is a sometimes loosely defined concept by which the courts attempt to avoid or adjust judicial-administrative conflict over the application of antitrust principles and agency regulatory goals. In one sense it has been used in situations where the administrative agency’s jurisdiction has been held to be exclusive, thereby ousting the courts of antitrust jurisdiction except to review the correctness of the agency decision under the standards of the regulatory statute.¹⁷⁵ In another sense primary jurisdiction has referred to

¹⁷⁴ *George R. Whitten, Jr., Inc. v. Paddock Pool Builders, Inc.*, 424 F.2d 25, 32 (CA 1, 1970); *Hecht v. Pro-Football, Inc.*, 444 F.2d 931 (1971), cert. denied, 404 U.S. 1047; *Breard v. City of Alexandria*, 341 U.S. 622, 641 (1951); *Valentine v. Chrestensen*, 316 U.S. 52 (1942). Cf. *United States v. Johns-Manville Corp.*, 245 F. Supp. 74, 81 (E.D. Pa., 1965).

¹⁷⁵ *Pan American World Airways, Inc. v. United States*, 371 U.S. 296 (1963).

initial but not exclusive agency jurisdiction, leading to the staving of court antitrust proceedings until the agency had made its initial determination.¹⁷⁶ But the doctrine has been held inapplicable where there was "no pervasive regulatory scheme, and no rate structures to throw out of balance" by sporadic action by the Federal courts.¹⁷⁷

In the instant case, the term primary jurisdiction has been urged in still a different sense. The Applicant has contended that the FPC and the SEC have primary jurisdiction of the applicability of the antitrust laws to the competitive conditions under which the Applicant operates. It therefore argues that this Board should either defer to its antitrust scrutiny to those agencies, or be bound by their alleged approval of the practices in question.¹⁷⁸

The *Otter Tail* decision has already established that there was no pervasive regulatory scheme including the antitrust laws that had been entrusted to the FPC, and that "Congress rejected a pervasive regulatory scheme for controlling the interstate distribution of power in favor of voluntary commercial relationships."¹⁷⁹ (The *Radio Corp. of America* holding was specifically referred to by the Court. 410 U.S. at 373.) Thus even under the more rigid judicial doctrine, primary jurisdiction could not be attributed to the FPC, or by the same reasoning to the SEC.

However, the situation presented here does not involve the relationship between the courts and administrative agencies with regard to antitrust scrutiny, but rather the distribution of antitrust functions among three Federal agencies. The NRC has a specific statutory mandate under Section 105c to make an antitrust review and finding for licensing purposes. The consideration of antitrust consequences by the FPC and the SEC under their own regulatory statutes, while important aspects of the public interest, is not the primary function of such agencies.¹⁸⁰

The legislative history of the 1970 antitrust amendments of Section 105c shows that the Joint Committee on Atomic Energy took into consideration the relationship which would exist among these Federal agencies with respect to antitrust review. The Department of Justice advised that other regulatory agencies such as the FPC and the SEC could defer in appropriate cases to the

¹⁷⁶ *Ricci v. Chicago Mercantile Exchange*, 409 U.S. 289 (1973).

¹⁷⁷ *United States v. Radio Corp. of America*, 358 U.S. 334, 349-350 (1959). See also *Toledo Edison Co., et al.* (Davis-Besse Nuclear Power Station, Units 1, 2 and 3), *Cleveland Electric Illuminating Co., et al.* (Perry Nuclear Power Plant, Units 1 and 2), ALAB-385, 5 NRC 621, 631-634 (March 23, 1977).

¹⁷⁸ App. Br. pp. L-121-124, 127-131; Reply Br. pp. 62-68.

¹⁷⁹ *Otter Tail Power Co. v. United States*, 410 U.S. 366, 373-374 (1973).

¹⁸⁰ *Gulf States Utilities v. F.P.C.*, 411 U.S. 747 (1973); *Municipal Electric Association of Mass. v. F.P.C.*, 414 F.2d 1206 (CA DC, 1969); *Municipal Electric Association of Mass. v. S.E.C.*, 413 F.2d 1052 (CA DC, 1969).

nuclear license conditions, "made upon an adequate record and after due consideration, in the interest of expedition and certainty." The Department further responded to written questions by the Joint Committee as follows:

In view of this, we would generally expect the Atomic Energy Commission to be the primary forum for the Attorney General's presentation of issues common to all the agencies which must grant regulatory approval. Similarly, we think it likely that in most cases the other regulatory agencies would think it appropriate for the Atomic Energy Commission to proceed first with its hearing of the antitrust issues and would give the Commission's adjudication of these issues heavy weight.¹⁸¹

Section 271 relating to agency jurisdiction¹⁸² and Section 272 concerning the applicability of the Federal Power Act,¹⁸³ cannot be construed as limiting the antitrust licensing review jurisdiction of NRC. The proviso added to Section 271 in 1965 shows on its face that no other agency was to have "any authority to regulate, control, or restrict any activities" of NRC. This proviso would control subsequently granted antitrust review and license conditioning functions of the Commission. Section 272 was intended to preserve the existing regulatory powers of the FPC over electric utilities which supplied wholesale power in interstate commerce, not to supplant the antitrust licensing responsibilities specifically imposed upon NRC when Section 105c was substantially expanded by the 1970 amendments. The section-by-section analysis in the Joint Committee Report states:

During the hearings pertaining to this legislation there was a suggestion that there ought to be a clearer indication of Congressional intent that Section 272 of the Atomic Energy Act did not constitute a modification of the Federal Power Act. The Joint Committee very carefully considered this term and concluded that the legislative history of Section 272 indicated quite clearly that the committee and the Congress had not intended thereby to modify or affect in any way the provisions of the Federal Power Act. The committee unanimously reconfirms this intention. In effect Section 272

¹⁸¹ Hearings, Pt. 1, p. 145.

¹⁸² "Sec. 271. Agency Jurisdiction. — Nothing in this Act shall be construed to affect the authority or regulations of any Federal, State, or local agency with respect to the generation, sale, or transmission of electric power produced through the use of nuclear facilities licensed by the Commission: *Provided*, That this section shall not be deemed to confer upon any Federal, State, or local agency any authority to regulate, control, or restrict any activities of the Commission." 42 U.S.C. Section 2018.

¹⁸³ "Sec. 272. Applicability of Federal Power Act. — Every licensee under this Act who holds a license from the Commission for a utilization or production facility for the generation of commercial electric energy under Section 103 and who transmits such electric energy in interstate commerce or sells it as wholesale in interstate commerce shall be subject to the regulatory provisions of the Federal Power Act." 42 U.S.C. Section 2019.

should be read as if the clause "to the extent therein provided" appeared at the end of the text.¹⁸⁴

To hold that Congress specifically mandated a prelicensing antitrust review by NRC under Section 105c, but at the same time gave primary jurisdiction to the FPC or the SEC to make such antitrust determinations under more general public interest provisions of their regulatory statutes, would ignore the plain intent of Congress. As the Appeal Board has stated, "It was a key purpose of the prelicense review ' . . . nip in the bud any incipient antitrust situation.' We can therefore perceive no valid reason why the Commission should wear blinders when confronted by such matters. No statute should be construed to render it ineffective."¹⁸⁵ If the rubric of primary jurisdiction is to be applied to any of these Federal agencies, it must be held that the NRC has primary jurisdiction of antitrust review for nuclear licensing purposes.

5. Business Justification

The "thrust upon" defense to the charge of monopolization is one of the legal issues in this case. The courts have recognized that monopoly as such is not unlawful, and that there is no violation of the Sherman Act where monopoly power has merely been "thrust upon" a company.¹⁸⁶ Monopoly power might be innocently acquired where demand is so limited that only a single large plant can economically supply it; when a change in taste or cost has driven out all but one supplier; or when one company out of several has survived merely by virtue of its superior skill, foresight and industry. "The successful competitor, having been urged to compete, must not be turned upon when he wins."¹⁸⁷ In *American Tobacco* the Court suggested the additional situation where a company has made a new discovery or is the original entrant into a new field and thus is unavoidably possessed of monopoly power.¹⁸⁸ And in *United Shoe Machinery* it was held that there was no statutory liability if the defendant bore

¹⁸⁴ H. R. Rep. No. 91-1470, reprinted in U. S. Code Cong. Serv. 5007 (1970).

¹⁸⁵ Wolf Creek, *supra*, 1 NRC 559 at 572-573. See also *Toledo Edison Co., et al.* (Davis-Besse Nuclear Power Station, Units 1, 2 and 3), *Cleveland Electric Illuminating Co., et al.* (Perry Nuclear Power Plant, Units 1 and 2), ALAB-385, 5 NRC 321, 331-334 (March 23, 1977).

¹⁸⁶ A. D. Neale, *supra*, at 92-94, 105-112; 1955 Att'y. Gen. Rep. 56-60.

¹⁸⁷ *United States v. Aluminum Co. of America*, 147 F.2d 416, 429-430 (CA 2, 1945).

¹⁸⁸ *American Tobacco Co. v. United States*, 328 U.S. 781, 786 (1946).

the burden of proving that its monopoly resulted solely from superior skill, economic or technological efficiency and the like.¹⁸⁹

However, even in these cases companies were held to have monopolized (using the active verb) where the acquisition or retention of monopoly power was in part caused by business conduct having an anticompetitive or exclusionary effect. For example, in the *Pullman* case a contract pattern, legal in itself, nevertheless evidenced a purpose to retain a monopoly position.¹⁹⁰ And *ALCOA* was not deemed to be the passive beneficiary of a monopoly following the involuntary elimination of competitors by automatically operative economic forces, nor did its market control fall undesigned into its lap.¹⁹¹ Similarly, *United Shoe Machinery's* control did not rest solely on its superior skill or the economies of scale. There were other barriers to competition which were erected by its own business policies, including the terms of its contracts and leasing arrangements.¹⁹²

¹⁸⁹ "... the defendant may escape statutory liability if it bears the burden of proving that it owes its monopoly solely to superior skill, superior products, natural advantages, (including accessibility to raw materials or markets), economic or technological efficiency, (including scientific research), low margins of profit maintained permanently and without discrimination, or licenses conferred by, and used within, the limits of law (including patents on one's own inventions, or franchises granted directly to the enterprise by a public authority)." *United States v. United Shoe Machinery Corp.*, 110 F. Supp. 295, 342 (D. Mass., 1953).

¹⁹⁰ *United States v. Pullman Co.*, 50 F. Supp. 123 (E.D. Pa., 1943), final order 64 F. Supp. 108 (1946), *aff'd. per curiam* 330 U.S. 806 (1947).

¹⁹¹ "There is no dispute as to this; 'ALCOA' avows it as evidence of the skill, energy and initiative with which it has always conducted its business; as a reason why, having won its way by fair means, it should be commended, and not dismembered. We need charge it with no moral derelictions after 1912; we may assume that all it claims for itself is true. The only question is whether it falls within the exception established in favor of those who do not seek, but cannot avoid, the control of a market. It seems to us that the question scarcely survives its statement. It was not inevitable that it should always anticipate increases in the demand for ingot and be prepared to supply them. Nothing compelled it to keep doubling and redoubling its capacity before others entered the field. It insists that it never excluded competitors; but we can think of no more effective exclusion than progressively to embrace each new opportunity as it opened, and to face every newcomer with new capacity already geared into a great organization, having the advantage of experience, trade connections and the elite of personnel. Only in case we interpret 'exclusion' as limited to maneuvers not honestly industrial, but actuated solely by a desire to prevent competition, can such a course, indefatigably pursued, be deemed not 'exclusionary.' So to limit it would in our judgment emasculate the Act; would permit just such consolidations as it was designed to prevent" 148 F.2d at 430-431.

¹⁹² "But *United's* control does not rest solely on its original constitution, its ability, its research, or its economies of scale. There are other barriers to competition, and these barriers were erected by *United's* own business policies. Much of *United's* market power is traceable to the magnetic ties inherent in its system of leasing, and not selling, its more

Continued on next page.

Another asserted defense is based upon economic and business justification for the challenged conduct. In *Otter Tail* the refusal of a utility to sell or wheel wholesale power to its former municipal customers who converted to municipal systems was asserted to be "but the exercise of proper business judgment aimed at protecting the integrity of its business." (331 F. Supp. at 56) The Supreme Court disposed of this attempted business justification argument as follows:

Otter Tail argues that, without the weapons which it used, more and more municipalities will turn to public power and Otter Tail will go downhill. The argument is a familiar one. It was made in *United States v. Arnold, Schwinn & Co.*, 388 U.S. 365, 18 L. Ed. 2d 1249, 87 S Ct. 1856, a civil suit under Section 1 of the Sherman Act dealing with a restrictive distribution program and practices of a bicycle manufacturer. We said: "The promotion of self-interest alone does not invoke the rule of reason to immunize otherwise illegal conduct." *Id.*, at 375, 18 L. Ed. 2d 1249.

The same may properly be said of Section 2 cases under the Sherman Act. That Act assumes that an enterprise will protect itself against loss by operating with superior service, lower costs, and improved efficiency. Otter Tail's theory collides with the Sherman Act as it sought to substitute for competition anticompetitive uses of its dominant economic power.¹⁹³

However, it is also important to note that the Court did not ignore the business and economic realities inherent in the electric utility industry. It went on to state:

We do not suggest, however, that the District Court, concluding that Otter Tail violated the antitrust laws, should be impervious to Otter Tail's assertion that compulsory interconnection or wheeling will erode its integrated system and threaten its capacity to serve adequately the public. As the

Continued from previous page.

important machines. The lease-only system of distributing complicated machines has many 'partnership' aspects, and it has exclusionary features such as the 10-year term, the full capacity clause, the return charges, and the failure to segregate service charges from machine charges. Moreover, the leasing system has aided United in maintaining a pricing system which discriminates between machine types. Yet, they are not practices which can be properly described as the inevitable consequences of ability, natural forces, or law. They represent something more than the use of accessible resources, the process of invention and innovation, and the employment of those techniques of employment, financing, production, and distribution, which a competitive society must foster. They are contracts, arrangements, and policies which, instead of encouraging competition based on pure merit, further the dominance of a particular firm. In this sense, they are unnatural barriers; they unnecessarily exclude actual and potential competition; they restrict a free market" 110 F. Supp. at 344-345.

¹⁹³ 410 U.S. at 369-370.

dissent properly notes, the Commission may not order interconnection if to do so "would impair [the utility's] ability to render adequate service to its customers." 16 USC. Section 824a(b) [16 U.S.C.S. Section 824a(b)]. The District Court in this case found that the "pessimistic view" advanced in Otter Tail's "erosion study" "is not supported by the record" Furthermore, it concluded that "it does not appear that Bureau of Reclamation power is a serious threat to the defendant nor that it will be in the foreseeable future." Since the District Court has made future connections subject to Commission approval and in any event has retained jurisdiction to enable the parties to apply for "necessary or appropriate" relief and presumably will give effect to the policies embodied in the Federal Power Act, we cannot say under these circumstances that it has abused its discretion.¹⁹⁴

Finally, although not controlling upon us and subject to modification or reversal on appeal, we note the following comment by the Alabama Public Service Commission on certain management decisions of the Applicant:

The final adjustment which the Commission finds necessary relates to failure of the Company — under the statutory duties imposed on it to operate under "efficient and economical management," — to take advantage of alternative methods of financing construction of the Joseph M. Farley Nuclear Plant. The Company's construction work in progress account has increased to the point that at the end of the test period in this case, CWIP amounted to approximately 57 percent of the depreciated original cost of the Company's electric plant in service. The capital supporting this CWIP gives rise to a tremendous carrying charge requirement in the form of debt interest, dividend requirements, etc., even though it produces no electricity nor contributes in any way to the present operations of Alabama Power. We are of the opinion and believe that this record shows that the proper exercising of "efficient and economical management" dictates that the Company take advantage of opportunities to divest itself of 25% of the Farley nuclear plant, either to Company affiliates or to the Rural Electric Cooperatives and municipal utilities. Such an action by the Company would make its rates more reasonable to the public.¹⁹⁵

Having considered the legal elements which establish the standards under which we must make a finding as to whether it is reasonably probably that the Applicant's activities under the license would create or maintain a situation inconsistent with the antitrust laws or their clearly underlying policies, we must

¹⁹⁴ *Id.*, at 370.

¹⁹⁵ Opinion of the Alabama Public Service Commission in Docket No. 17094, July 12, 1976, at pp. 5-6.

now relate the facts to these legal standards. Since alleged anticompetitive conduct associated with monopolization must be viewed in the context of relevant product and geographic markets, we next consider the facts in this case related to such markets.

VII. THE RELEVANT MARKET

A. The Proposed Markets

A central issue in this proceeding is the scope of the relevant market or markets. Also in dispute is whether the delineation of relevant markets and the concomitant market share statistics have the same importance in a business setting subject to public utility regulation as market analysis does in monopoly and merger cases where government regulations on price, entry, and requirements to serve are not present. In our analysis of this issue the various positions of the parties first will be distinguished, followed by a discussion of the principles of delineating markets for proceedings such as this one. Finally, the market structure found by this Board will be described.

The Department argues that there are three different and distinct relevant markets which embrace the business activities of the Applicant. They are:

- a. The retail distribution firm-power market. In this market, the buyers are ultimate consumers of electricity for residential, commercial or industrial use. The sellers are electric power companies engaged in the distribution of power, such as a municipally owned distribution system, or a rural cooperative. The Department argues that the geographic scope of the retail distribution firm-power market for this proceeding is central and south Alabama.
- b. The wholesale-for-resale firm-power market. The demand side of this market consists of electric distribution systems such as a municipally owned distribution system, a rural cooperative, or the distribution component of a bulk power supplier that has vertically integrated forward. A seller would be a bulk power producer marketing to such entities. The purported geographic scope of this market is also central and south Alabama.
- c. The market for power exchange services. In this market the buyers are bulk power producers as are the sellers. The transactions that comprise

this market consist of factors of production (or inputs) used in the production of firm bulk power. Examples of these would include the sale or exchange of transmission services, economy energy, staggered construction, reserve sharing, emergency and maintenance energy, and coordinated development of generation by joint ventures. The geographic scope of this market is suggested as embracing central and south Alabama, the regions bounded by the operating territories of the other Southern Companies, "and beyond" so as to include the exchange or sale of these factors of production with utilities contiguous to the operating companies of the Southern Company.

The two relevant markets urged upon this Board by the Staff mesh closely in their construction with the second and third proposed relevant markets of the Department. The Staff delineates a market for "bulk power supply" which is similar to the Department's wholesale-for-resale firm-power market in both its product and geographic dimensions. The Staff's second proposed market is that of "bulk power supply services," which parallels the Department's power exchange services. The Staff contends, however, that both markets are limited to Applicant's service territory of central and southern Alabama while the Department argues that the latter market is more expansive in its dimensions.

AEC concurs with the Department's market definition analysis as does the MEUA. The market share statistics that are derived from these definitions will be presented after summarizing Applicant's contentions on this issue.

The position of Applicant on the issue of relevant markets is threefold. First, Applicant argues that because of government regulation of the generation, transmission and distribution of electrical power, the conventional antitrust analysis of markets is vitiated or at least made less useful for a proceeding such as this one. For example, Applicant views retail firm-power systems as natural monopolies for which competition between suppliers would be inappropriate, and argues that competitive forces acting upon transactions for wholesale firm power are minor. Secondly, Applicant believes that if any market shares for its business are to be calculated, they should be on a statewide basis. Finally, Applicant, rather than proposing its own definitive markets, has directed most of its analysis on this issue towards rebuttal of the relevant market proposals of the other parties in this proceeding, upon whom Applicant argues the burden rests for proving the existence of such markets.

The different market definitions naturally produce differing market shares for Applicant. Consider first the Department's statistics. Department witness Dr. Harold Wein calculated that Applicant held 84% of the retail sales of electricity in central and southern Alabama on the basis of demand, and 88% on the basis of energy. His estimates for 1972 are as follows:

**CENTRAL AND SOUTHERN ALABAMA
RETAIL SALES OF ELECTRICITY. 1972**

	Demand (mw)	%	Energy (mwh x 1000)	%
Alabama Power Company	4,120	84	21,657	88
Municipal Systems	407	8	1,610	7
Distribution Cooperative	357	8	1,335	5
Alabama Electric Cooperatives	<u>13</u>	<u>0</u>	<u>62</u>	<u>0</u>
Total	4,897	100	24,664	100

(Wein, Direct, 67; Foltz, Tr. 12,841-12,843.)

Dr. Wein concluded that Applicant's share of the relevant wholesale market was even larger. His estimates for 1972 are as follows:

**CENTRAL AND SOUTHERN ALABAMA
WHOLESALE SALES OF ELECTRICITY. 1972**

	Demand (mw)	%	Energy (mwh x 1000)	%
Alabama Power Company	4,577	93	23,313	95
Tennessee Valley Authority	47	1	227	1
Alabama Electric Cooperatives	195	4	765	3
Southeastern Power Admin.	<u>78</u>	<u>2</u>	<u>359</u>	<u>1</u>
Total	4,897	100	24,664	100

(Wein, Direct, 67; Foltz, Tr. 12,841-12,843.)

In its power exchange services market, the Department proffers no market share statistic for Applicant because there exists no common denominator in which all of the transactions in this alleged market can be quantified. Instead, the Department states that a key factor in gaining access to this market is the possession of high voltage and extra high voltage transmission lines. In the central and south portion of Alabama in 1973, AEC had 345 pole miles of 115 kv transmission lines and none higher. In contrast, Applicant had 4,355 miles of high voltage transmission lines of at least 115 kv and owns all of the lines which connect with bulk power supply entities outside the central and southern Alabama area (Wein, Direct, 72-73; APP. X 197; DJ 1,008). Because access to transmission is necessary (in the Department's view) to the power exchange services market, Applicant's dominance of transmission implies the ability to preclude rivals from access to this market.

Applicant claims that its status as a public utility under Alabama law imposes upon it the obligation to be willing to provide service at retail anywhere in

the state of Alabama but not beyond. It views the central and southern Alabama limitation as artificial. In 1972 total retail sales of electric power in Alabama were 41,185,000,000 kwh of which Applicant sold 21,657,000,000; this places Applicant's share at about 53%. The remainder is divided among TVA, AEC, and municipalities and cooperatives in the state (APP. X 196A).

In discussing its share of the wholesale bulk power business in Alabama, Applicant distinguishes between wholesale sales for resale and power transmitted to its own integrated distribution system. Note the distinction here. The Department's market analysis counts energy delivered by Applicant to its own retail distribution system as a wholesale transaction. Applicant excludes this power on the grounds that it involves no market "sales" and is not considered a wholesale transaction in industry parlance.¹⁹⁶

Applicant's definition, applied to the entire state of Alabama, greatly reduces its share of the wholesale business compared to the Department's contention. In 1973, total wholesale sales, by Applicant's definition, amount to 10,783,000,000 kwh. Of this universe, TVA sold 72%, Applicant 17%, AEC 7%, and SEPA 3% (APP. X BJC-A, (Crawford) p. 130; APP. X BJC-36). If AEC were considered to control those wholesale sales which are physically supplied to its members by Applicant and SEPA, then the 1973 statewide share for Applicant drops to 12%. The difference between this 12% figure and the 95% figure proffered by the Department exemplify again the potential for statistical manipulation in relevant market delineation and the careful scrutiny such figures must receive before any conclusions can be derived from them.

B. The Role of Market Analysis

Because the parties in this proceeding are at odds not only in their definitions of the markets which should be considered by this Board, but also as to the use or weight that should be placed upon market analysis, it seems prudent first to discuss the rationale for market analysis in antitrust inquiries.

The concept of a *market* is an analytical construct, a theoretical device used so that complex reality might be better understood. The types of reality it endeavors to illuminate vary in their outward characteristics—witness the differences in an organized securities market, a local auction, and a union hiring hall.

But there are characteristics common to any market. There must be at least one buyer and one seller; there must exist a distinguishable product (or service) for which there are no close substitutes; and there must exist the ability (or the right) for the parties to strike a bargain with one another for this product. The

¹⁹⁶ Such sales are not reported as "sales for resale" by electric utilities such as Applicant to the Federal Power Commission which has regulatory jurisdiction over the sale of wholesale power of electric utilities (APP. X 97).

fact that there is only one buyer and many sellers (or vice versa) does not negate the existence of a market (as Applicant seems to contend), although the number of sellers or buyers will affect the economic model by which a market will be analyzed.

In antitrust analysis, a market also has a geographic dimension based on the locations of the actual (or likely potential) sellers and buyers of the product or service in question. In this nuclear licensing proceeding, to determine the geographic scope of any market, two questions must be answered: (1) where are Applicant's actual and likely potential customers? (2) what are the locations of other entities selling (or readily capable of selling) to these customers? Or to put the matter directly, what area can be bound in which customers of the product are purchasing little (or none) of the product from sellers outside the area *and* sellers of the product in the area are selling little (or none) of their product outside the area.

The exercise of defining the relevant market(s) in an antitrust proceeding is not an academic one nor is it offered merely for description. It is done for an analytical purpose. This purpose is to allow an inference, based on the structure of the market that is delineated, as to whether the defendant (or in this proceeding, Applicant) firm possesses monopoly power, that is, control over price or the ability to exclude entry.¹⁹⁷ In this proceeding, Applicant's position in the relevant market(s) is determined because it bears on Applicant's ability to carry out Farley license activities inconsistent with the antitrust laws. Obviously if Applicant operates in a relevant market found to have many rival sellers and easy entry by others, this Board would draw a different inference about its potential utilization of the Farley Plant than if it operates from a position of market dominance. Moreover, under the antitrust laws, this Board must look at Applicant's past behavior with different spectacles if Applicant operates from a position of dominance in the relevant market(s) than if it does not. Conduct acceptable by a firm with a small market share may be unlawful if carried out by a large firm in a different market setting.^{197a}

Before describing the relevant market(s) for analysis here, there is one final matter to consider: Applicant's contention that market structure analysis is inappropriate in a business setting such as this one. This view is not at all implausible on the face of it. After all, the electric power business has often been viewed as a natural monopoly and producer activity has long been circumscribed by regulatory mechanisms not found in industries that historically have come under antitrust scrutiny.¹⁹⁸

Specifically there are three features about the supply of electric power (for

¹⁹⁷"Monopoly power is the power to control prices or exclude competition." See *United States v. E. I duPont de Nemours and Co.*, 351 U.S. 377, 391 (1956).

^{197a}*United States Steel Corp. v. Fortner Enterprises, Inc.*, ____ U.S. ____, 51 L.Ed. 2d 80, 84 fn. 1 (1977).

¹⁹⁸James E. Meeks, *supra* at 65-66.

a seller such as Applicant) which do not characterize sellers of products such as shoes, beer, or steel. The first is that the terms in which the product is sold are not solely the result of a bargain struck between the seller and the customer. Intervening in this price formation is a regulatory agency. In addition, the seller, unlike a conventional market situation, may not be free lawfully to transact with all customers who provide profitable opportunities, or to stop selling to customers who are financially unattractive. Finally, more than in many manufacturing and distribution industries, it is the opinion of many observers that there are extensive economies of scale in the generation and transmission of electric power. Consequently, sellers in this industry who first exploit or take advantage of these scale economies may, through free market forces, find themselves holding significant if not dominant market shares.

However, the existence of utility regulation in which prices, entry, or quality of service is controlled does not negate the existence of a market. There remain the requisite buyers and sellers. What is affected is the voluntary nature of the bargains that are struck between them. The existence of a regulatory agency inserts a wedge between the demand and supply sides of the market. The effect of this is not to eliminate the market but rather potentially to break the link between market structure analysis and the typical implications drawn in antitrust from such studies. The price at which electricity sells could be equal to, above, or below the competitive ideal. This height will be a function of the regulatory agency's activity perhaps more than being a function of the industry's structure on the supply side.

If regulation is more than a chimera, this means the structure of a regulated industry (such as electric power) may not produce the conduct and performance implications generally found in markets where price formation is the result only of bargaining between the supply and demand sides of the market. Applicant's contention in this regard is correct.

Where Applicant errs is concluding that because regulation, either by the FPC or the Alabama Public Service Commission, can break (or affect) the link between market structure and market conduct and performance, the reach of antitrust has also been broken or affected. Congress and the Courts have given this Board no such option. Indeed, as the Court held in *United States v. Philadelphia National Bank*, 374 U.S. 321, 368 (1963), "Repeals of the antitrust laws by implication from a regulatory statute are strongly disfavored and have only been found in cases of plain repugnancy between the antitrust and regulatory provisions." A similar view has been expressed by the Supreme Court in relation to the electric power industry.¹⁹⁹

¹⁹⁹ "There is nothing in the legislative history [of the Federal Power Act] which reveals a purpose to insulate electric power companies from the operation of the antitrust laws. To the contrary, the history of Part II of the Federal Power Act indicates an overriding policy of maintaining competition to the maximum extent possible with the public interest." *Otter Tail Power Co. v. United States*, 410 U.S. 366, 374-375 (1973).

This means that the market analysis in this proceeding is unaffected by the performance, good or bad, pervasive or sketchy, of regulatory agencies controlling the economic behavior of Applicant, its rivals or its customers. Nor need we reach any judgment as to the efficacy of this regulation. The purpose of Section 105c, as indicated earlier, is to establish a market setting for the generation of nuclear power such that the objectives of the antitrust laws will be met and, indeed, so the very spirit of the institution of antitrust will be operative. Presumably Congress intended that the promotion of antitrust in this setting would minimize the need for regulation and serve to repair whatever inadequacies in such regulation might exist by maximizing the regulatory restraints produced by competitive forces.

Note also that regulatory constraints placed upon sellers as to whom they cannot serve (and whom they must serve) do not vitiate the usefulness of the market concept. For example, a geographic restriction which limits a seller to particular areas or a buyer to particular products is conceptually no different from a mountain range which precludes, by virtue of transportation costs, the interaction between some buyers and sellers and thereby places them in different markets.²⁰⁰ At most the regulatory mechanism as it operates in this context serves to limit or demarcate the geographic scope of the relevant market.

Finally, the antitrust laws provide ample room for the defense of the firm whose dominant market position arises solely from the pursuit of legitimate, efficiency-inducing business behavior such as the exploitation of economies of scale (*ALCOA*).²⁰¹

This has been a long route to reach the kitchen. But having stated the principles and role that market structure analysis plays in this proceeding, the depiction of the relevant markets can be articulated in a more succinct fashion.

C. The Market Relevant To This Proceeding

The record before this Board does not permit a ready or facile application of the principles just cited to delineate the market(s) relevant to this proceeding. The testimony on this issue was contradictory as between witnesses (if not, at times, by the same witness); and the briefs themselves were not without factual error and ambiguity. The Department's key witness on this issue, without gain-saying his broad experience, appeared to be locked in to particular market definitions (prior to his research on the case) which he himself was not completely comfortable defending. Moreover, given the importance the two Intervenors and Staff placed on the market structure issue, the Board has found it unfortunate that these parties seemingly were content to give such tractable

²⁰⁰ The analogy is not perfect. A mountain range is not of infinite height and, at some price, goods (or customers) will move across it. A legal restriction may be insurmountable.

²⁰¹ *United States v. Aluminum Company of America*, 148 F.2d 416 (CA 2, 1945).

assent to the Department's contentions. The Board also felt itself handicapped by Applicant's notion that the responsibility for delineating a relevant market rested entirely with the other parties (see APP. PFF, p. 441). This view is itself incorrect. Former Board member Schwarz, at the reference Applicant cites (Tr. 2579) stated only that the Department has "a burden," not necessarily the sole burden in showing the appropriate market(s) which the Board should adopt.

This Board does find that a study of the record allows the demarcation of only one market for the purpose of analyzing Applicant's past conduct and its likely future behavior upon completion of the Farley Plant. This market is the one for bulk wholesale power in central and southern Alabama. Prior to outlining the product and the geographic dimensions of this market, we shall give the reasons for rejecting other alleged markets. Then the market for wholesale power in central and southern Alabama will be described and the implications of Applicant's position in it will be discussed.

1. Rejection of Bulk Power Supply Services

In the course of this lengthy proceeding, a substantial amount of direct testimony and cross-examination was devoted to the alleged existence of the so-called market of "power exchange services." The testimony of various witnesses was at times useful to this Board in understanding the phenomena which underlay this protracted discussion. While we reject this particular market definition proffered by the Department, Staff, AEC and MEUA as a meaningful and useful category of analysis, we do note an important collection of inputs that, while certainly not comprising a market, do correlate with this proposed "market."

The confusion we find embedded in a market definition of "power exchange services" is that such a market clearly would include a variety of factors that in no way could be considered close substitutes for one another.²⁰² A bulk power producer who could benefit from reserved sharing would not find emergency energy a close substitute. A bulk power producer in need of maintenance energy would not find staggered construction a palatable alternative.²⁰³ What is common to all of the elements in this alleged "market" is that they are

²⁰² Department's witness Wein at one point claims that relevant markets are determined by the criterion of substitutability but later admits that the services bundled under the rubric of a regional power exchange (or bulk power services) market are not substitutes (Tr. 13,655-13,656).

²⁰³ Applicant's witness Pace is much closer to the mark in suggesting that, in addition to a market for long-term firm power, there exist two additional bulk power markets: (1) a market for emergency support, *i.e.*, immediate and short-run access to emergency capacity; (2) a market for short-term capacity purchases to remedy unexpected capacity shortfalls (APP. X J.D.P.-A (Pace) p. 59). However, this witness did not offer the quantitative dimensions of these alleged markets.

all important *inputs* into the efficient and reliable production of bulk power generation. But the elements are not usually close substitutes for one another, and hence, not in the same market.

By way of example, leather and stitching thread are both inputs into the production of shoes. But they are not substitutes for each other in the production of leather footwear and consequently are not part of the same market. That two firms have a common customer does not place the two sellers in the same market.

This Board realizes that under some circumstances there is authority for clustering diverse services sold by one type of firm together into one market, *United States v. Philadelphia National Bank*, 374 U.S. 321, 356 (1963). But in *Grinnell* the Court observed that the "reasonable interchangeability" test required consideration of substitute products.²⁰⁴ The Court further spoke of "the low degree of differentiation required of substitute services as well as substitute articles," and concluded:

There are, to be sure, substitutes for the accredited central station service. But none of them appears to operate on the same level as the central station service so as to meet the interchangeability test of the DuPont case.²⁰⁵

2. Rejection of the Proffered Retail Market

A second market proposed as being relevant to this proceeding is that of retail firm power in central and southern Alabama. This market, hereafter called the retail power market, is comprised on the supply side of electric utilities who distribute firm bulk power (either self-generated or purchased in the wholesale power market) over distribution lines located in a particular service area. The demand side of this market would consist of the ultimate consumers of electricity: generally households, farms, commercial businesses, and industrial establishments.

Retail firm power is clearly a distinct product market. Those consumers who are in the position of buying electricity for ultimate consumption do not have economical substitutes on the supply side. To be sure, for many purposes some cross-elasticity of demand with other energy sources exists. A homeowner may be able to shop between electricity and gas for residential heating; a business enterprise may confront a meaningful choice between using internal combustion engines or electric motors for a particular production process. But for

²⁰⁴ *United States v. Grinnell Corporation* 384 U.S. 563, 573 (1966).

²⁰⁵ The relevant market is to comprise "... commodities reasonably interchangeable by consumers for the same purposes. ..." *United States v. E. I. duPont de Nemours & Co.*, 351 U.S. 377, 395 (1956).

many, many purposes, electricity provides the only realistic alternative for the operation or functioning of various mechanisms. No other sellers of energy can offer a meaningful substitute. Because of this, the market for retail power can be clearly delineated as to its product characteristics. Applicant is a seller of retail power in central and south Alabama. In 1972, it sold 21.7 billion kwh (Wein, Direct, p. 67).

A case can be made that there is competition among retail sellers of electricity in central and south Alabama. There is evidence in this record of limited rivalry between retail utilities. Some of the rivalry is even actual head-to-head, street-to-street competition (such as in the city of Samson; Wein, Direct, p. 89). There is also some competition for new loads and for customers in the interstices of the service areas of retail distribution systems. In addition the concept of yardstick competition undoubtedly plays some role in the minds and in the behavior of distribution entities. And possibly the yardstick most often used in measuring the performance of any retail distribution system in central and south Alabama is that of another distribution entity in the same area. But the Board nevertheless rejects the proposed market for retail firm power in central and south Alabama proposed by the Department, MEUA, and AEC (but not the Staff).

The Board has surveyed and resurveyed the evidence of competition among retail distribution systems in central and south Alabama. Our reaction to this as constituting one singular market is similar to King Agrippa's when preached to by the Apostle Paul: "almost thou persuadest me" (Acts 26:28). But not quite.

The fact is that most buyers at retail of electricity anywhere in central and south Alabama have little choice on the supply side (short of moving) than the one seller supplying that service territory where they live.²⁰⁶ Moreover, few retail sales by any distribution entity are made outside the seller's territory (almost by definition). Furthermore, the prospects of one distribution entity selling within another utility's service area are slim — and economically wasteful to boot. Applicant has contended that the distribution of power at retail is a natural monopoly (APP. X JDP, (Pace) p. 5; see also Wein, Direct, pp. 51-52). For the purposes of this proceeding, we concur. As the Court in *Otter Tail* found, "Each town . . . generally can accommodate only one distribution system, making each town a natural monopoly market for the distribution and sale of electric power at retail." *Otter Tail Power Co. v. United States*, 410 U.S. 366, 369 (1973). There exists rivalry among retail sellers. But it is inframarginal in proportions, not adequate to bind all the sellers of electricity at retail in central and south Alabama into one geographic market (APP. X BJC, (Crawford) pp.

²⁰⁶ Department's witness Wein even concedes that customers of a given distribution entity are "captive" to it "unless they move out of town" (Wein, Tr. 12,503).

21-51, 61-118).²⁰⁷ In no way can the distribution entity at Tuskegee be considered as a meaningful rival for the retail customers of the distribution system in Evergreen.²⁰⁸

The markets at retail that do exist in central and south Alabama would constitute the many different distribution systems existing there and the respective service areas of each. Any given distribution system, be it a municipal, a cooperative or Applicant, would supply essentially 100% of the retail electricity consumed in each market. But it would serve no purpose to delineate and identify each of these separately as a market since what is happening in each of these markets, where the distribution system is the seller, is of little consequence for this proceeding. Competition *between* retail distribution systems, if it is of only inframarginal proportions, is presumably outside of the scope of antitrust remedy.

This is not to say that the economic viability of retail distribution systems is outside the reach of the antitrust laws or beyond the pale of this Board's concern. Quite the contrary. In *Otter Tail*, the Court unambiguously manifested a concern with the economic viability of the retail distribution function in the electric power industry.²⁰⁹ But in that case, the Court scrutinized the distribution entity's ability (or potential ability) to survive and prosper in the face of obstacles it encountered as a *purchaser* of bulk power, *i.e.*, the focus has been upon the retail distribution entity as a buyer (or potential buyer) in the wholesale power market.

In *Otter Tail*, every anticompetitive practice performed by the defendant related directly to the ability of a retail distribution system (either proposed or existing) to establish itself as a buyer in the wholesale power market. The Court cited four obstacles municipal distribution systems faced in gaining access to the wholesale market as buyers:

- (1) refusals to sell power at wholesale to proposed municipal systems in the communities where it had been retailing power;
- (2) refusals to "wheel" power to such systems, that is to say, to transfer by direct transmission or displacement electric power from one utility to another over the facilities of an intermediate utility;

²⁰⁷ Applicant's witness Crawford, in addition to relating the scope of territorial agreements and nonduplication understanding as between distribution entities, also relates the extend of duplicative lines in central and southern Alabama. Of almost 75,000 miles of distribution line operated by Applicant and rural cooperatives, about 130 miles were duplicative (.00175%) (APP. X BJC-A, (Crawford) pp. 35-36).

²⁰⁸ It is curious, if not disingenuous, for MEUA and AEC to argue for a near statewide relevant market for retail power given the evidence in this proceeding of their efforts to protect their service territories from competitive intrusion (see St. John, cross by Applicant, Tr. 2920-3313).

²⁰⁹ *Otter Tail Power Co. v. United States*, 410 U.S. 366 (1973). See also *Gulf States Utilities v. Federal Power Commission*, 411 U.S. 747 (1973).

- (3) the institution and support of litigation designed to prevent or delay establishment of those systems; and
- (4) the invocation of provisions in its transmission contracts with several other power suppliers for the purpose of denying the municipal systems access to other suppliers by means of Otter Tail's transmission systems. 410 U.S. at 368.

Likewise, the relief decree of the District Court, in every facet, affected retail distribution systems in their access to and role as buyers in the market for bulk wholesale power.

This leads us, then, to that market which is singularly relevant for the licensing of nuclear facilities to generate electricity: the market for wholesale power.

3. Market for Wholesale Power

The market for wholesale bulk power (hereafter the wholesale power market) comprises electric utilities on both the demand and supply sides of the marketplace. Sellers are those entities generating and providing bulk electric power to distribution entities who are intending to retail this power. Some of the basic production inputs needed for efficient and reliable supply in this market consist of generating plants, bulk power supply services, and transmission lines (unless the buyer is able to supply the latter factor of production).

Competition in such a market would take the form of sellers trying to render superior service to their current utility customers (in order to retain them) and seeking the business of other utility customers who may be currently served by rival sellers of wholesale power. Competition, if only potential, also may take the form of distribution systems, solely or jointly, considering integration backwards into the development of their own generation capacity.

Wholesale power is clearly a distinct product market. Those who are in the position of buying and reselling electrical power do not have economical alternatives on the supply side for wholesale power. No other sellers of energy can offer a meaningful substitute product. For example, a municipal distribution system, short of vertical integration backwards into generation, is dependent entirely upon sellers of wholesale electric power. Because of this the market for wholesale power is a relevant one for antitrust analysis.

4. Defining a Sale in this Market

Applicant is clearly a seller in this market. How much it sells, and therefore its market share, is not however unambiguously apparent. This hinges upon the rather narrow question of how a "sale" or market transaction is defined.

A fundamental distinction in law, economics and common parlance is that drawn between transactions within a firm and those between firms. When a worker assembling toasters puts on the base plate and the device then passes to the next worker for the installation of the cord, no one would argue that a sale or market transaction has taken place between the two employees of the firm. A market transaction *has* occurred when the toaster leaves the factory and is sold, say, to a department store. In the assembly of the toaster, a theory of firm behavior may be needed to understand the economics involved; in the sale of the toaster a theory of markets would be appropriate.

In like fashion when Applicant moves bulk power generated by itself to one of its own retail distribution centers, it insists a market transaction has not occurred. Applicant contends that only when it sells bulk power to an entity like AEC is a market transaction involved, for Applicant is then a supplier making sales in a wholesale power market.²¹⁰ Contrary to this, as mentioned earlier, Applicant's opponents count as "sales" the power delivered to Applicant's 639 retail distribution systems.²¹¹

But Applicant's contention both cuts for it and against it. It cuts for it in this way. If the Applicant's vertically integrated structure means that no "sale" takes place between the function of generation and distribution, so that there is no "market" to its own distribution systems, then an enormous amount of electrical power (for which Applicant is the seller) is precluded from the market share calculation.

²¹⁰ Moreover Applicant seems to be arguing that even if such a sale were to take place at a "shadow" price within the firm, it still would not be part of any wholesale market because Applicant's distribution systems are "captive," *i.e.*, there is no meaningful competition from other sellers for their business.

²¹¹ Although it should be indicated even Department witness Steitz conceded unfamiliarity with the notion of imputing a vertically integrated utility's retail sales as wholesale transactions. At pages 12,706-12,707 of the transcript the following (edited) colloquy took place.

Q (by Mr. Balch): Have you ever seen such treatment of market data in any previous work you have ever done for any clients?

The Witness: No sir. . . . We have not seen it before.

Q (by Mr. Balch): Have you ever seen in any publications dealing with market data relating to the electric utility business, or any agency such as the Federal Power Commission, Kansas Public Service Commission, EEI, or the publishers of Electrical World — anybody has ever undertaken to treat as wholesale sales, and included in the development related to wholesale sales, transactions involving retail sales?

The Witness: Mr. Balch, to the best of my knowledge, I don't remember specifically seeing information compiled as we have done here.

Such a line of reasoning cuts against Applicant in this way. If Applicant's distribution systems are not to be counted among the market for wholesale power, then the generation or sale of power by AEC to its own members could be excluded for the same reason. Applicant's franchise of its distribution systems is arguably no different than AEC's control over its members (See Tr. pp. 23,504-23,507; AEC X-3, (Lowman) pp. 104-106). Indeed AEC claims that it *is* its members, by virtue of being a membership cooperative. This would mean that while AEC is a buyer in the wholesale power market in central and south Alabama (because of its more limited vertical integration), it is not a seller at wholesale. If the geographic market of central and south Alabama is appropriately defined, then apart from a small amount of TVA and SEPA power being sold in this area, Applicant would be virtually the sole occupant on the supply side of this market. It becomes far and away the dominant firm.

Were the Board to adopt this definition of a wholesale transaction, the only sellers other than Applicant of wholesale power in central and south Alabama would be TVA and SEPA. TVA, with facilities in seven states, sells wholesale power in two cities in central and south Alabama: Bessemer and Tarrant City (DJ 1,007). SEPA, an agency of the Department of the Interior, sells surplus power from the Corps of Engineers, some of which is marketed in central and south Alabama to retail distribution systems (Fortune, Tr. 14,689).

The Board, after giving much attention to this issue, does not adopt such a strict definition of "sale" and instead, includes the supply of power by a generating entity to its "captive" and on-system member distribution entities as a wholesale transaction to be considered as well. This functional rather than literal approach will be explained after indicating why the Board has adopted a central and south Alabama market definition.

5. The Scope of the Market's Geography

This market's geographic contours follow directly from the principles cited earlier and, it turns out, would include the same area regardless of the alternative definition selected for a wholesale power transaction.

Applicant sells no bulk firm power to distribution systems located outside central and south Alabama, either to captive or independent entities. If AEC is considered a seller of wholesale power, its sales are confined almost exclusively to this same region.²¹² So the bulk power suppliers located in central and south Alabama (whether Applicant alone or Applicant and AEC) sell very little power outside this geographical area.

²¹² AEC does sell some power into the panhandle area of Florida to its member cooperative Choctawhatchee Electric Cooperative. This distribution entity also is a customer of the Gulf Power Company. In addition Choctawhatchee operates a diminutive (10 mw gas turbine) generating plant – which constitutes less than 10% of AEC's generating capacity.

It is true that there are two suppliers of wholesale power to central and south Alabama located outside the area: TVA and SEPA. The relative size of their sales alone might serve to disqualify their influence and therefore their inclusion in the market. But it is the particular characteristics of their sales that give this Board no difficulty in excluding them, and therefore, in rejecting Applicant's contention that an Alabama statewide region be adopted for purposes of analyzing wholesale sales.

The entire state of Alabama would be an appropriate geographic market area only if wholesale suppliers in northern Alabama (TVA is the obvious entity involved here) could compete for retail loads in central and southern Alabama and Applicant could sell in the eleven northernmost counties of the state as well. Such is not the case.

The Applicant's chances of selling in the northern eleven counties in the immediate future are slim, albeit greater than TVA selling south (APP. X J.M.F.-A, (Farley) pp. 206-207; Farley, Tr. p. 20,566). Applicant holds itself out to serve anywhere it is chartered in the State of Alabama and there is some testimony to the effect that Applicant might become more competitive with TVA for the latter's wholesale business (Wein, Direct, pp. 65-66). But Applicant clearly is not a vigorous contender for wholesale business in the TVA area (Tr. 23,809-23,816).²¹³

Moreover to delineate accurately a statewide market for wholesale power to fit the purposes of this inquiry would entail the northern based supplier TVA to be at least a likely potential source of supply in central and south Alabama. Short of statutory change, this is impossible. A 1959 Act of Congress limits TVA's sale or distribution of power to those areas it served on July 1, 1957, 16 U.S.C. Section 831n-4a. Not only is TVA unlikely to come south (and Applicant is making no plans to go north), Applicant actually delivers the power TVA sells in central and southern Alabama to the TVA substations at Bessemer and Tarrant City (Tr. 20,567). Save for load growth in these two cities, TVA cannot become a more substantial source of supply in this market.

SEPA supplied approximately 150 mw of wholesale power in central and southern Alabama in 1973 from the Walter F. George dam on the Chattahoochee river which bounds Alabama and Georgia (Wein, Direct, p. 68A). But it is clearly a hybrid seller of wholesale power with limited growth prospects in this market (St. John, Direct, p. 8). Because of its size, its growth potential, and the fact that its wholesale power is not firm power in the conventional sense of that term (Wein, Direct, p. 92; St. John, Tr. 4,263-4,270), it would be illogical if its operations outside of central and southern Alabama would suffice to expand the

²¹³In response to one question from the Board about Applicant's seeking to serve customers in the eleven northernmost counties, Applicant's witness Crawford replied, "No. sir. We have never, to my knowledge. We have never called on them with the idea of trying to get them to change service to Alabama Power Company" (Tr. 23,810).

relevant geographic market in this proceeding beyond the central and southern Alabama boundaries.²¹⁴

In short, it is because of the pattern of demand and supply that we find Applicant's sales of wholesale power to be in a geographic market of central and southern Alabama. The bulk power suppliers located in the area (Applicant and AEC) sell very little power outside the region. Moreover, the actual suppliers located outside the area (TVA and SEPA) do limited and peculiar business inside. The other utilities adjacent to the Applicant are operating companies of the Southern Company (Georgia Power, Mississippi Power, and Gulf Power) and are not currently a competitive factor, actual or potential, in central and southern Alabama; nor is Applicant a factor in their supply areas (APP. X J.H.M.-A, (Miller) pp. 120-121; Farley, Tr. 19,074-19,007).

6. The Functional Nature of the Wholesale Power Market

The reasons for considering a wholesale market with the unusual configuration of including sales to captive or member distribution systems are twofold.

The first is because the supply of firm bulk power to any retail distribution system, even if not transacted at a money price within a vertically integrated business stratification, does encompass two different and widely recognized functions. The functional view of the electrical power industry is: generation, transmission and distribution. Consequently, the shadow price at which bulk firm power may be supplied to a captive or member distribution system is a wholly different animal from the shadow price at which, say, a toaster without a cord is supplied from one employee to the next one who attaches the cord to the appliance. This is a key distinction in defining the market this way. One must rise to the realm of abstraction and speculation to imagine a firm selling a toaster without a cord to another firm that attaches the cord. One need not rise to such a realm of abstraction or speculation to imagine two firms selling and buying wholesale power with each other. This happens. So, for one, there is a functional reason for viewing Applicant's and AEC's sales to seemingly "captive" entities as constituting wholesale sales (see J. Hirshleifer, "On the Economics of Transfer Pricing," 29 *Journal of Business* 172 (1956)).

The second reason is because in this proceeding, it is a contention of Applicant's opponents that the limited competition that might now exist for retail loads, even captive, or those of AEC members, could become more vigorous with the appropriate licensing conditions to the Farley units. Indeed, one need not read between the lines in this case to see the Department's vision of a market

²¹⁴SEPA can provide no more than 20% of any utility's load as of 1968 (St. John, Direct, p. 8; Tr. p. 4,261).

where retail systems shop both in and outside the central and southern Alabama area for wholesale power.²¹⁵ Since such competition could involve the shifting of retail loads among different suppliers, it is prudent that this Board examine whether Applicant's share in such a market might already be so insignificant as to constitute no antitrust problem.

We are mindful of Applicant's contentions that there is little evidence of a fluid shifting of retail loads among wholesale suppliers in central and southern Alabama. And we are aware that actions by Intervenor AEC, in the form of its 35 and 40-year all-requirements contracts, only limit further the potential for competition at wholesale. The Board is persuaded by the record in this proceeding that the rate of turnover among buyers and sellers common in many other markets will not become the order of the day in this one.²¹⁶ By way of comparison, department stores can and do shift between toaster suppliers (and toaster manufacturers between department stores) with much more ease and regularity than an electrical distribution system, especially one with membership ties or perpetual franchise, could shift to a new supplier of wholesale power.

Competition for wholesale loads that have actually resulted in changes in supplier include the situations in Evergreen, Luverne and Troy where AEC lost business to Applicant (DJ 4,277-4,297; DJ 207; DJ 4,337). Other examples of such competition in central and south Alabama could be cited (St. John, Direct, pp. 10-14; DJ 4,298; DJ 4,301-4,302; DJ 4,308-4,311; DJ 6,041; Tr. 23,477-23,487).²¹⁷ But there is no gainsaying the obstacles to such competition. A municipality served by Applicant under a franchise cannot shift easily to AEC; an AEC member cannot shift readily to Applicant for wholesale power. Clearly we are talking about competition at the margin here. As Applicant's witness Crawford testified in response to a question as to whether there was competition for wholesale loads: "The answer to that question is a qualified yes" (APP. X BJC-A, (Crawford) p. 131).

Yet one of the lessons of economics is the importance and efficacy of marginal adjustments. In economic matters, tails often do wag dogs. In this

²¹⁵One seeming anomaly in this case is that, while arguing that Applicant has thwarted the development of rival generation on the supply side of the market and sought to lock up retail loads for itself on the demand side of this market, the Department has, at the same time, allied itself with a party (AEC) which, in its 35 and 40-year all-requirements contracts with its members, has carried out the very business practice objected to by the Department (see Crawford, Ex 38). However, this is not an inquiry into the practices of AEC, and the doctrine of *in pari delicto* has no vitality in this case. *Perma Life Mufflers, Inc. v. International Parts Corp.*, 392 U.S. 134 (1968).

²¹⁶For evidence on this see Joe D. Pace, "Relevant Markets And The Nature Of Competition In The Electric Utility Industry," 16 *Antitrust Bulletin* 725, 767-757 (1971).

²¹⁷The resolute manner in which Applicant and AEC have participated in this proceeding is itself evidence of their potential, if not actual, competition for wholesale loads.

market setting, it is precisely because buyers are often locked into one seller, and a seller limited to a definite geographic area for its retail customers, that the "tail wag" should be preserved. It represents one outlet for the limited competition possible in electric power supply. It is the very type of competition that, in regulated or quasinatural monopoly settings, the antitrust laws should be especially zealous to maintain, either to mitigate any undesirable effects of the market structure or the shortcomings of regulatory authorities. The preservation of this rivalry would seem to require the existence of a number of different buyers and sellers (although not at the expense of economic efficiency).

7. Applicant's Market Share

As indicated, Applicant's share of the wholesale power market in central and south Alabama is in part a function of how a sale is defined. The basic alternatives are these:

- a. Power generated by Applicant and sold at retail by Applicant is counted as a sale in the wholesale power market along with all other "sales for resale" by the Applicant (except sales to AEC).²¹⁸ This means Applicant's sales include those to its own "captive" distribution systems; to the two independent cooperatives and 15 non-AEC municipalities it serves; and Applicant's sales to nine members of AEC.²¹⁹ The only other source of supply in this market configuration is the generation and transmission cooperative AEC, selling power which it generates itself or purchases as supplemental firm power from Applicant and supplies to 13 of its members (those on-system). Applicant's share of the market, under this alternative, in 1974 was approximately 96 percent. It remains at approximately 96 percent even if SEPA power to AEC were included in the calculation.
- b. As a second alternative, Applicant's power supply to its own distribution system is not characterized as a wholesale transaction (as Applicant contends it should not be); but in like fashion power "sold" by AEC to its on-system members also is not counted as a wholesale

²¹⁸ AEC's purchases from Applicant of "firm power supplementing [its] own generation" are not viewed as a wholesale transaction in this market, but rather as an input purchase by AEC which facilitates its position as a supply entity in the wholesale power market in central and south Alabama. See APP. X 97, Account 447, Sales for Resale in Applicant's Annual Report to the Federal Power Commission.

²¹⁹ The nine members (5 off-system and 4 on-system) take power directly from Applicant-served delivery points. While AEC itself serves as the purchasing and billing agent for these transactions, physically it is not the supplier of the power.

transaction. Under this market configuration, of course, Applicant's share of the wholesale power market is 100 percent.²²⁰

- c. A third alternative also follows Applicant's contention that power supplied by it to its own distribution entities does not constitute a wholesale transaction. In this calculation, only Applicant's "sales for resale," as recorded in its annual report to the Federal Power Commission, will constitute wholesale transactions.²²¹ AEC's wholesale sales are tabulated as including all of the power, whether self-generated or purchased as supplemental firm power from Applicant, to its on-system members.²²² This method, of course, has a double count. Power from Applicant supplied to an AEC delivery point constitutes a wholesale "sale" by Applicant to AEC. AEC then is viewed as selling this same power to its on-system members, along with that which AEC itself generates. In some cases then, there are two levels of wholesale-for-resale transactions: from Applicant to AEC; from AEC to an AEC on-system member. Applicant's share of this wholesale market would be approximately 74 percent.
- (d) There is still a fourth alternative which the Board considered. By this method, Applicant's wholesale sales are counted the same as in (c) above, *i.e.*, all of its "sales for resale" as reported on FPC Form 1 to the Federal Power Commission. The entire market in this characterization consists of these sales by Applicant plus all of the wholesale power for which AEC is the billing and purchasing agent, *i.e.*, its "total sales for resale" as tabulated on its Operating Report to the Rural Electrification Administration.²²³ Even this depiction, which emphasizes forms over substance, yields Applicant approximately a 59 percent market share.

²²⁰ Applicant's market share consists of its wholesale sales to the two non-AEC cooperatives, plus the 15 municipalities it serves; and its sales both to AEC as supplemental firm power and sales to Applicant-served delivery points of AEC members for which AEC serves as the purchasing and billing agent. The denominator of the fraction would consist of the same set of figures. This percentage calculation excludes from the denominator the SEPA and TVA power marketed in central and south Alabama for the reasons cited earlier. Even if SEPA power were included, Applicant's market share would drop only slightly.

²²¹ Including Applicant's sales to AEC.

²²² The treatment of AEC being based, arguably in this instance, on the greater independence of a member of AEC to sever its ties with AEC as a generating and transmission cooperative (compared to Applicant's "captive" distribution systems) and the history of some AEC members having left the cooperative.

²²³ This encompasses the power AEC takes from Applicant at its own delivery points for resale to its on-system members, the power it self-generates for resale to its on-system members, and the power generated by Applicant for AEC's off-system members but for which AEC serves as the purchasing agent. See APP. X 146.

The unusual feature about this cake is that no matter how it is sliced, Applicant gets by far the largest piece. This holds even if a generous downward adjustment is made to account for the SEPA and TVA power in central and south Alabama.²²⁴ Applicant's possession of the preponderant market share under each alternative is in contradistinction to what frequently happens in antitrust litigation where the adoption by the court of one alternative market versus another greatly alters the magnitude of the market share statistic.²²⁵ Of the four alternatives just described, the Board finds the first the most illuminating.

There exists still another measure of Applicant's share of the wholesale power market in central and south Alabama, not based on sales, which also influences this Board. Given the dissonance and discrepancy among the parties as to precisely what constitutes sales of wholesale power, the Board also considered a proxy for Applicant's share in the wholesale power market: its control of generating capacity.

Applicant's generating capacity in 1974 was 6,246 mw (APP. X JHM-A, (Miller) pp. 12-18; APP. X JHM-2).²²⁶ It has additional planned capacity scheduled to be operative as of 1979 of 2,380 mw, of which 1,720 mw (the two Farley units) will be nuclear. Applicant generates all of the power for its retail power needs.

In contrast, AEC had generating capacity in 1974 of 137 mw, with a total planned capacity of 557 mw scheduled by 1979 (Lowman, Tr. 8,615-8,617, 26,398-26,400; AEC X CRL 1A; APP. X 146). AEC currently generates power delivered to its members. It supplies the entire bulk power requirements of three of its 14 cooperative members, its two industrial members, and its four municipal members.²²⁷ In 1974, AEC generated 346,500 mwh of energy, all of which was delivered to utilities in central and south Alabama, with one excep-

²²⁴ A meticulous calculation of Applicant's market share would be adjusted upward to account for the two AEC industrial members, Micolas Cotton Mills and Opp Cotton Mills, who are not strictly retail loads. These two industrial loads have been members of AEC since 1944 (Lowman, Direct. p. 4); but AEC is no longer interested in selling at retail except through member cooperative or municipal systems (APP. X BJC-A, (Crawford) pp. 10-12). And Applicant's share could also be adjusted slightly to account for the fact that AEC sells a small amount of power in Florida which is outside of the relevant market. As the Courts have made clear, such statistical punctiliousness is not required. *United States v. Pabst Brewing Co.*, 384 U.S. 546, 549 (1966).

²²⁵ As in *United States v. E. I. duPont de Nemours & Co.*, 351 U.S. 377 (1956).

²²⁶ This includes Applicant's 60% share of the Greene County Steam Plant and its 50% share of the Ernest C. Gaston Plant.

²²⁷ These are, respectively, Covington Electric Cooperative, South Alabama Electric Cooperative, and Southern Pine Electric Cooperative; Opp and Micolas Mills; Andalusia, Brundidge, Elba and Opp.

tion: Choctawhatchee Electric Cooperative in the Florida panhandle which also bought power from Gulf Power.

Disregarding the SEPA and TVA capacity utilized in central and southern Alabama, Applicant holds approximately 98% of the generating capacity in this part of that state. This is a crude but useful measure of its market share as a supplier in the wholesale power market.

8. The Implications of Applicant's Market Share

On the face of it, any market share of Applicant is impressive. But such numbers must be placed in two contexts. The first is that of the industry setting. The second is that of the law.

In the context of this industry, where even ardent proponents of antitrust application must concede the existence of marked economies of scale in both generation and transmission, high market shares do not evoke the same monopoly concern that would certainly exist if the identical market structure existed in scores of other industries.²²⁸ The antitrust laws promote competition to secure efficiency in resource utilization. Where efficiency dictates the exploitation of enormous economies of scale, high market shares are to be expected. On the one hand, the market share of Applicant, standing by itself, is not damning.

On the other hand, it is. The reason, paradoxically, relates also to the peculiar technology of production on the supply side of this market and the degree of control this might give Applicant over certain key inputs (or factors of production) used in this market.

As mentioned earlier, the factors of production needed on the supply side of the wholesale power market include generating facilities (*i.e.* nuclear, hydro, or fossil fueled), a bundle of inputs called bulk power supply services, and transmission lines.²²⁹

The unusual characteristic of Applicant, shared by other large integrated utilities, is that as an important seller in the wholesale power market, it is also an important *seller* (as well as buyer) of *inputs* for the production of wholesale power. It is this characteristic that reinforces the market position attributable to Applicant's mere statistical share of the market.

It is as if a shoe manufacturer, with a given percentage of the market, in the making of shoes somehow came to control or significantly influence the supply of shoe leather (an essential input in the production of shoes) to its immediate shoe manufacturer rivals.

²²⁸As Department's witness Wein admitted: "It is well known to students of the industry, and it is amply documented in the National Power Survey, that economies of scale exist in the generation and transmission of electric power." Wein, Direct, pp. 49-51.

²²⁹Unless the distribution system owns or has access to transmission lines itself.

In its competition for sales of wholesale power with AEC as a generating utility, or in its potential competition with distribution systems in central and south Alabama which are considering integrating backwards into generation, Applicant is in a position to influence their access to a number of basic inputs: those falling under the rubric of bulk power supply services and transmission services (Applicant does not produce and sell generating facilities to other utilities).

Quite apart from their importance in the production of economical and reliable firm bulk power, bulk power supply services are an extraordinary set of inputs. One reason, already cited, is that generating utilities with full access to these inputs will likely be both a buyer *and* a seller of them. This clearly differs from most inputs where a firm is either a seller *or* a buyer of the factor of production. Moreover, the sales of these inputs are often not consummated at a money price. One producer may provide emergency energy as an input to another producer's bulk power production in exchange for the same service being rendered in return by the initial recipient. The result is the existence of swapping, complex *quid pro quo* arrangements, and other trappings of barter transactions with the "price" being expressed as one input in terms of exchange for another. Reserve sharing may be the starkest example of this.

A third unusual feature of these inputs is that their sale and purchase can be effectuated through facilities already in place between buyers and sellers, *i.e.*, facilities existing because of other contractual relations utilities have for the sale or exchange of bulk power in the wholesale power market. Or the exchange of inputs may require agreements about new capital facilities before these inputs can be made accessible to one party or the other. In addition, the exchange of inputs may be dependent upon one utility being able and willing to transmit some of these factors of production over its transmission facilities before a buyer can secure the input (or can sell its own such services as it produces bulk power).²³⁰

In addition to bulk power supply services, transmission lines constitute a second input into the production of efficient, reliable wholesale power and so it is pertinent to note the dominance Applicant has over this input. Apart from the tiny proportion operated by the municipalities of Foley and Fairhope, AEC is the only other utility with transmission facilities in central and south Alabama. AEC's 995 miles (which is at generally lower voltage levels) is 15% that of the Applicant's and, as mentioned earlier, Applicant owns all transmission lines in the market over 115 kv and, importantly, controls all transmission facilities

²³⁰ Some of these inputs - such as staggered construction - are not physical in nature. Then access is available only to those who can enter the negotiation process for securing or selling such inputs.

providing access to utilities outside the market area (DJ 1,000; DJ 1,006; DJ 1,008; AEC X CRL 1A; St. John, Direct, pp. 7, 39).

In the Court's opinion in *Grinnell*, two criteria were cited as determinative of a situation condemned by the Sherman Act:

The offense of monopoly under Section 2 of the Sherman Act has two elements: (1) the possession of monopoly power in the relevant market and (2) the willful acquisition or maintenance of that power as distinguished from the growth or development of a superior product, business acumen or historic accident. *United States v. Grinnell Corp.*, 384 U.S. 563, 570-571 (1966).

This Board holds that the first test has been met as to Applicant's market share in the wholesale power market in central and south Alabama. Applicant's opponents have failed in showing the requisite market position in their alleged markets for bulk power supply services and retail firm power.

This too has been a long excursion, and not an easy one. But it takes us to Applicant's conduct which the Board sees as the heart of the matter. The potential for behavior inconsistent with the antitrust laws can be inferred by reference to Applicant's share of those markets in which it operates. The past business conduct of the Applicant also illuminates any market power it holds. A seller whose conduct reveals that it can consistently exclude competitors or control prices has monopoly power, whether its market share statistics bear this out or not. Because of the ample record developed on the conduct of Applicant, and the complexities of developing market share statistics in this industry setting, the Board holds that evidence on market structure has only ancillary importance in this proceeding compared to evidence on market conduct. Applicant's record in this regard will be determinative as to whether it has abused its market position or has come upon it through the legitimate exercise of economical business operations and is thereby protected by both the two-pronged monopoly test of *Grinnell* just cited and the "thrust upon" defense provided in *ALCOA*.

VIII. APPLICANT'S CONDUCT WHICH IS ASSERTED TO BE INCONSISTENT WITH THE ANTITRUST LAWS

Now to the heart of the case. The Department, AEC, MEUA and the Staff all contend that Applicant has monopoly power — the power to control prices and exclude competitors in the markets for wholesale and retail sales in central and southern Alabama and in the market for power exchange services in that area and beyond. They also claim Applicant has control of high voltage transmission lines which permits Applicant to maintain and extend its monopoly power. These parties state that Applicant has misused its monopoly power in order to

stifle competition, and to maintain and enhance its position in the wholesale and retail markets ²³¹ in central and southern Alabama for electric sales.

In support of these principal contentions, the Department and the others point to a number of instances involving Applicant's conduct as representing the misuse of its monopoly power. The Board has examined each of these alleged instances of Applicant's misuse of its monopoly power to ascertain whether they represent a pattern of anticompetitive conduct in the context of the activities under the licenses for the Farley Plant. In our examination of the alleged occurrences, we, of course, considered the demeanor and credibility of the witnesses who gave pertinent testimony.

A. Applicant's Efforts to Prevent AEC From Installing Its Own Generation

The Department and the other parties to this proceeding first claim that Applicant has successfully prevented AEC from installing its own generation. They cite two periods in AEC's history when, it is asserted, Applicant took various steps, including the commencement of legal and administrative proceedings, to "torpedo" AEC's plans to construct new generating facilities. The first of these alleged efforts occurred in the 1940's. The second occurred in the early 1960's. It is contended that these efforts were anticompetitive.

1. The 1940's

AEC had its genesis in 1941, when several rural distribution electric cooperatives in the southern part of Alabama formed AEC to provide rural electric distribution cooperatives with an alternative source of electric power (Lowman, Direct, pp. 2-4). AEC was incorporated on June 24, 1941 (APP. X 145).

Shortly thereafter, AEC applied for and received approval of a loan of \$2.5 million from the Rural Electrification Administration (REA) to construct new generation facilities. Applicant made inquiry about the grant of the loan at REA, but only after it had been approved (AEC X 3, (Lowman) pp. 12-15; AEC X CRL-5). AEC then made application to the Director of Finance of the State of Alabama for approval to issue a promissory note to REA for the loan. Under Alabama law,²³² AEC was (and is) required to obtain the approval of the State's Director of Finance before issuing any evidence of indebtedness. The Director of Finance deferred granting his consent to the issuance of a promissory note by AEC for the REA loan at this time, pending guidance from the Federal Supply

²³¹ As indicated in the preceding portion of this Initial Decision, the Board rejects the retail market as a relevant market for purposes of measuring Applicant's conduct. See pp. 887-890, *supra*.

²³² Title 55, Section 155, Code of Alabama 1940 (Recomp. 1958).

Priorities and Allocation Board because of the war (AEC X CRL-5; APP. X JSV-2(b), at pp. 27, 34).

In 1944, AEC purchased the properties of the Alabama Water Service Company (Alabama Water) which owned two small hydroelectric plants and two small diesel generators, linked together with 44 kv transmission lines. At the time of the sale, Alabama Water purchased part of its bulk power supply from Applicant under a contractual agreement because Alabama Water did not generate sufficient power to meet its load. This agreement was voluntarily continued in effect by Applicant without substantial change when AEC acquired Alabama Water's properties. Applicant did not oppose AEC's acquisition of these properties from Alabama Water (Lowman, Direct, pp. 15-17; APP. X JMF-A, (Farley) pp. 214-216, 251-256; APP. X JSV-21; Tr. 9,332-9,341). In 1945, approximately one year after this contract was voluntarily continued in effect with AEC, Applicant furnished approximately 30 percent of AEC's power requirements (APP. X 304, p. 8; AEC X 3, (Lowman) pp. 15-18; APP. X JMF-A, (Farley) pp. 213-216).

In late 1946, AEC sought approval from REA to borrow \$5,516 million to construct a 23 mw steam generating plant at Gantt, Alabama, and to engage in various construction projects, including new transmission lines.²³³ Under the Rural Electrification Act of 1936, 7 U.S.C. 901 *et seq.*, REA loans may not be used for the purpose of constructing electric facilities to serve towns having a population of 1,500 or more, or to furnish electric power to persons who already receive central station service.²³⁴ When AEC made application to the Alabama Director of Finance for approval to issue a note of indebtedness to REA, Applicant intervened and opposed the application on the grounds that the proposed project was to be used to serve customers already being served by Applicant, and represented a duplication of service in violation of Sections 904 and 913 of the Rural Electrification Act (APP. X JSV-34; Tr. 9,386-9,389). A

²³³After AEC filed its application for a loan from REA, Applicant offered AEC a reduction in the rates charged for electric power. One purpose of the offer was to dissuade AEC from proceeding with its plans to construct the new generating facilities (AEC X CRL-6, AEC-62; Tr. 23,207-23,223). This was not the only purpose, however (*see* p. 909, *infra*; APP. X JMF-49).

²³⁴Section 904 of the Act reads in pertinent part: "The Administrator is authorized and empowered . . . to make loans for rural electrification to persons, corporations, States, territories, and subdivisions and agencies thereof, municipalities, peoples' utility districts and cooperatives, nonprofit or limited-dividend associations . . . for the purpose of financing the construction and operation of generating plants, electric transmission and distribution lines or systems for the furnishing of electric energy to persons in rural areas who are not receiving central station service . . ." 7 U.S.C. 904. Section 913 of the Act provides in pertinent part: "As used in this chapter, the term 'rural area' shall be deemed to mean any area of the United States not included within the boundaries of any city, village or borough having a population in excess of fifteen hundred inhabitants, and such term shall be deemed to include both the farm and nonfarm population thereof . . ." 7 U.S.C. 913.

hearing was held after which the Director of Finance's designated representative, the Chief of the Division of Local Finance, who heard the evidence, issued an order denying AEC's application (APP. X 161). The Director of Finance then reversed this decision and entered an order authorizing AEC to issue the note to REA. Applicant promptly filed a petition in the Circuit Court for Montgomery County, Alabama, seeking to have the Order of the Director of Finance set aside and to have the earlier order denying AEC's right to issue the note reinstated. The Circuit Court granted Applicant's petition on the ground that, since the Director had not heard the evidence he was incompetent to set aside the Order of his designated representative. AEC appealed this Circuit Court decision to the Alabama Supreme Court, which affirmed the ruling of the Circuit Court (APP. X JSV-34; *Alabama Electric Cooperative v. Alabama Power Company*, 36 So. 2d 523 (Ala. 1948); *Alabama Power Company v. Alabama Electric Cooperative*, 36 So. 2d 530 (Ala. 1947). AEC was unable to proceed with its planned construction.²³⁵

Later, in 1948, AEC filed another application with the Director of Finance seeking approval to issue a note to REA for \$1.952 million to improve AEC's existing hydroelectric and diesel generating facilities, and to construct new transmission lines and substations. Applicant did not oppose this application and the loan was ultimately consummated (APP. X JSV-34).

Prior to the filing of this application, however, AEC had planned to seek approval of the Director of Finance to proceed with its 1946 construction program, exclusive of the new 23 mw steam plant. The revised program included construction of new transmission lines in areas served by Applicant in Alabama and by Gulf Power in Florida. Applicant expressed opposition to this revised construction program because it would have duplicated facilities of Applicant and Gulf Power and so advised AEC. AEC did not seek approval of this particular program (APP. X JSV-34).

Two years later, in May 1950, AEC obtained an REA loan of \$3.2 million to construct a new 15 mw steam plant (consisting of two 7.5 mw units) at Gantt, Alabama. AEC filed a petition with the Alabama Director of Finance seeking approval for the issuance of a note to REA evidencing the loan. AEC claimed that Applicant's electric service was inadequate and that Applicant did not have sufficient facilities to provide AEC with a dependable power supply, although at the time Applicant was planning to construct a new generating plant and transmission lines to strengthen its electric system in southeast Alabama.²³⁶

²³⁵ AEC proposed to serve customers receiving central station service from Applicant in Antauga, Montgomery, Geneva, Bulloch, Barbour, Butler, Coneuch, Escambea, Houston, and Henry Counties, Alabama (Tr. 9,388-9,389).

²³⁶ AEC opposed Applicant's proposed construction on the ground that the planned transmission lines would be used to compete with AEC for new service in areas then served by AEC (APP. X JMF-A, (Farley) 235-236; Tr. 20,975-20,983; Tr. 9,407-9,408).

Applicant opposed AEC's petition before the Director of Finance, arguing that it would result in an unnecessary and wasteful duplication of facilities contrary to the public interest. On August 7, 1951, the Director of Finance approved the AEC's issuance of a note for the proposed loan. Applicant took no further action with respect to this determination. AEC placed its new steam plant at Gantt in operation in 1955 (Lowman, Direct, pp. 30-31; DJ 4,141b; APP. X JSV-37a).

The Board finds that Applicant lawfully opposed AEC's proposals to construct a new steam generator and new transmission lines in the period of the 1940's, on the grounds that it involved unnecessary and wasteful duplication of Applicant's facilities, contrary to the express purpose of the Rural Electrification Act, and the public interest. The Board perceives nothing inconsistent with the antitrust laws in Applicant's conduct here.

2. The Early 1960's

On April 3, 1961, AEC filed an application²³⁷ with REA for a loan of approximately \$25.2 million to construct a new 66 mw steam generating plant on the Tombigbee River near Jackson, Alabama, and several hundred miles of new transmission lines. The proposal also called for a second 66 mw steam unit to be constructed at Jackson, but the cost of this unit was not proposed to be funded by the requested loan (AEC X 3, (Lowman) p. 643; AEC X CRL-50; DJ 4,156; APP. X 148).

In late October of that year, REA authorized a loan of approximately \$20.3 million to AEC to construct a new 66 mw steam unit near Jackson and for 710 miles of transmission lines and associated substations in southern Alabama and northwestern Florida. This loan became known as the "H-Loan," and was conditioned by REA on AEC's obtaining from its member cooperative customers new thirty-five year all-requirements power supply contracts, in order to assure that AEC would have a market for the power generated and transmitted by the REA financed facilities and, therefore, be able to repay the loan (AEC X CRL-50, pp. 225-227).

In February 1962, AEC filed an application with the Alabama Director of Finance seeking approval for the issuance of evidences of indebtedness to REA for the loan. Applicant intervened in the application proceedings and opposed approval on the ground that the proposed construction would duplicate Applicant's facilities as well as Gulf Power's. Applicant also questioned the engineering feasibility of the proposed project (AEC X 3, (Lowman) p. 64; DJ 4,006; APP. X 146, X 149).

Hearings on AEC's application commenced in March 1962 and ended in

²³⁷ This application was originally initiated by AEC in late 1959 and had to be revised.

October 1962. On January 9, 1963, the Director of Finance approved AEC's application. On the same date, Applicant filed three law suits in the Circuit Court for Montgomery County, Alabama. The first law suit sought a writ of certiorari for review of the proceedings before the Director of Finance; the second suit sought a declaratory judgment that the order of the Director granting AEC's application was null and void; and the third action requested a temporary injunction restraining AEC from consummating the loan pending completion of judicial review of the proceedings before the Director of Finance.

The Circuit Court granted certiorari, along with a temporary restraining order. On July 9, 1963, the Circuit Court issued an order quashing and declaring void the Director's January 9, 1963, order approving AEC's application (AEC X 3, (Lowman) pp. 70-71).

AEC then appealed this decision to the Alabama Supreme Court. On September 10, 1964, the Alabama Supreme Court issued its opinion reversing the order of the Circuit Court and affirming the decision of the Director of Finance. Applicant then filed an application with the Supreme Court for rehearing, which was denied on April 9, 1965.²³⁸ Applicant then filed a second application for rehearing. Applicant's suit for declaratory judgment was dismissed on April 14, 1965, and the temporary restraining order was dissolved on May 3, 1965. Applicant, however, obtained a reinstatement of the restraining order four days later, but it was later terminated when the Alabama Supreme Court denied Applicant's second application for rehearing²³⁹ (AEC X 3, (Lowman) pp. 64-72, AEC X CRL-47, 48-49).

The day after the Alabama Supreme Court denied Applicant's first application for rehearing, Applicant filed suit in the United States District Court for the Middle District of Alabama, Northern District, against AEC, REA, the Administrator of REA, the United States Department of Agriculture, and the Secretary of Agriculture, seeking an order enjoining all defendants from consummating the H-Loan. As grounds, Applicant alleged that the H-Loan violated the Rural Electrification Act, that the H-Loan constituted a conspiracy to violate the Act, and that the thirty-five year all-requirements contracts imposed by REA as a condition of the H-Loan constituted a violation of the Federal antitrust laws (AEC X 3, (Lowman) p. 72-74; AEC X CRL-50; AEC X CRL-51; APP. X JMF-A, (Farley) pp. 289-290; APP. X JMF-38). AEC filed a motion with the Federal District Court to dismiss Applicant's suit. The other defendants filed similar motions, and also sought summary judgment on the ground that Applicant lacked standing to bring the action.

In July 1965, the United States District Court denied Applicant's motion for a preliminary injunction and granted the motion to dismiss Applicant's suit.

²³⁸ *Alabama Electric Cooperative v. Alabama Power Company*, 176 So. 2d 483 (Ala. 1965).

²³⁹ *Alabama Power Company v. Alabama Electric Cooperative*, 176 So. 2d 487 (1965).

The court held that Applicant lacked standing to maintain the action, and that the thirty-five year all-requirements contracts were the result of valid government action, not a violation of the antitrust laws. *Alabama Power Company v. Alabama Electric Cooperative*, 249 F. Supp. 855 (M.D. Ala., 1965) (APP. X JMF-38). Applicant then appealed this decision to the United States Court of Appeals for the Fifth Circuit. The Fifth Circuit affirmed the District Court's decision on April 2, 1968, with one Judge dissenting. *Alabama Power Company v. Alabama Electric Cooperative*, 294 F. 2d 672 (CA 5, 1968). In its opinion the Fifth Circuit not only held that Applicant lacked standing to maintain the lawsuit, but also that the REA was within the bounds of the Rural Electrification Act in requiring AEC to obtain the thirty-five year all-requirements contracts with its member cooperatives as security for the REA loan, 394 F.2d at 676-678. Applicant filed a petition for rehearing with the Court, which was denied on July 11, 1968, 397 F.2d 809. Applicant then unsuccessfully sought certiorari in the United States Supreme Court, *Alabama Power Company v. Alabama Electric Cooperative*, 393 U.S. 1000 (1968).

The delay resulting from this extensive litigation substantially increased the cost of construction of AEC's project (DJ 4,156; AEC X 3, (Lowman) pp. 79-80). In the end, AEC altered its plan to specify one 75 mw steam plant at Jackson rather than the two 66 mw units originally proposed. The 75 mw plant did not begin service until 1969, some eight years after AEC filed its revised application for the H-Loan, and four years after the originally proposed first 66 mw steam unit was scheduled to begin operation (DJ 4,156; APP. X 149).

During the time the H-Loan was in litigation, AEC itself initiated several legal and administrative proceedings against Applicant. In 1964, AEC filed a complaint before the FPC in Docket E-7183 to prevent the cities of Troy and Luverne from obtaining their power supply from Applicant and to obtain a reduction in Applicant's wholesale rate. In 1966, AEC sought an injunction against the City of Opp and the city's Utility Board and Applicant to prevent the city from negotiating with Applicant for wholesale power. AEC also intervened in proceedings before the Alabama Public Service Commission in which Applicant sought a certificate of convenience and necessity to commence service to Troy and Luverne. In addition, AEC sought to prevent the City of Evergreen from obtaining its power supply from Applicant. Furthermore, AEC participated in a number of other legal and administrative proceedings before the Alabama Courts, the Alabama Public Service Commission and the Securities and Exchange Commission seeking to prevent Applicant from constructing certain electric facilities and otherwise contesting various plans of Applicant (APP. X JSV-A, (Vogtle) pp. 62-66; APP. X JMF-A, (Farley) pp. 275, 279-281, 295-296, 302-303).

Applicant's efforts to challenge AEC's proposed construction of new generation in the 1960's, particularly the projects associated with the H-Loan, did have

the effect of delaying AEC's installation of new generation. The Board finds, however, that these efforts do not constitute anticompetitive conduct inconsistent with the antitrust laws. The issues Applicant raised were reasonably open to dispute. The forums in which Applicant raised the issues, and the means of raising them, were appropriate in the circumstances.²⁴⁰

B. Applicant's Maintenance of Low Wholesale Rates to Discourage Competitors from Developing and Installing Their Own Generation

The Department and the other parties supporting its contentions also charge that Applicant, in the period 1941-1947, either lowered or offered to lower, its wholesale rates for firm electric power in order to make self-generation by its wholesale customers uneconomically unattractive. The Department and these parties point out that over the years, Applicant has developed substantial economies of scale and secured the benefits of coordination, and therefore, had the leeway to lower its wholesale rates. In each case, the Department and the others state that Applicant reduced its wholesale rates without any legal obligation to do so, and such rate reductions were not justified on the basis of a cost of service study. All of the parties assert that Applicant's rate reductions were for the clear purpose of maintaining the monopoly power over generation in central and northern Alabama.

1. The 1941 Rate Reduction

The first case of rate reduction by Applicant, allegedly for the purpose of discouraging competing self-generation, occurred in 1941. The Department and AEC offer testimony that when Applicant learned certain distribution cooperatives in southern Alabama were forming AEC and were making application to REA for a loan to construct new generation and transmission facilities, Applicant reduced its wholesale firm power rates from 11.3 mills/KWH to 9.4 mills/KWH (AEC X 3, (Lowman) p. 13; Tr. 9;323). As we noted earlier, AEC was incorporated on June 24, 1941 (APP. X 145).

The record shows that on May 29, 1941, Applicant filed a revised wholesale rate, called Rate "R," with the Alabama Public Service Commission. This rate filing proposed a reduction in wholesale rates to certain municipally owned electric distribution systems, to certain privately owned electric utilities, and to certain rural electric distribution cooperatives (APP. X JSV-2c).

Applicant represented that the new rate was intended to reduce the number

²⁴⁰The contention that Applicant's use of litigation in this instance constituted a "sham" is considered later in this Decision. See pp. 940-942, *infra*.

of special power contracts entered into by Applicant and the aforementioned wholesale customers, which contracts were required to be filed with, and approved by the Alabama Public Service Commission. In its rate filing, Applicant requested the Alabama Commission to approve Rate "R" by June 3, 1941, in order to permit Applicant to reflect the new rate in its billing to wholesale customers for the month of May 1941 (APP. X JSV-A, pp. 8-9; APP. X JSV-2c).

The Department and AEC claims that Rate "R" resulted in a reduction of approximately 6.7% in Applicant's revenues. The Department and AEC say it is significant that this reduction in revenues occurred at a time when Applicant was completing its withdrawal of service from the northern counties in Alabama²⁴¹ and was asking for a voluntary curtailment in electric power consumption because of World War II (APP. X BJC-A, (Crawford) p. 191; APP. X JMF-A, (Farley) pp. 201-208; APP. X JSV-2c). In light of these facts, the Department and AEC conclude Applicant had no increase in sales to offset the loss of revenue from the lower rate, and that Applicant's rate reduction was anticompetitive.

The Board finds that Applicant's Rate "R" was filed with the Alabama Commission almost one month prior to the formation of AEC, and was requested to be effective less than one week later. We further find that the purpose of this rate filing was not to forestall self-generation by AEC, but legitimately to reduce the number of special power contracts entered into by the Applicant and certain of its wholesale customers. Such contracts were required to be submitted to and approved by the Alabama Commission. The rate filing served a legitimate end. We find that the anticompetitive charges with respect to the purpose of this rate reduction are based on speculation and are not supported by the record. There is simply no evidence of any connection between Applicant's rate reduction and the formation of AEC. Indeed, the rate reduction was filed and made effective in advance of that event. The Board can find no anticompetitive conduct on the part of Applicant with respect to this particular rate reduction.

2. The 1946 Rate Reduction

The Department and AEC also assail a rate reduction offered AEC by Applicant in 1946. In September 1946, AEC made application for a loan from REA

²⁴¹In 1934, Applicant agreed to sell its electric properties in northern Alabama to TVA, after the creation of TVA in 1933 and the consequent duplication of distribution facilities by municipalities with loans granted them by the Public Works Administration. In 1940, Applicant surrendered and transferred its franchises to provide electric service in various northern Alabama cities and towns to rural electric cooperatives, municipalities and TVA (APP. X JMF-A, pp. 140-144, 199-206). This action completed Applicant's withdrawal of service from northern Alabama.

to construct a new 23 mw steam plant at Gantt, Alabama, and associated transmission lines. In October 1946, Applicant contacted REA about AEC's loan application, and indicated a desire to continue selling wholesale power to AEC rather than AEC generating its own power (DJ X 4,146). Applicant felt that AEC's proposal was an unnecessary and wasteful duplication of existing facilities. Applicant was advised by REA that the "door was still open" to offer an arrangement for the purchase of wholesale power by AEC instead of construction of new generation (DJ X 4,146). Applicant also learned from REA that AEC had represented in its loan application to REA that generation was more economical than purchased power, that continuity of electric service was better assured if power was self-generated, and that Applicant's ability to furnish AEC's future power needs was questionable (DJ X 4,146). Consistent with the Rural Electrification Act of 1936 and its underlying policy, REA encouraged Applicant to offer a lower wholesale rate to AEC (APP. X JMF-49).

Thereafter, in December 1946, Applicant offered AEC a new lower wholesale rate. REA approved AEC's loan application in the summer of 1947.²⁴² Nonetheless, in October 1947, Applicant and AEC entered into a three-year contract which specified this new lower rate (APP. X JSV-34).

The record shows that the purpose of this rate reduction was twofold: (1) to allow Applicant to continue selling wholesale power to AEC and (2) to dissuade AEC from proceeding with its plans to construct the new 23 mw steam plant and associated transmission which Applicant considered uneconomical and a wasteful duplication of its existing facilities (AEC X CRL-63; DJ 4,303).

The Board finds that while Applicant did manifest an intent to keep AEC from installing its own generation at Gantt under the 1946 proposal, Applicant was properly concerned with avoiding uneconomic and wasteful duplication of its facilities. It is significant that REA did approve AEC's loan application. The proposed 23 mw steam plant at Gantt, however, was later denied by Alabama's Department of Finance and the courts because it served no public need (APP. X 161; *Alabama Electric Cooperative v. Alabama Public Service Commission*, 36 So. 2d, 523 (Ala. 1948); *Alabama Public Service Commission v. Alabama Electric Cooperative* 36 So. 2d, 530 (Ala. 1947)). Accordingly, we find that Applicant's offer of lower wholesale rates to AEC, at this time, was made in good faith with the encouragement of REA. We are not persuaded in light of the

²⁴² At this time, Applicant was aware that AEC's electric system had deficiencies which affected its reliability. AEC requested Applicant to interconnect with AEC at Clio, Alabama, but Applicant indicated such an interconnection would not substantially improve AEC's reliability. After some delay, Applicant did interconnect at Clio (APP. X JSV-A, (Vogtle) pp. 26-30; APP. X JSV-21, 22, 23, 24, 25 and 26). The Board finds no anticompetitive motive on the part of Applicant in regard to the circumstances surrounding the interconnection.

evidence regarding this rate reduction, that Applicant acted with anticompetitive intent or motive.

3. 1950 Rate Reduction

Applicant made another offer of a rate reduction to AEC in April 1950, after AEC had applied to REA for the release of the 1947 approved loan, this time for the construction of a new 15 mw steam plant at Gantt, Alabama. The proposal was scaled down from AEC's earlier proposed 23 mw steam plant at the same location (App. X JSV-32; AEC 3, (Lowman) pp. 28-29; AEC X CRL-14; AEC X CRL-15).

This rate reduction contemplated discontinuance of Applicant's limited interconnection with AEC near Samson, Alabama, and the establishment of a new delivery point with AEC near Gantt. The proposed arrangement would result in an overall rate reduction of 11.53% to AEC, and would have improved the reliability of AEC electric system (AEC X 14, APP. X JSV-A, pp. 32-35).

The offer for this rate reduction also included a territorial protection agreement, which would have established boundary lines between Applicant and AEC's service areas. This protection agreement, however, would have permitted each party to continue serving customers in the other's service areas under existing contractual agreements (AEC X CRL-14, AEC X CRL-15). Applicant included this territorial protection agreement at the suggestion of AEC (AEC CRL-14).

The offer of the rate reduction was revised by Applicant in June 1950 to include a discount for substation ownership. The rate was approved by the Alabama Public Service Commission in November 1950. It was made retroactive to April 1, 1950, at the request of AEC (APP. X JSV-14). In May 1950, AEC received REA approval of its loan, some eight months prior to the date when the Applicant's rate reduction actually went into effect. REA released the funds to AEC under the loan in October 1950 (APP X JSV-14, AEC 3, (Lowman) p. 30).

The Board is not satisfied that Applicant's offer of a rate reduction in 1950 represented anticompetitive conduct with the clear purpose of maintaining a monopoly in self-generation. This particular rate reduction had the distinct purpose of improving the reliability of AEC's electric system, and went into effect even though AEC had obtained the REA loan for construction of self-generating facilities. Moreover, Applicant made the rate reduction retroactive for a period of eight months prior to the November 1950 effective date of the rate. Significantly, the offer included a territorial protection agreement not desired by Applicant, but by AEC. It appears to us that Applicant was attempting to accommodate AEC while, at the same time, offering a means to improve AEC's electric system reliability. We cannot find, in light of these facts, that Applicant

was acting inconsistently with the antitrust laws and the policies underlying these laws in connection with this rate reduction.

4. "Coosa Rate"

The Department, AEC, MEUA and the Staff assert that Applicant placed into effect in 1958 its "Coosa rate," retroactive to 1954, in order to preclude Federal development of hydroelectric projects on the Coosa River in Alabama which would have provided electric power for preference customers under the Flood Control Act of 1944. Under the Rivers and Harbors Act of 1945, 33 U.S.C. 603(a), Congress had reserved development of the Coosa River to the Federal government (St. John, Direct, pp. 25-27; AEC X 3, (Lowman) pp. 43-49). Applicant's opponents in this proceeding claim that the "Coosa rate" had the result of foreclosing the development of an alternative source of power in central and southern Alabama, and that it was, therefore, anticompetitive.

The facts and circumstances surrounding the "Coosa rate" are clear. The record shows that in 1953, Applicant made application to the Federal Power Commission for a permit to construct five hydroelectric plants on the Coosa River. At this time, Applicant determined a need to expand its electric system. The FPC concluded that the stretch of the Coosa River where Applicant proposed the hydroelectric plants had been preempted for development by the Federal government under the aforementioned Rivers and Harbors Act of 1945, and that before the FPC would have jurisdiction over Applicant's proposed hydroelectric development, Congress would have to adopt legislation authorizing the FPC to license such development. There were no plans by the Federal government to develop the Coosa River (APP. X JMF-A, (Farley) pp. 236-237).

In 1954, Congress did adopt legislation²⁴³ giving the FPC jurisdiction over the hydroelectric development of the Coosa River. The legislation required the completion of Applicant's proposed hydroelectric development ten years from the date of commencement of construction of the first dam. The FPC issued a license to Applicant for construction and operation of four dams and hydroelectric plants in September 1957 (APP. X JMF-A, (Farley) pp. 236-237).

However, while the legislation was pending before Congress, Governor Gordon Persons of Alabama²⁴⁴ interposed an objection before the United States Senate to the proposed law, which prevented its passage (Tr. 19,227;

²⁴³Public Law 83-436, 68 Stat. 302.

²⁴⁴Governor Persons had served as President of the Alabama Public Service Commission and as State REA Administrator prior to being elected as Governor. In addition, he had been a consulting engineer prior to holding these positions, and had represented rural cooperatives in that capacity. The record shows that Governor Persons had close and substantial ties to AEC and rural cooperatives (APP. X JSV-A (Vogtle) p. 42; APP. X JSV-2b; APP. X JSV-37a; Tr. 20,521 and 20,524).

20,524; 20,535-20,539). Governor Persons demanded that Applicant reduce its wholesale rate to Alabama cooperatives in return for withdrawing his opposition to the new legislation (Tr. 14,227; 20,524; 20,535-20,539). In order to satisfy Governor Persons' objections, Applicant, in 1954, agreed to reduce its wholesale rates upon the passage of the legislation and approval of a license by the FPC for hydroelectric plants (DJ X 211). Although Applicant's municipal customers did not oppose the legislation and were not included in Governor Persons demands, Applicant offered the same reduced rate to them, inasmuch as they were in the same class of customers as the cooperatives (Tr. 21,022; Tr. 4,189; Tr. 4,176; 4,194). Upon AEC's request, Applicant also applied the rate reduction to the deficiency power rate it had then in effect with AEC (AEC X CRL-27). Applicant received its final hydroelectric licenses in 1958, but the rate reduction was made retroactive to 1954 in compliance with Applicant's agreement with Governor Persons.

The Board finds no evidence that Applicant's "Coosa rate" was anticompetitive, or had the effect of foreclosing the development of an alternative source of power, as contended by the Department, AEC and MEUA. Indeed, there is no evidence of record to establish that the Federal government ever seriously considered development of the Coosa River, or that Congress ever appropriated funds for this purpose. It is clear that Applicant's "Coosa rate" was an accommodation to remove political opposition to legislation granting the FPC jurisdiction to issue licenses for hydroelectric development along the Coosa River. This opposition came from Governor Persons of Alabama, who had a long history of favoring the cooperatives as against Applicant. If anything, Applicant was effectively coerced into offering a lower wholesale rate.

C. Applicant's Refusal to Coordinate With AEC

The Department and AEC, as well as the other parties supporting them allege Applicant refused to coordinate with AEC in the mid 1950's. The parties also state that Applicant, in the period 1967-1972, refused to offer AEC fair coordination. Applicant's conduct in these instances is characterized as refusals to deal with AEC, and therefore, inconsistent with the antitrust laws.

1. Refusal to Coordinate in the Mid 1950's

In January 1955, after AEC had completed installation of its two 7.5 mw steam generating units at Gantt, Alabama, AEC requested Applicant to provide it with the cost for maintenance and emergency power, and the additional demand charge in the event one of the units was taken out of service for routine

inspection and maintenance²⁴⁵ (AEC X 3, (Lowman) pp. 33-43; AEC X CRL-19; AEC X CRL-21; AEC X CRL-23). Applicant responded to AEC's request approximately one week after receiving it. In its response, Applicant included a detailed tabulation which showed that the rate for additional power and energy to AEC, in the event that one of the steam units was taken out of service for routine maintenance, was slightly lower than the average rate for purchased power with both steam units in operation. Applicant estimated the total cost of such service to be \$25,918²⁴⁶ (AEC X CRL-20; Tabulation 4). The additional rate was based on the assumption that AEC's steam unit would be taken out of service during January which was the off-peak period. The record does not show whether AEC accepted or rejected Applicant's response. We find no refusal on the part of Applicant to coordinate with AEC in this instance.

In March 1955, AEC met with Applicant to discuss the terms and conditions of the proposed power supply contract which Applicant had submitted to AEC in December 1954. During this meeting, AEC requested Applicant to submit a rate at which it would furnish emergency or standby power and energy when one of the steam units at Gantt was forced out of service (AEC X CRL-23). Applicant indicated it was not in a position at that time to submit a rate to AEC for such emergency or standby service when it became necessary (AEC X CRL-23). The power supply contract between the parties was executed apparently at the meeting. Sometime later, it was submitted to REA for approval (AEC X CRL-22). The contract contains no provisions for emergency or standby service to AEC in the event one of the steam units was forced out of service (AEC X CRL-22). When REA approved the contract in June 1955, it estimated the cost of emergency and maintenance power from Applicant to AEC to be \$44,000, which was about \$15,000 higher than the estimate given AEC in January 1955. REA recommended that AEC make further efforts to obtain emergency or standby arrangements in order to achieve greater savings. REA's estimate was based on the assumption that the "ratchet" clause in the power supply contract would operate for eleven full months after the additional

²⁴⁵The request was made in connection with a proposed power contract between Applicant and AEC which Applicant submitted to AEC on December 20, 1954 (AEC X CRL-19).

²⁴⁶This estimate was based on the rate schedule contained in a proposed power supply contract Applicant submitted to AEC in December 1954. The contract contained a 75% "ratchet" clause which operated to increase AEC's power supply costs for the next four months following the month in which an additional demand for power was placed on Applicant by AEC. A "ratchet" clause is generally defined as a clause which provides that the maximum past or present demands be taken into account to establish billings for previous or subsequent periods (APP. X JMF-46, (FPC Opinion No. 533, p. 969, fn3)). Significantly, AEC did not complain about the ratchet clause in its power supply contracts with Applicant until AEC lodged a complaint against Applicant with the FPC in connection with Applicant's wholesale rates. The complaint led to FPC Docket E-7183 (Tr. 8,771).

demand for power and energy was placed on Applicant by AEC, whereas Applicant's estimate was grounded on the ratchet clause operating only four months (APP. X BJC-A, (Crawford) pp. 225-228).

In December 1956, a tube in one of the boilers ruptured, causing shutdown of one of AEC's steam units at Gantt. As a result, AEC placed an additional demand for power and energy on Applicant. Under the power supply contract between Applicant and AEC, the ratchet provision became operative. Accordingly, AEC requested Applicant to take into consideration the emergency nature of the breakdown in Applicant's billing to AEC for December 1956, so as to relax the operation of the ratchet and reduce the cost of power which AEC was required to pay Applicant. AEC also indicated to Applicant that replacement of the tube in the boiler was scheduled for April 1957, and asked to discuss the cost of additional energy it required during such maintenance (AEC X CRL-24). Four days after being notified of AEC's emergency, Applicant responded by indicating that the breakdown was considered to be one of normal liability in the operation of a power plant, and did not warrant a relaxation of the ratchet clause in the power supply contract between the Applicant and AEC. Although Applicant refused to adjust its December 1956 billing to AEC, Applicant did indicate a willingness to discuss a special rate for additional energy and demand during AEC's maintenance of the steam unit in April 1957. In this regard, Applicant requested AEC to furnish certain information (AEC X CRL-25).

The record does not clearly indicate whether such discussions were held, or how the matter of a special rate for emergency service during maintenance of the steam unit at Gantt in April 1957 was resolved. Applicant says the parties agreed to apply the ratchet²⁴⁷ rather than have Applicant design a special rate (Tr. 20,593-20,594).

The Board finds no evidence that Applicant refused to coordinate with AEC, let alone refused to deal with AEC in providing emergency maintenance service in the mid 1950's. The record discloses that AEC's initial request for a special rate related to additional power and energy in circumstances of routine maintenance of AEC's equipment, rather than emergencies such as a boiler breakdown (AEC X CRL-19). Further, there is no evidence that Applicant was unwilling to negotiate a special rate with AEC for emergency and maintenance services during periods of routine inspection of equipment. On the contrary, the record shows that Applicant was quite willing to do so (AEC X CRL-19-25).

²⁴⁷ Applicant's President, Joseph M. Farley, testified that it was his understanding that the parties ultimately decided to apply the ratchet rather than agree upon a special rate for emergency service. Mr. Farley, however, could not recall the basis of his understanding (Tr. 20,593-20,594). The Board has evaluated Mr. Farley's testimony on the point, and finds no reason for rejecting it. On the overall, Mr. Farley was candid and straightforward with the Board. We find all of his testimony to be credible.

Although Applicant certainly could have chosen to relax the application of the ratchet clause in its power contract with AEC during the December 1956 emergency, we are not prepared to find that its refusal to do so constitutes an anticompetitive effort to injure AEC.

2. Applicant's Refusal to Offer AEC Fair Coordination in the Period 1967 to 1972

The Department and AEC strenuously argue that Applicant refused to offer AEC fair coordination between 1967 and 1972. Applicant's refusal is claimed to be anticompetitive.

In January 1967, AEC sought to obtain additional loan funds from REA to complete construction approved under AEC's H-Loan application. REA advised AEC to negotiate with Applicant for an alternate supply of power, as required by REA Bulletin 111-3, before making application for additional funds. REA's representatives indicated that they would consider recommending a new large loan for AEC, including funds for a new generating unit at Jackson, Alabama, (in addition to the unit approved under the H-Loan) and additional transmission facilities, if it were not possible to enter into a fair interconnection agreement with Applicant. REA's representatives emphasized, however, the preferability from REA's standpoint of an interconnection arrangement with Applicant, which would obviate or postpone some transmission facilities, and which would allow for staggering of construction with Applicant (APP. X 44). It was in this context that negotiations between Applicant and AEC commenced looking toward an interconnection and coordination agreement. The record shows that such an agreement, between AEC and Applicant, albeit in a limited form, was not finally consummated until 1972 (DJ 3,013).

While the H-Loan litigation was pending before the Courts, Applicant replaced AEC as the wholesale power supplier to the cities of Troy and Luverne, Alabama.²⁴⁸ In addition, the City of Opp was considering purchasing its power supply at wholesale from Applicant (AEC X 3, (Lowman) pp. 26-28, 81-82; APP. X BJC-A, (Crawford) p. 159). In early 1967, Choctawhatchee Electric Cooperative (CHELCO), located in northwest Florida, and a member of AEC, sought to purchase its power from Gulf Power and avoid its 35-year all-requirements contract with AEC (AEC X3, (Lowman) p. 92). AEC was clearly facing competitive threats.

On April 11, 1967, AEC met with Applicant at the suggestion of REA to

²⁴⁸In 1964, the city of Luverne filed a lawsuit against AEC to determine the cancellability of its power supply contract with AEC. Applicant paid the city \$10,000 as "reimbursement" of expenses incurred in connection with such litigation (Tr. 22,169-22,272). This payment is highly questionable, but we need not make a special finding as to its legitimacy.

resolve the attempt of CHELCO to avoid purchasing its power from AEC under a 35-year all power requirements contract with AEC, which had been obtained as security for the H-Loan. As indicated above, CHELCO desired to purchase its wholesale power from Gulf Power. But REA was not willing to approve CHELCO's purchase of power from Gulf Power until an appropriate disposition was made of certain generating and transmission facilities (owned by CHELCO and operated by AEC) which had been constructed with REA loan funds, and which would become useless if Gulf Power became CHELCO's supplier (Tr. 8,838; 19,405-19,406; 19,409-19,412). Under the CHELCO proposal, Applicant would acquire certain of the transmission lines. The disposition of the generating and transmission facilities required the consent of AEC, which it was not willing to give without being compensated for the loss of CHELCO's load.

At the meeting, AEC was represented by its then President, Mr. J. Utsey; its then manager, Mr. Basil Thompson; its Staff Attorney, Mr. L. A. Beers; its Washington attorneys, including Mr. Joseph Swidler, former Chairman of the FPC; and an engineering consultant. Applicant was represented by Mr. Joseph Farley, then Executive Vice President of Applicant, and Applicant's legal counsel. Mr. Swidler suggested that Applicant and AEC enter into a broad arrangement to resolve mutual problems before addressing the solution to the CHELCO question. Mr. Swidler suggested the solution should include an arrangement for the stability of customers and territory; more effective use of facilities involving interconnections, capacity exchanges, staggering of construction and other power pooling matters; and the price which AEC should receive for its loss of the CHELCO load (APP. X JMF-A, (Farley) pp. 344-346; AEC X CRL-72). Mr. Swidler also expressed AEC's concern for its wholesale business and AEC's intention to serve all of the power requirements of nine of its member cooperatives which Applicant was then serving (APP. X JMF-A, (Farley) pp. 346-349). Mr. Swidler proposed that, in consideration of AEC's loss of CHELCO, Applicant should agree not to provide any of the power requirements of these nine cooperatives. In return, AEC would agree not to serve certain other member cooperatives which Applicant was also then serving. Mr. Swidler also proposed that AEC would discuss ground rules on service to industrial loads in the areas where the cooperatives involved were located (APP. X JMF-A, (Farley) pp. 346-349). At this meeting, no agreement on any of these matters was reached between Applicant and AEC (APP. X JMF-A, (Farley) pp. 349-351).

On May 4, 1967, Mr. Farley wrote to Mr. Swidler pointing out that the proposed solution advanced by Mr. Swidler at the April 11 meeting was not economically justifiable as Applicant would be giving up more load to AEC than AEC was losing to Gulf Power. Mr. Farley did indicate that the Applicant, with assistance from Southern Services, was investigating the possibility of interconnection and interchange of power between Applicant and AEC. While these studies were underway, Mr. Farley suggested that the parties proceed to resolve

the CHELCO matter (APP. X JMF-51). It seems clear from the record that Applicant was most desirous of settling the CHELCO matter before any sort of interconnection agreement was entered into with AEC.

On May 22, 1967, Mr. Swidler responded to Mr. Farley and made it clear that AEC should serve all the power requirements of its nine member cooperatives which Applicant was then serving, and that these cooperatives were committed to being served by AEC under the 35-year all-requirements contracts as part of the H-Loan. At this time, it will be recalled that Applicant was challenging the validity of the 35-year all-requirements contracts with its members in the Federal Courts.²⁴⁹ Mr. Swidler also indicated the need to reach a tentative agreement on interconnection pending completion of Applicant's studies, as interconnection affected AEC's transmission planning (APP. X JMF-52).

On June 19, 1967, Mr. Farley responded to Mr. Swidler's May 22 letter. Mr. Farley emphasized that the basis for negotiations between Applicant and AEC did not include Applicant giving up its wholesale customers (the nine cooperatives) to AEC. Applicant plainly would not agree to give up any of its wholesale customers to AEC. Mr. Farley further indicated that Applicant was proceeding with its studies on interconnection, but that Applicant needed to know AEC's future plans for transmission and generation expansion at the Jackson Plant since such information would have a significant effect on the kind of interconnection arrangements between Applicant and AEC (APP. X JMF-53).

On July 28, 1967, representatives of both Applicant and AEC met for further discussions on this matter. Speaking for AEC, Mr. Swidler reiterated AEC's positions originally set forth in the April 11 meeting, and indicated that AEC's Board of Directors had approved them as a basis for further negotiations with Applicant. At the meeting, Applicant's representatives rejected AEC's positions, especially the proposal that Applicant give up wholesale service to the nine AEC member cooperatives (APP. X JMF-A (Farley) pp. 358-360). At this same meeting, Applicant indicated that its initial studies on interconnection did not establish any mutual advantage to Applicant and AEC, and invited AEC to demonstrate any advantage on the subject of staggering of units. Mr. Swidler, on behalf of AEC, advised Applicant that discussions on staggering of units should be held in the context of a general stability (of territory and loads) agreement between Applicant and AEC. AEC also suggested some additional points for interconnection with Applicant, including interconnection at Millers Ferry Dam (a Federal hydroelectric project) then under construction (APP. X JMF-A, (Farley) pp. 366-373). Applicant did indicate that it might be willing to enter into an interconnection agreement with AEC involving the Jackson Steam Plant, but that this matter required further study (APP. X JMF-A, (Farley) pp. 373-374).

²⁴⁹ See pp. 906-907, *supra*.

On August 10, 1967, AEC's President, Mr. Utsey, wrote REA's administrator outlining AEC's views on the several meetings held with Applicant to that date (AEC X CRL-72). The REA Administrator sent AEC's letter to Applicant for comment. Finally, on October 23, 1967, Mr. Farley wrote Mr. Swidler and indicated that Applicant's study of possible interconnection at Jackson showed that such an interconnection would likely serve as a point of flow of power into Applicant's electric system, which was not needed, rather than a delivery point for power to AEC. Accordingly, Mr. Farley stated that since an interconnection at Jackson would not benefit Applicant, Applicant would decline to do so. The Jackson Plant was scheduled for completion in 1968 and AEC badly needed an interconnection with Applicant there to enhance AEC's system reliability (AEC XCRL-73; Tr. 22,066-22,070; DJ 4,224).

Mr. Farley also made it clear that even if an interconnection at Jackson were advantageous to Applicant, Applicant would not interconnect if the net result would allow AEC to use Applicant's transmission system to sell power generated from the Jackson Plant to take over Applicant's wholesale customers. Applicant did not want its wholesale customer base to be eroded by reason of interconnection with AEC (AEC X CRL-73; DJ 4,224).

Shortly thereafter, in November 1967, the FPC issued its opinion in Docket E-7183,²⁵⁰ a complaint proceeding initiated against Applicant by AEC in 1964 seeking a lower wholesale rate. AEC also challenged, among other things, the "ratchet" clause contained in its power supply contract with Applicant. In its decision, the FPC held against AEC. But the FPC also directed its staff, pursuant to then Section 202 of the Federal Power Act, to work with Applicant, AEC and SEPA, and where necessary, to make independent studies and recommendations to encourage development of coordination between the electric systems of Applicant and AEC in order to promote reliable electric service to the public at a minimum cost.²⁵¹

AEC petitioned the FPC for review of its opinion in Docket E-7183, but this petition was denied on December 19, 1967. AEC then promptly advised Applicant that AEC would cooperate fully with the FPC staff, Applicant and SEPA in achieving coordination with Applicant (AEC X CRL-74).

During the following year, the FPC staff conferred with Applicant, SEC and SEPA, and conducted an investigation of the power supply situation in Alabama (APP. X JMF-A, (Farley) pp. 388-390). Applicant continued, however, to be concerned that any interconnection and coordination with AEC which would result from the voluntary studies would be used by AEC to take wholesale customers from Applicant (AEC X 47).

While the FPC's studies and investigations were underway, the Federal courts

²⁵⁰ 38 FPC 963 (1967); See also APP. X JMF-46; APP. X BMG-2.

²⁵¹ 38 FPC at 976.

- (d) hydro information, including flow data for the critical year affecting capacity of AEC's hydroelectric units; also information on equipment and licensing of AEC's hydroelectric plants;
- (e) capability of all of AEC's generating units;
- (f) detailed information on AEC's operating practices;
- (g) AEC's practices on provision of spinning reserves;
- (h) automatic load shedding facilities; and
- (i) information on operating practices during valley periods and on weekends (DJ 4,237).

Applicant also stated that AEC would be required to provide reserves equal to the capability of its largest unit, or 20 to 25% of the peak-hour demand on its system, whichever was the largest²⁵⁴ (DJ 4,237). Applicant told AEC that Applicant was not interested in staggering generating units with AEC, but that Applicant was willing to supply AEC all of its power requirements. Applicant noted that it could supply these requirements cheaper than AEC could generate its own power (DJ 4,237).

On February 18, 1970, the parties again met to discuss the interconnection matter, including the proposed interconnection at the Walter F. George Dam. AEC had earlier taken the position that it was unwilling to enter into an interconnection at George in advance of interconnection at its Jackson Plant. Applicant distributed a proposed contract which was a revision of Applicant's March 1955 power supply contract with AEC. The proposed contract included various provisions, but none encompassing the suggestions for coordination made by AEC in the January 8 meeting (AEC X 54).

About one month later, on March 17, 1970, AEC furnished Applicant a draft interconnection agreement (AEC X 61, DJ 4,235). This proposed agreement contained numerous provisions encompassing the interconnection and coordination suggestions made earlier by AEC, but with more specificity (AEC X 61). Applicant continued to express the position that it needed assurance that AEC would not take Applicant's customers before agreeing to interconnect. Applicant was concerned about the effect of AEC's 35-year all-requirements contracts with its member distribution cooperatives on Applicant's wholesale business²⁵⁵ (APP.X JMF-A, (Farley) pp. 404-408).

²⁵⁴In 1970, AEC's largest unit had a capability of 75 mw. AEC's peak-hour demand on its system approximated 130 mw (AEC X CRL-1). Under Applicant's suggested reserve formula, AEC would be required to maintain reserves of 75 mw (the size of its largest unit) or about 58% of its peak-hour demands (Tr. 21,610). This result is unreasonable on its face.

²⁵⁵During 1969, Mr. Farley and Mr. Wesley Jackson, AEC's recently named manager, met on several occasions, independent of the various meetings between Applicant and AEC. Mr. Farley and Mr. Jackson discussed security of their respective customers in these meetings. Their meetings served to highlight Applicant's intent not to lose wholesale customers to AEC through interconnection (APP. X JMF-A, (Farley) pp. 404-408).

Applicant then undertook a review of this proposed interconnection agreement. Applicant favored a revision of the draft agreement to eliminate many of the coordinating arrangements (AEC X 55; AEC X 61; Tr. 22,082-22,107).

In late April 1970, Applicant submitted a memorandum containing thirteen points which Applicant stated required agreement between Applicant and AEC (DJ 4,239). Although the thirteen points included Applicant's agreement to interconnect with AEC at Jackson, it also required AEC not to install new generation during the primary term (10 years) of the agreement, and required a cancellation or modification of AEC's 35-year contract with its members so that they would continue to be served by Applicant and not AEC (DJ 4,239).

On April 27, 1970, AEC bowed to pressure from SEPA, and finally agreed to an interconnection with Applicant at Walter F. George Dam, in advance of an interconnection with Applicant at Jackson. Applicant, of course, considered that agreement on this point was required before any agreement could be reached with AEC on interconnection and coordination, because Applicant would be able to purchase unsold capacity from the project for its own system (APP. X 326; Tr. 21,612; DJ 4,237).

AEC did respond to Applicant's thirteen point memorandum on July 1, 1970, during a meeting between the parties.²⁵⁶ AEC indicated it would not accept the proposals of Applicant, although AEC was willing to consider various types of arrangements without limitation, as long as the arrangements were consistent with AEC's goals. AEC intended to remain a viable generation and transmission entity (DJ 4,238, DJ 4,240). But Applicant still wanted customer protection from AEC prior to interconnecting with AEC at Jackson. Applicant refused to discuss AEC's March 17 draft interconnection agreement which contained numerous provisions for coordination (DJ 4,240; Tr. 9,206; AEC X CRL-102).

In a subsequent meeting with AEC on July 22, 1970, Applicant again refused to discuss AEC's March 17 draft interconnection agreement, because it did not contain assurances that AEC would not take Applicant's wholesale customers, and because Applicant had not received the information it earlier requested from AEC (DJ 4,230). Instead, Applicant presented its own draft of an interconnection agreement with AEC. The agreement contained provisions for protection of each parties' respective customers (AEC X CRL-85). Applicant also stated it would not willingly enter into any arrangement with AEC which would facilitate and result in Applicant losing its wholesale customers (DJ 4,231). Throughout this period, Applicant continued to maintain this position, despite a later offer by AEC to enter into a customer protection agreement if

²⁵⁶AEC had by that time formed a "power contracts committee" to represent AEC and its members in dealing with Applicant on power supply matters.

Applicant would agree not to oppose AEC's plans for future generating facilities (DJ 4,227; AEC X CRL-88; DJ 4,232).

In the meantime, AEC continued to press for interconnection with Applicant at Jackson and requested REA to assist it in this regard (AEC X CRL-109). But Applicant insisted that it would interconnect with AEC at Jackson only if AEC would agree not to use the interconnection to displace or supplant service provided by Applicant (DJ 4,226).

Applicant, in October 1970, sent a draft document to REA containing various provisions including, among other things, a clause requiring termination or modification of AEC's 35-year all-requirements contracts with its members, a ten-year term with a firm rate for the first five years, a five-year notice requirement of planned changes in AEC's generating capacity or amount of power purchased from other suppliers beside Applicant, a stability charge for the interconnection at Jackson in addition to a service charge, economy energy transactions, emergency and maintenance service to AEC after it used up "protective capacity"²⁵⁷ available from Applicant, and a reserve requirement equal to 15% of AEC's estimated peak demand with the requirement that AEC purchase "protective capacity" (AEC X CRL-103). Applicant also included a provision which gave it veto power over AEC's interconnection with other utilities (AEC X CRL-103).

In January 1971 in a meeting with AEC, Applicant restated that its position would be substantially the same as reflected in terms and conditions set forth in Applicant's draft sent to REA in October 1970 (DJ 4,225; APP. X JMF-63). Applicant also stated that interconnection and coordination would also be conditioned against AEC taking Applicant's customers (DJ 4,225).

AEC then sent a new draft agreement to Applicant in an effort to obtain interconnection and coordination (APP. X 172). Applicant then responded by submitting a newly revised proposal to AEC which eliminated the provisions for termination or modification of AEC's 35-year contracts with its members, but called for a general stability of customer allocation (APP. X 144).

In January 1972, AEC proposed certain changes to Applicant's latest revised agreement (APP. X 142). Finally, the parties executed an interconnection agreement on February 23, 1972, which became effective July 1, 1972 (DJ 3,013). This agreement includes many of the provisions Applicant proposed in its October 1970 draft. The agreement requires AEC to pay for "protective capacity,"

²⁵⁷The concept of "protective capacity" was developed by Mr. William R. Brownlee of Southern Services for use by the Southern System Operating Companies with small generating entities such as AEC, South Mississippi Electric Power Association, and Crisp County Electric Membership, which operate in the operating companies' service areas (DJ R7011; Tr. 25,944-25,956). It is nothing more than an "unusual charge" for capacity since no firm power is actually furnished under the concept (Tr. 25,948-25,949).

and contains no actual provisions for coordination of generation and transmission as proposed by AEC (DJ 3,013).

The Board finds that Applicant's persistent refusals to offer fair interconnection and coordination with AEC constitute anticompetitive conduct inconsistent with the antitrust laws. The record establishes beyond peradventure that Applicant's sole justification for not offering the interconnection and coordination requested by AEC was the fear of erosion of Applicant's wholesale business. Applicant consistently took the position in the five-year period between 1967 and 1972, when the limited interconnection agreement was finally entered into, that it would not interconnect and coordinate with AEC if it would result in AEC taking over service to certain of its member cooperatives which were then being served at wholesale by Applicant. While Applicant may have had a reasonable basis for refusing to interconnect and coordinate with AEC pending Federal court determination of the validity of AEC's 35-year all-requirements contracts with its members, which Applicant asserted to be violative of the antitrust laws, Applicant had no legitimate reason to do so after the 1968 Court decisions²⁵⁸ affirming the validity of these contracts. From 1968 until 1972 when Applicant and AEC finally entered into a limited interconnection agreement, Applicant consistently refused to make fair interconnection and coordination arrangements with AEC, for the sole purpose of maintaining and protecting Applicant's wholesale customer business from competition by AEC. Applicant's refusals to offer AEC reasonable interconnection and coordination in these circumstances can only be viewed as anticompetitive, and inconsistent with the antitrust laws and their underlying policies. We find that Applicant's behavior in regard to offering AEC interconnection and coordination in this period evinces an anticompetitive intent toward AEC. The intent, which was prevalent during the late 1960's and into the early 1970's, in several other relationships between Applicant and AEC, actually began in 1962 and 1963 in regard to AEC's efforts to serve the wholesale power supply of Ft. Rucker, Alabama.²⁵⁹ While we address these other instances of Applicant's behavior later in this decision, we find that Applicant's conduct in these cases is inconsistent with the antitrust laws, and warrants appropriate relief in respect to the Farley Plant license.

D. Applicant's Denial of Reasonable Access to Power Exchange Services— The 1972 Interconnection Agreement

The Department and AEC charge that Applicant has denied AEC reasonable access to power exchange services resulting from coordination, and point to the

²⁵⁸ *Alabama Power Company v. Alabama Electric Cooperative*, 294 F.2d 672 (CA 5, 1968); *cert denied*, 393 U.S. 1000 (1968).

²⁵⁹ See pp. 942-945, *infra*.

1972 interconnection agreement between Applicant and AEC as evidence of Applicant's denial. It is contended that this interconnection agreement is the product of Applicant's exercise of its superior bargaining position compared to AEC, and enables Applicant to increase its dominance over wholesale sales in central and southern Alabama (DJ PFF 10.01-10.27, AEC PFF 11.74).

The 1972 interconnection agreement provides for the purchase by AEC of deficit capacity and energy from Applicant to meet AEC's power requirements in excess of its generation (DJ 3,013, Sec. 5.05; Mayben, Direct, p. 48). The term of the agreement is 10 years unless terminated by appropriate notice (DJ 3,013, Sec. 1.01). The amount of power purchased is negotiated on an annual basis, with adjustments made in accordance with changes in AEC's loads and generating resources (DJ 3,013, Sec. 5.05). Under the agreement, AEC is credited with a certain amount of generating resources in determining the specific amount of power it purchases from Applicant (DJ 3,013, Sec. 5.03). The purchase price specified is \$19.80 per kilowatt of capacity per year (DJ 3,013, Sec. 6.02). This rate is extremely favorable to AEC at the present time because of inflation which has occurred since the agreement was executed (Tr. 8,643-8,644).

The interconnection agreement also provides for emergency services, maintenance services, economy energy, and a reserve sharing arrangement (DJ 3,013, Secs. 6.03-6.05; Mayben, Direct, pp. 48-52). These types of services represent coordination and serve to enhance the reliability of AEC's electric system.

AEC is also required to maintain reserves equal to 15 percent of its peak load plus purchase "protective capacity" from Applicant (DJ 3,013, Sec. 5.06). The amount of protective capacity which AEC is required to purchase is equal to one half of the amount that AEC's largest generating unit exceeds the amount of standby capacity AEC contracts for from SEPA, which is about 50 megawatts (DJ 3,013, Sec. 5.06). The price for protective capacity is \$4.00 per kilowatt per year (DJ 3,013, Sec. 5.06).

The agreement also establishes an operating committee, provides for spinning reserves, and specifies various points of interconnection with Applicant (DJ 3,013, Secs. 3.01-3.06, 4.01-4.03, 5.07).

The interconnection agreement, however, contains no provision for staggering of construction of generating units, no provision for transmission services, and no provisions for exchange of seasonal capacity²⁶⁰ (Mayben, Direct, pp. 48-52). These types of services are also recognized as falling within coordination among electric utilities (Tr. 5,576-5,586).

The interconnection agreement includes a special four and one-half year notice provision on termination (DJ 3,013, Section 5.03). This termination

²⁶⁰ Exchanges of seasonal capacity would not normally be expected between AEC and Applicant since both of their electric systems are summer peaking systems.

provision requires AEC to notify Applicant at least four and one-half years in advance of any plans concerning changes in AEC's generating capacity or amount of capacity purchased from others. The power AEC obtains from SEPA does not operate to invoke the four and one-half year notice provision (Section 5.03).

The Department and AEC harshly criticize specific parts of the agreement. In addition to the absence of provisions for staggering construction of generation, transmission services, and exchanges of seasonal capacity, the Department and AEC urge that the "protective capacity" charge imposed on AEC actually adds to AEC's cost of its power supply. This result is claimed to be contrary to one of the purposes of achieving coordination in the electric utility business. In addition, it is asserted that the "protective capacity" provision deters AEC from installing its own large scale generation, and denies AEC economic benefits normally flowing from coordination by unnecessarily increasing AEC's reserve obligation. In short, AEC is claimed to be gaining either minimal or insubstantial benefits under the agreement (Mayben, Direct, pp. 48-52).

The parties also contend that the special termination provision works to prevent AEC from engaging in short-term (one or two years) exchanges of capacity with other electric utilities (Tr. 1,637-1,646; Tr.5,446-5,448). According to the Department and AEC, AEC would incur an economic penalty if it engaged in a capacity transaction with another utility because, under the agreement, the capacity received would not be credited as a generating resource of AEC which reduces the amount of power AEC is obligated to purchase from Applicant. Since no transmission services are provided in the agreement, AEC allegedly cannot engage in capacity exchanges with other utilities in any event. Without such transmission services, it is stated that AEC would have no means of delivering or receiving power from another utility (Tr. 5,446-5,448).

The Board has carefully considered the 1972 interconnection agreement and all of its provisions. Although we have previously found that Applicant acted inconsistently with the antitrust laws in refusing to offer AEC fair coordination in the period 1968 to the time of execution of the interconnection agreement, on the principal justification of loss of business to a competitor, we are unwilling to hold that the agreement in and of itself denies AEC access to power exchange services in an anticompetitive manner. While it appears that Applicant and AEC could have agreed to engage in greater coordination, the failure to have done so cannot be termed anticompetitive without more substantial evidence. We especially note that the agreement actually operates to give AEC substantial financial benefits, because of the extremely favorable power purchase rate included. Under this rate, AEC has been able to avail itself of power purchases from Applicant at a cost much less than that which AEC would have incurred if it generated its own power supply. If anything, AEC's total cost of power has been substantially reduced over the few years the agreement has been in effect

from what it otherwise would have been had AEC generated the bulk of its power supply. AEC's own annual reports to REA bear this out (APP. X 146).

Moreover, the special notice provision appears reasonable to the Board, particularly since the record shows that both sides agree that notice is required in power supply contracts (Tr. 5,234; 5,952; 8,480; 8,523-8,526). In view of the length of time it takes to plan additions to generating facilities, we do not believe that the four and one-half year notice provision can be attacked as being anticompetitive in scope or effect. We also note that under the reserve sharing provisions of the agreement, AEC is required to maintain reserves equal to 15 percent of its peak load, plus pay for "protective capacity." These reserve sharing provisions effectively require AEC to carry reserves equal to about 17 percent of AEC's load. We are unable to find that this reserve obligation is unreasonable, and places AEC at a substantial economic disadvantage. The "protective capacity" provision, however, is an unusual means of specifying a reserve obligation, and the Board believes that it should be eliminated. We will require AEC and Applicant to redefine AEC's reserve obligation on a different basis in the future, leaving it up to the parties to decide upon the most acceptable fashion of stating reserve sharing.²⁶¹

In the circumstances, we find that the 1972 interconnection agreement between Applicant and AEC is not anticompetitive in and of itself, and does not deny AEC power exchange services in an anticompetitive fashion.

E. Applicant's Denial of Ownership Participation by AEC and Municipal Distributors in the Farley Plant

Applicant is alleged to have denied AEC and the municipal distributors in central and southern Alabama ownership participation in the Farley Plant. Applicant's alleged denial of such ownership participation is termed inconsistent with the antitrust laws (DJ PFF 11.01-11.33; AEC PFF 12.01-12.25).

The record shows that in October 1969, Mr. Farley and Mr. Wesley Jackson, AEC's manager, had discussions about the Farley Plant in the context of their continuing discussions over interconnection²⁶² (APP. X 320). In August 1969, Mr. Jackson had advised Mr. Farley that AEC was not interested in ownership participation in the Farley Plant, but that some of AEC's members had expressed such an interest (Tr. 19,396; APP. X 320). The record does not show

²⁶¹ The Board is unwilling to order that reserves be shared on an equalized basis or in accordance with any particular formula at this juncture. It may be that the Board will do so after completion of evidentiary hearings in Phase II of this proceeding, if any, but we urge the parties to agree on this matter without Board intervention as part of these negotiations. See pp. 961-962, *infra*.

²⁶² See n. 255, *supra*.

whether AEC expressed interest in ownership participation in the Farley Plant between this date and 1971.

In March 1971, while the Farley Plant was under construction, AEC requested a meeting with Applicant to explore the circumstances under which AEC could meet part of its future power requirements from the nuclear units²⁶³ (AEC X CRL-91). The parties met in April 1971, and have had subsequent meetings and discussions since that date on possible participation by AEC in the Farley Plant. Applicant's representative expressed opposition to AEC's ownership because of a number of legal obstacles (AEC X CRL-93; Tr. 19,254). Applicant has also met with MEUA, and has provided estimates of the cost of power from the Farley Plant as well as discussed possible participation in ownership by municipal electric distributors in central and southern Alabama (Tr. 4,553-4,554; APP. X JMF-76). Under present Alabama law, however, MEUA cannot participate in ownership in the Farley Plant (Tr. 6,482-6,495).

Although these parties have engaged in numerous discussions, none has resulted in an agreement with Applicant for joint ownership arrangements in the Farley Plant. Applicant has repeatedly indicated that joint ownership of the Farley Plant would be precluded by numerous legal obstacles such as the present restrictions in Applicant's mortgages as security for its publicly held bonds, and local laws which accord joint owners the right of partition (AEC X 30; APP X JMF-A, pp. 535-539).

Speaking on behalf of Applicant, however, Mr. Farley has testified that the Company has not taken the position that it would not sell ownership in the Farley Units (Tr. 19,185; Tr. 20,599).

The record does show that Applicant has offered to sell AEC and the municipal electric distribution systems unit power from the Farley unit as a basis for access to nuclear power (Tr. 20,602, AEC X 29, AEC X 30, AEC X 31). Applicant has been willing to engage in numerous discussions on this point, but AEC appears to have refused consideration of unit power (Tr. 6,012-6,018; 9,848-9,858; 10,298; 10,335; 20,001-20,006).

We have examined the record on the question of whether Applicant has denied ownership participation to AEC and the municipal electric distribution systems. We find no hard evidence substantiating this charge, and on the contrary, Mr. Farley has made it quite clear in his testimony before the Board that Applicant does not take the position that it would not sell ownership. We believe, in these circumstances, that it would require speculation on our part to find that Applicant has acted inconsistently with the antitrust laws in its numerous discussions with AEC and the municipal electric distributors in central and southern Alabama regarding ownership participation in the Farley Units.

²⁶³By this time the Atomic Energy Commission published notice in the *Federal Register* requesting comments on whether licenses for the Farley Units should be issued (36 FR 3277, February 20, 1971).

F. Applicant's Refusal to Consider Coordination With Proposed Generation of the City of Dothan, Alabama

In 1966, the City of Dothan, Alabama, considered building a 200 kva coal-fired steam generating plant on the Chattahoochee River in Houston, Alabama (DJ 218). In May 1966, officials of the City of Dothan met with representatives of Applicant to negotiate a new power supply arrangement. During this meeting, the City officials inquired if Applicant would be interested in purchasing surplus power from a generating plant which the city had under construction (DJ 218). Applicant responded by offering to lease the city's electric distribution system (DJ 218).

Thereafter, the City of Dothan retained the consulting engineering firm of Gillespie Engineers of Jacksonville, Florida, to advise it with respect to negotiations with Applicant for power supply, as well as to investigate Dothan's self-generation potential as an alternative to the city's continued purchase of power from Applicant (APP. X 9). The consulting engineering firm concluded that it was in the best interest to the City of Dothan to continue purchasing power from Applicant rather than self-generation (APP.X 9).

The Department asserts that Applicant did not desire to have competing generation located in southeast Alabama, and displayed a lack of interest in purchasing surplus power from Dothan's proposed generation, all of which constituted a refusal to engage in coordinated development necessary to make the city's proposed generation plant economically feasible. The Department says Applicant never offered any justification for its refusal to engage in coordination with the City of Dothan in connection with this proposed generating plant (DJ PFF 12.01, 12.03).

The Board has examined the record on this subject and can find no evidence that Applicant ever refused to offer the City of Dothan coordination with respect to the city's proposed generating plant. Although the record indicates that the City of Dothan had under consideration in 1966 the possibility of constructing a generating unit, the city engaged consulting engineers to advise it with respect to this matter. The consulting engineering firm later concluded that self-generation was not a realistic alternative to the City of Dothan.

The Board is unable to find any basis upon which to rest a finding that Applicant actually refused to engage in coordination with the City of Dothan in regard to this matter. The only material containing a record which in any way deals with the subject is the memorandum prepared by Mr. Clyde Wood, an employee of the Applicant, who reported to the company on the April 1966 meeting which representatives of Applicant had with the City of Dothan to discuss a new wholesale power supply arrangement (DJ 218). A Dothan city employee had also written a letter sometime earlier referring to a "50,000 KWH" generating plant the city was considering (DJ 4,011). The record shows

that the City of Dothan did not give this matter serious consideration beyond engaging an engineering firm to advise with respect to self-generation, and, in any event, no specific official request for coordination for the City of Dothan to Applicant had ever been made. In these circumstances, we refuse to find that Applicant would not consider coordination with the City of Dothan, and in doing so, acted inconsistently with the antitrust laws. In fact, we are surprised that the Department would make such a serious charge on such slim evidence as the two documents (DJ 218; DJ 4, 011) submitted to establish that Dothan planned to construct its own generating unit and requested Applicant to coordinate, which was refused. This entire charge is absurd and did nothing more than waste the Board's time and the resources of this agency.

G. Contract Provisions Precluding Competing Generation and Transmission

The Department and AEC charge the Applicant has imposed conditions in its contractual arrangements with AEC, or has interpreted such arrangements, to prevent AEC from installing its own generation and transmission or obtaining power from alternative sources which would be used to compete with the Applicant (DJ PFF 13.01; AEC PFF 15.01-15.04). Moreover, the Department claims that Applicant had, until its more recent filings with the Federal Power Commission, entered into contractual arrangements with municipal distributors in central and southern Alabama which expressly prohibited those distributors from using an alternative source of power (DJ PFF 13.02). Finally, the Department asserts that Applicant has rewritten several agreements with municipal distributors in order to preclude competing self-generation and transmission.

As an example of Applicant's conduct, the Department alleges that in 1970 when power from the SEPA project became available to preference customers in central and southern Alabama, Applicant modified contractual restrictions contained in its agreements with municipal distributors which precluded them from using an alternative source of power so as to enable the municipal systems to contract with SEPA for their allocation of power. But the Department says that these contracts were modified to include the condition that delivery of SEPA power by Applicant to the municipals would only be upon Applicant supplying all of their remaining power requirements.

The Department says the effect of these provisions precluded the municipal systems from using power from any source other than SEPA and Applicant (DJ PFF 13.03). In addition, the Department alleges that in connection with the SEPA agreement entered into in 1970, Applicant negotiated directly with SEPA without the participation of the preference customers in central and southern Alabama, and SEPA accorded the preference customers less than a month to reach a decision on the proposed agreement which it worked out with Applicant (DJ PFF 13.03).

The record reveals that Applicant's contractual arrangements with AEC and municipal distributors have contained provisions which operate somewhat to discourage these parties from installing their own generation and transmission or acquiring other sources of power (DJ 3,012; APP. X JSV-33; APP. X JSV-34; DJ X 216; DJ X 225; DJ X 226; DJ X 227; DJ 3,013). But the record contains no evidence that these contractual provisions were intentionally and purposefully inserted so as to prevent AEC and the municipal electric distributors from installing their own generation and transmission. The record establishes that the provisions were partially inserted to establish a firm market to justify Applicant's investment in electric facilities, in the same manner as AEC's 35 and 40-year all-requirements contracts with its member distribution cooperatives (APP. X BMG-A, (Guthrie), pp. 62-63; Tr. 6,394-6,395). But the record shows these provisions do prevent the municipals from obtaining alternative sources of power.

Accordingly, the Board rejects the Department's charges that Applicant inserted contractual provisions in its various agreements with AEC and municipal electric distribution systems for the purpose of precluding competing self-generation and transmission, but agrees that they are anticompetitive in regard to precluding alternative sources of supply (see pp. 936-937, *infra*).

H. Prevention of SEPA Transmission and Control of SEPA Resources

The Department alleges that Applicant effectively prevented SEPA from constructing its own transmission facilities in the early 1950's to market surplus power from the Federal hydroelectric projects to preference customers and various southern states. Applicant's alleged opposition is termed inconsistent with the antitrust laws (DJ PFF 15.01-15.31).

In the early 1950's, SEPA's first administrator, Mr. Ben Creim, conceived a plan for the government to construct high voltage transmission lines linking or integrating various Federal hydroelectric projects constructed by the Corps of Engineers for the purposes of delivering power to major load centers (DJ 401; DJ 410; Tr. 15,177-15,183). The record shows that Mr. Creim apparently proposed such construction because private utilities in the southeast had generally refused to enter into wheeling and firming of power agreements suitable to SEPA. Instead, these utilities had proposed to purchase all of the power from the Federal hydroelectric projects at the bus-bar and then sell a quantity of firm power to preference customers (Tr. 15,182; 15,240; DJ 401; DJ 412).

In 1952, SEPA requested an appropriation of funds from Congress for the construction of transmission lines, including funds for actual construction of certain lines and funds for further studies to be made for construction of other transmission lines. In particular, SEPA requested funds for the actual construction of 115 kv line from the Jim Woodruff Federal hydroelectric project in Alabama to the Wire Grass Cooperative located in southeast Alabama. This

transmission line was never constructed (Treadway, Direct, p. 7; Tr. 10,665-10,668; Leavy, Direct, Tr. 15, 185; DJ 401; DJ 410; DJ 421; DJ 421A).

Applicant opposed all of these and other similar proposals before Congress arguing that such construction would duplicate transmission facilities unnecessarily, and that Federal funds should not be used for such purpose (DJ 406; DJ 408; DJ 422; DJ 423).

In 1952, Congress adopted a rider to an appropriation bill which repudiated the construction of duplicate transmission facilities with Federal funds (Public Law No. 82-470, 66 Stat. 445).

The Board finds that Applicant's opposition to the SEPA proposal before Congress was permissible under the *Noerr-Pennington* doctrine, and, in any event, the record shows Applicant's efforts have not been shown to have had an anticompetitive purpose.

The Board is unable to find that Applicant's opposition to the construction by SEPA of high voltage transmission lines in the southeast constituted anticompetitive conduct. The Board believes that Applicant was reasonably opposed to the construction of such lines on the basis of wasteful duplication of transmission facilities. The Board finds no need to examine in more detail the events and occurrences concerning the early SEPA proposals, including the proposals of the Southern Company to enter into contractual agreements for the purchase and delivery of power from Federal hydroelectric projects to preference customers in the southeast, except to describe the origin of certain provisions in the current SEPA agreement with Applicant (DJ 3,012), which are alleged to be anticompetitive in nature and effect. We are unpersuaded that Applicant acted with anticompetitive intent and purpose in connection with the early SEPA proposals to construct transmission. The present SEPA agreement with Applicant is another matter, however, and we have examined the agreement and its various provisions in their entirety. Our findings, with respect to this agreement, are set out immediately hereafter.

I. The 1970 SEPA Contract

On June 19, 1970, Applicant and SEPA entered into an agreement which provides for wheeling and firming of power from various Federal hydroelectric projects to preference customers in Alabama (DJ 3,012).

In Section 4.2 of the agreement, it is provided that unless the preference customer purchases all of its supplemental power from Applicant (that is power needed over and above the SEPA allotment, and power generated by their own resources), Applicant is not obligated to wheel power from the Georgia Project to the preference customer (DJ 3,012, Section 4.2). The agreement also provides in Section 10.3 that Applicant will contract with each preference customer of the government to supply the additional power required by the preference cus-

tomers. This section enables Applicant to implement Section 4.2. Applicant has modified its power supply agreements with preference customers to include a provision that requires the preference customer to purchase all of its additional power from Applicant. SEPA has inserted similar provisions in its contracts with preference customers in order to give effect to Section 4.2.

The Department, AEC, MEUA and Staff contend that Section 4.2 of the agreement is anticompetitive in nature and effect because it enables Applicant to control SEPA's resources to prevent competition by utilities in central and southern Alabama. These parties assert that, as a practical matter, under Section 4.2 there is no way that preference customers can obtain government power made available to them unless they purchase all of their additional power requirements from Applicant, that this provision is not necessary for the effectuation of government policy respecting the marketing of surplus power from Federal hydroelectric projects, and that Section 4.2 acts as a deterrent to municipal systems in central and southern Alabama from seeking alternative sources of bulk power (Tr. 5,940-5,941; 6,373-6,380; 14,700-14,704; 15,213; St. John, Direct, pp. 18-19).

The requirement that a preference customer purchase all of its supplemental power from the Applicant as a condition of Applicant's obligation to wheel government power, as specified in Section 4.2 of the 1970 SEPA agreement with Applicant, was originally conceived in the early 1950's as a part of a proposal advanced by Georgia Power on behalf of itself and its affiliates in the Southern System. The evidence shows that Applicant acceded to this proposal (DJ 406-408, 422-423, 6,007-6,014). Approximately three days after SEPA was formed in 1950, Georgia Power proposed to purchase at the bus-bar the entire output of several Federal hydroelectric projects in existence or planned in the service territories of the Southern System Operating Companies, and subsequent delivery by those companies of an equivalent amount of firm power to preference customers (DJ 402, DJ 403, DJ 410, DJ 411, Tr. 15,189-15,190, Tr. 15,222, Treadway, Direct, pp. 9-11). This concept required the preference customers, as a condition of receiving surplus power from the Federal hydroelectric projects, to purchase the balance of their power supply from the operating companies of the Southern System in their respective areas (DJ 402, DJ 405, Tr. 15,221-15,222, Tr. 10, 349-10,356).

The Georgia Power proposal was opposed by rural distribution cooperatives in Georgia, and ultimately, SEPA rejected the notion as violative of the purpose and intent of Section 5 of the Flood Control Act of 1944 (Treadway, Direct, pp. 11-12; Tr. 15,189, Tr. 15,191; DJ 410, DJ 411).

The concept later appeared in a proposal labeled as the "tri-contract" arrangement, a proposed contractual relationship which resulted from negotiations between Georgia Power and the U.S. Department of Interior respecting the marketing of power from the Clark Hill Federal project in Georgia (Treadway,

Direct, p. 12; Tr. 10,436-10,437; DJ 416; Tr. 15,266-15,267). The rural cooperatives in Georgia also opposed this arrangement and the Secretary of Interior, who had originally developed the "tri-contract" idea, submitted the question of its legality to U.S. Attorney General, Herbert Brownell. On July 15, 1955, the Attorney General issued an opinion ruling that the sale of all government power from Federal hydroelectric projects at the bus-bar to a private utility, when preference customers were seeking to purchase the power, would violate Section 5 of the Flood Control Act (DJ 409, DJ 417, Treadway, Direct, pp. 12-13).

Shortly after the Attorney General issued his opinion, Mr. Harlee Branch, Jr., then President of Georgia Power, informed the Department of Interior that Georgia Power would agree to enter into a contract for the wheeling and firming of SEPA power from Clark Hill Project, but that Georgia Power would only wheel power on the condition that preference customers purchase all of their supplemental power requirements from Georgia Power (DJ 412, Tr. 15,214). Various draft agreements were then prepared which included a Section 4.2 substantially the same as appears in the 1970 agreement between SEPA and Applicant (DJ 412, DJ 413; Tr. 15,214). Although the cooperatives in Georgia vigorously objected to the inclusion of this provision, SEPA accepted and included it in its agreement with Georgia Power for the firming and wheeling of power from the Clark Hill Project. This agreement was entered into in May 1956 (APP. X 179).

This provision has continued to appear in subsequent SEPA agreements with Georgia Power for disposition of power from other Federal hydroelectric projects in Georgia. When SEPA prepared a draft agreement for the disposition of power from the Miller's Ferry Project in Alabama, which was coming on line in late 1969 or early 1970, SEPA included Section 4.2. Georgia Power was to be a party to that agreement along with Applicant, and SEPA recognized that Georgia Power had always insisted upon such a provision in the past (Tr. 14,704-14,705; 15,223-15,224). Accordingly, the provision was brought forward and included in SEPA's June 1970 agreement with Applicant for wheeling and firming of power from Federal projects for delivery to preference customers without any substantial negotiation.

The evidence of record shows that no engineering or economic justification was ever urged in support of Section 4.2, either in its original concept or in all the negotiations among Georgia Power, SEPA and the Department of Interior, or between Applicant and SEPA in connection with the various contracts to firm and wheel power from Federal hydroelectric projects (Tr. 15,315-15,316; Tr. 4,768-4,769). The record also indicates that SEPA at least partially accepted the provision in 1956 in order to obtain an agreement with Georgia Power to firm up power from Clark Hill that SEPA was marketing to preference customers. Being without transmission facilities, SEPA had to have such an agreement in

order to market the surplus power from the Clark Hill Project (Tr. 15,213-15,216; 15,218-15,220; 15,289-15,290). Section 10.3 of the 1970 SEPA agreement with Applicant enables Applicant to implement Section 4.2.

Georgia Power's insistence on a provision such as Section 4.2, in agreements to firm and wheel power from Federal projects, was to protect the Company from the loss of loads of preference customers (15,289-15,290). We do not find this reason to be sufficient justification for what is tantamount to an exclusive dealing arrangement. As the provision has been carried forward and included in the present SEPA contract with Applicant, it follows that it is also equivalent to an exclusive dealing arrangement. We find it to be inconsistent with the antitrust laws and their underlying policies.

Although it has been SEPA's policy from its inception to obtain assurances in wheeling and firming agreements with private utilities that the purchase of power by preference customers must not result in the preference customer paying more than it otherwise would for supplemental power, such a policy does not, and cannot serve as justification for the effect of Section 4.2. The record shows that SEPA has no particular interest in the source from whom a preference customer obtains its supplemental power (Tr. 14,699, Tr. 15,205). The record also discloses that SEPA does not consider Section 4.2 necessary for the effectuation of its policies concerning the marketing surplus power to preference customers from Federal hydroelectric projects (Tr. 14,700, 15,213). Moreover, the provisions in SEPA's contracts with the preference customers which give effect of Section 4.2, are unnecessary for the effectuation of SEPA's policies concerning the sale of surplus power to these customers. These provisions have been included in the SEPA preference customer agreements in order to be consistent with Section 4.2 (Tr. 14,701-14,704).

Significantly, SEPA has expressed concern to Applicant over the effect of Section 4.2. In 1973, the Administrator of SEPA wrote Applicant advising Applicant that should Applicant attempt to refuse to carry out its obligations to wheel power because a preference customer refused to purchase all of its supplemental power from Applicant, that the matter would be referred to the Department of Justice. SEPA recognized that, in view of the Supreme Court's Decision in *Otter Tail*,²⁶⁴ the restrictions contained in Section 4.2 may have antitrust consequences. On June 6, 1973, Applicant's President, Mr. Joseph M. Farley, replied to SEPA's Administrator claiming that Section 4.2 was necessary for protection of the economic considerations on which Applicant originally agreed to wheel power from the several Federal hydroelectric projects. Although Mr. Farley's comments attempted to provide a rationale in economic terms for the inclusion of Section 4.2, the claimed economic basis for Section 4.2 is clearly

²⁶⁴ See p. 856, *supra*.

insufficient to overcome its anticompetitive effect. The provision deters preference customers from seeking alternative wholesale power and aids Applicant in maintaining its dominance in the wholesale market in central and southern Alabama. We find this to be inimical to the antitrust laws.

Accordingly, we find that Section 4.2 in the SEPA agreement with Applicant is anticompetitive in nature and effect. There is no adequate justification for the inclusion of this section in the agreement, and we find that the section represents an exclusive dealing arrangement proscribed by the antitrust laws and the policies underlying such laws.

J. Applicant's Price Squeeze

A price squeeze involves the economic behavior of a vertically integrated firm *viz a viz* rival who is not similarly integrated. If a manufacturer both marketed its product through its own distribution channel and sold to independent distributors as well, the manufacturer would be engaging in a single price squeeze if it unduly raised the wholesale price to the independent distributors who competed with the manufacturer at retail. A double price squeeze occurs if, in addition to the tactic just mentioned, the vertically integrated manufacturer unduly lowered the retail price of the product in its own outlets as well.²⁶⁵

MEUA argues with singular vigor that Applicant has engaged in a price squeeze. MEUA contends that Applicant's rate for wholesale power to MEUA members, in conjunction with the retail rate Applicant charges its industrial customers, constitutes a price squeeze. Applicant allegedly sets a rate to industrial customers such that MEUA members, buying from Applicant in the wholesale power market, are unable to compete fairly with Applicant for these loads in various retail markets. MEUA contends that the matching of Applicant's retail industrial rates does not permit them to cover a member's costs (including a return on the cost of capital) and the member's competitive potential is thereby enervated. Furthermore, MEUA holds that the price squeeze exists whether a member takes power from Applicant directly at the load (and performs the selling and billing function) or the member performs the distribution function

²⁶⁵ The Board rejects the definition of a price squeeze proposed by MEUA witness Karl B. Porter (MEUA X 1A, (Porter Supplemental Direct) pp. 1-2). According to his definition a price squeeze occurs whenever a nonintegrated retailer cannot buy at wholesale from an integrated firm "at a rate sufficiently low to enable it to compete . . ." with the integrated firm "and produce a positive margin sufficiently high to cover the [retailer's] costs." The protectionist thrust of such a definition is apparent. It entails the survival and prosperity of the nonintegrated firm regardless of its relative cost structure and efficiency. The appropriate focus of a price squeeze charge is on the integrated firm and its costs. One should inquire whether its rates at wholesale are significantly above its costs and whether its rates at retail are below its costs. See *United States v. Aluminum Company of America*, 148 F.2d 416, 436-438 (CA 2, 1945).

using its own facilities (Cf. MEUA X 21 and MEUA X 22 with MEUA X 8, MEUA X 11, MEUA X 19).

The Department, AEC and Staff have not focused on this alleged aspect of Applicant's conduct. If anything, the record shows that MEUA stands in opposition to those parties on this matter. The Department claims that Applicant's wholesale rates to nonintegrated customers have not been too high, as a price squeeze would entail, but rather too low, to the end that buyers would be dissuaded from constructing their own generation facilities (see DJ PFF pp. 92-103; Wein, Direct, p. 136). The Department also asserts that Applicant formerly maintained a dual rate structure²⁶⁶ on rates applicable to cooperative and municipal customers, and this rate structure once had the same effect as a price squeeze by hampering these wholesale customers in competing with Applicant for industrial loads (Wein, Direct 135; St. John, Direct, pp. 37-38; see also Lowman, Direct, pp. 128-129). The remoteness of these dual rates²⁶⁷ alone might make them of little significance in this licensing proceeding. But in any event, the record shows that the Department's anticompetitive allegations about Applicant's dual rates are without foundation (see Tr. 4,038-4,043; APP. X 22; APP.X BJC-A, (Crawford) pp. 188-190). Using the City of Lafayette as an example, the cross-examination of the Department's own witness, H. Sewell St. John, revealed that: (1) the dual rate, contrary to being imposed by Applicant, was the result of negotiations between the City, Applicant and the Alabama Public Service Commission; (2) that the dual rate actually *lowered* power costs to the City; and (3) that the dual rate had no effect on altering or raising the industrial and commercial rates charged by the City (Tr. 4,038-4,044). Consequently, we find no inconsistency with the antitrust laws in Applicant's maintenance of dual rates in the time period 1936 to 1945.²⁶⁸

There are two questions this Board addressed in considering Applicant's alleged price squeeze: (1) whether a price squeeze occurred;²⁶⁹ and (2) if so, does it apply to a significant amount of commerce or business.

²⁶⁶The dual rate provided for a reduction in the cost of purchased power based on the quantity of power sold to residential customers of the distribution entity (see APP. X BJC 57 and 58).

²⁶⁷Applicant maintained dual rates in the period 1936 to 1945.

²⁶⁸Indeed in light of these facts in the record, the Board finds the dual rate charge to be specious and is surprised that it continues to be made by Department.

²⁶⁹MEUA's Brief and Proposed Findings of Fact contains 52 pages of data and tables on the price squeeze issue. Applicant has urged this Board to strike these data and their contained calculations on the ground that "it comes too late and Applicant has had no opportunity to either (a) test the accuracy of the data or (b) offer rebuttal evidence" (Applicant's Reply Brief, p. 884). The Board agrees. Some of the data presented in these manifold tables goes beyond mere arithmetic calculations in their import and are now presented for the first time, long after MEUA had ample opportunity to make its record on the price squeeze issue during the evidentiary phase of the hearing. The Board therefore grants Applicant's motion to strike this material, and orders it stricken from the record.

To ascertain whether a price squeeze has occurred is not an easy exercise in arithmetic and accounting. As presented in this proceeding the issue was particularly entangled because the calculations involved numerous assumptions about load factors, voltage levels, fuel adjustment clauses, the allocation of SEPA costs, the amount of power lost due to transmission, distribution and stepdown considerations, the operating expenses and cost of capital of the parties involved, and other such factors. For example, MEUA apparently concurs with Applicant that MEUA's early calculations were inappropriate because incorrect fuel adjustment figures applied (MEUA, PFF, p. 63).

Certainly from a broad perspective, the seriousness of any price squeeze by Applicant is not apparent to the Board. We see no evidence that MEUA members are anything but financially viable;²⁷⁰ moreover, we see no evidence that Applicant is serving retail customers at less than either long-run average or long-run incremental costs. Looking at the matter in more detail, the record shows that Applicant's revenue from retail customers at various voltage levels generally exceeds its revenue for a similar amount of power to a wholesale customer.²⁷¹ This result weakens the charge of a general price squeeze by Applicant, since such a tactic would entail, at least in the extreme, just the opposite result. Further vitiating the price squeeze contention is MEUA's attempts to show such a tactic, by reference to a retail rate of Applicant allowed by the Alabama Public Service Commission in 1975. This rate, however, was *less* than Applicant had requested.²⁷² If Applicant had been trying to squeeze out the potential competition at retail from its wholesale customers, in the manner suggested by MEUA, Applicant's behavior in its rate filing with the Alabama Commission is, indeed, strange.

This raises the question of the significance and extent of retail competition for industrial loads of this magnitude. As this Board has already indicated, the opportunities for competition between retail entities located in central and south Alabama are very limited. In the past, both MEUA members and Applicant have behaved in such a fashion as to show their mutual lack of enthusiasm for head-to-head, unfettered retail competition. Retail loads within a distribution entity's service territory are generally served by that entity. MEUA witness Porter was unable to give any examples of industrial loads lost by municipal distributors because of the alleged price squeeze.²⁷³ The Board finds that even

²⁷⁰ Department witness H. Sewell St. John, who is Secretary-Treasurer of MEUA, testified that the municipal distributors in central and south Alabama which take their power from Applicant have generally been profitable operations (St. John, Tr. 4,079). See also APP. X BJC 20, 21 and 22 for evidence on the financial viability of various municipal and cooperative distribution systems in central and south Alabama.

²⁷¹ APP. X 253, 254, 255.

²⁷² Tr. 22,419.

²⁷³ Porter, Tr. 5,979-5,981, 6,087-6,088.

if there were a price squeeze at retail, the record does not support a finding that it is of sufficient significance to be of concern in meeting our responsibilities under Section 105c.

The usual role of a price squeeze allegation in a nuclear licensing proceeding is to cast light on the purpose and intent of an applicant as to its competitive behavior. To this end, we have fully examined and evaluated the alleged price squeeze to determine what evidence it presents of the intent and purpose of Applicant in its competitive relationship with other parties. We find no evidence of a price squeeze of sufficient magnitude to support such an allegation.

K. Applicant's Abuse of Administrative and Judicial Processes

AEC contends that the Applicant has misused administrative and judicial processes against it to prevent its acquisition and expansion of generation and transmission facilities, and to reduce or eliminate its ability to compete as a wholesale power supplier. AEC asserts that such conduct is not protected under *Noerr-Pennington* and that it falls within the "sham exception" to that doctrine. It is further argued that such conduct shows the Applicant's purpose and intent to monopolize in the relevant market (AEC PFF 14.01-14.43).

The Department has asserted that the Applicant misused its monopoly power by successfully preventing AEC from installing generation. It has also described the prolonged and extensive legal battles to halt or delay the construction of generation in the early 1960's. However, the Department has charged that this amounts to sham litigation (DJ PFF 6.01-6.29). The Staff has taken a similar position in this regard (Staff PFF 4.17-4.19).

The Applicant contends that its efforts to influence governmental activity, including litigation and appearances before administrative bodies, are constitutionally protected under the First Amendment and are insulated from antitrust scrutiny under the *Noerr-Pennington* doctrine. It also denies that its conduct falls within the sham exception to that doctrine (APP. PFF L-83-L-106).

The Applicant's conduct involved two periods, in the 1940's and in the early 1960's, when various steps including the commencement of legal and administrative proceedings were taken to challenge AEC's plans to construct new generating facilities. The basis of the Applicant's opposition was that the proposed generation and transmission facilities were to be used to serve customers it already supplied with electricity, and resulted in duplication of facilities in violation of the Rural Electrification Act. Some of the Applicant's administrative and legal opposition was successful, and some of it was not. We have already extensively reviewed these facts, and have concluded that the Applicant lawfully opposed AEC's proposals to construct new generation and transmission in the 1940's, on the grounds that they involved unnecessary and wasteful duplication of facilities contrary to the express purpose of the REA and the public inter-

est.²⁷⁴ Similarly, we have concluded that the Applicant's efforts to challenge AEC's projects connected with the H-Loan in the 1960's, by litigation as well as administrative and lobbying efforts, did not constitute anticompetitive conduct inconsistent with the antitrust laws. The issues Applicant raised were reasonably open to dispute and the means of raising them were deemed to be appropriate under the circumstances.²⁷⁵

Under the *Noerr-Pennington* doctrine, there is an immunity from antitrust liability for the appropriate use of judicial and administrative processes, even if the purpose is to eliminate competition.²⁷⁶ This right of access to courts and agencies is based upon limits to both the scope and purpose of the Sherman Act, as well as the right of petition protected by the First Amendment. However, this immunity is also subject to the sham exception.²⁷⁷ In the adjudicatory area, the sham exception has been held applicable to "the use of administrative or judicial processes where the purpose is to suppress competition evidenced by repetitive lawsuits carrying the hallmark of insubstantial claims."²⁷⁸ The sham exception has also been applied where there emerged "a pattern of baseless, repetitive claims" which effectively barred competitors from access to the agencies and courts, and hence constituted an abuse of the administrative and judicial processes.²⁷⁹

In the instant case, our prior findings that the Applicant's resort to the courts and administrative agencies was appropriate under the circumstances have the effect of extending *Noerr-Pennington* protection to this conduct. Since such conduct was held to be appropriate under all the circumstances of record, it would not fall within the sham exception, because there was no pattern of baseless claims, nor repetitive lawsuits bearing the hallmark of insubstantial claims. Consequently, there was no abuse of judicial or administrative processes which could constitute cognizable anticompetitive conduct. It would also follow that there is no room for application of *Pennington* footnote 3 regarding the admissibility of immunized transactions to shed light on the "purpose and character" of nonimmunized transactions,²⁸⁰ because the challenged litigation was both immunized and itself not anticompetitive under the antitrust laws.

However, our holding permissible the Applicant's conduct regarding the use of judicial and administrative processes does not exhaust our analysis of its

²⁷⁴ See pp. 902-905, *supra*.

²⁷⁵ *Supra*. at pp. 905-908.

²⁷⁶ See Section VI, Legal Standards, at pp. 867-872, *supra*.

²⁷⁷ *Id.*, at pp. 867-868, 860-870.

²⁷⁸ *Otter Tail Power Company v. United States*, 410 U.S. 366, 380 (1973).

²⁷⁹ *California Motor Transport Company v. Trucking Unlimited*, 404 U.S. 508, 513 (1972). See also pp. 870-872, *supra*.

²⁸⁰ See pp. 868-869, *supra*.

antitrust implications. These facts will next be considered in connection with the Applicant's activities in the Ft. Rucker transaction.

L. The Ft. Rucker Transaction

In 1962-63, the Applicant and AEC were involved in the former's opposition to AEC's efforts to bid competitively for the supply of wholesale power to Ft. Rucker, Alabama. Applicant had been supplying wholesale power to the installation for some years, and it endeavored to persuade the military authorities that AEC was not in a position to supply such power, and hence, should not be permitted to submit a competitive bid. AEC contends that Applicant used its prolonged litigation to block the consummation of the H-Loan to obtain an unfair competitive advantage in the Ft. Rucker transaction (AEC PFF 14.38). The Department asserts that in competing with AEC to serve the Ft. Rucker load, the Applicant would have refused to sell power to AEC for that purpose (DJ PFF 7.21, 17.09). The Staff also refers to this claim by Applicant that AEC lacked sufficient bulk power resources to be permitted to bid to serve Ft. Rucker (Staff PFF 4.12).

Applicant defends its conduct as involving "the product of the H-Loan proceeding, not the intent," and argues that seeking to prevent a violation of law is a laudable goal (APP. Reply Br p. 841).

The evidence shows that in November 1962, REA made an allotment of \$20,350,000 to AEC to enable it to construct a steam generation plant at Jackson, Alabama, and to construct 710 miles of transmission line. This allotment, of course, became known as the H-Loan. By a letter dated November 21, 1962, Alvin W. Vogtle, Jr., then the Applicant's Executive Vice President, pointed out to a company representative that the company had been permitted to intervene in the hearing before the State Finance Director on AEC's application to obtain approval of its execution of notes to REA. The letter described the duration of litigation which would result from a possible series of appeals up to the Supreme Court of Alabama, and stated that "Consequently, I am unable even to guess at the length of time which may be consumed in obtaining a final decision. . . ." Since a final approval must be obtained before any funds could be made available to AEC, Mr. Vogtle observed: "It should be apparent, therefore, that the availability of that portion of the transmission line (shown in orange) extending from Walter F. George Dam to Ft. Rucker is highly doubtful at this time" (DJ X 4,005).

At a meeting on November 29, 1962, between representatives of the Applicant and the Army, it was noted that the military representative was "quite surprised" to learn that AEC's loan had to be approved by the State Director of Finance. There was a discussion of whether in view of this a competitive situation existed or competitive bids were required (DJ X 4,004).

On February 7, 1963, agents of Applicant gave a lengthy memorandum to Lt. Col. Warren Rogers, Center Engineer at Ft. Rucker (DJ X 4,001, 4,006). This detailed analysis prepared by Applicant was designed to persuade the Ft. Rucker authorities that AEC did not have an adequate transmission system to provide reliable service. The pending H-Loan litigation, including the injunction against AEC from the Circuit Court and its appeal to the Supreme Court of Alabama, was described. The memorandum stated that the only power supply contract between AEC and Applicant was terminable on 90 days notice, and that the latter,

Is not required to operate and maintain its system in such a manner as to enable Alabama Electric Cooperative, Inc., to take power under the contract referred to above and furnish service to Fort Rucker or any other customers served by Alabama Power Company. . . . (DJ X 4,006, p. 4).

It was further noted that without a supply of deficit power from Applicant, AEC did not have sufficient existing capacity to serve its loads and Ft. Rucker, nor were adequate transmission lines to Ft. Rucker then available to AEC. It was stated that pending conclusion of the H-Loan litigation, the construction of transmission lines to Ft. Rucker was prohibited by the injunction obtained from the Circuit Court.

Finally, on November 15, 1963, Applicant's representatives met with the military authorities in an effort to persuade them that AEC was not in a position to supply power, using the memorandum of February 7, 1963, as a basis for this contention. Applicant's memorandum of this November meeting reads as follows:

We again stated to Col. Rogers that Alabama Power Company would not supply power to Alabama Electric Cooperative for furnishing power to Ft. Rucker. Col. Rogers apparently was under the impression that as a regulated public utility, the company would be required to furnish power to anyone requesting service. We answered this by stating that contracts for large quantities of power were negotiated and that we would not negotiate a contract with Alabama Electric Cooperative under such conditions (DJ X 4,001).

James H. Miller, Jr., Applicant's former Vice President and now an officer of Georgia Power, candidly admitted on cross-examination (he had not addressed the subject in his written direct testimony) that he had attended the meeting of November 15, 1963, that he had seen the memorandum describing that meeting (DJ X 4,001), that he had prepared the lengthy analysis of AEC's generation and transmission system (DJ X 4,006), and that the latter study had been given to Col. Rogers of Ft. Rucker prior to that meeting (Tr. 21,542; 21,553-21,557; 21,583). Mr. Miller attempted to gloss over the impact of these documents by his somewhat vague memory of the "impression" which he felt

must have been given to Col. Rogers concerning the ability of Applicant to refuse to supply wholesale power to AEC, but we do not find such testimony to be credible (Tr. 21,560; 21,572-21,573; 21,575; 21,582). This witness also sought to justify Applicant's conduct in this transaction by referring to the low rate of interest on the REA loan to AEC and to the limitations in the Rural Electrification Act concerning loans to provide service to customers already receiving central station service (Tr. 21,589). Such justification cannot be accepted as a matter of law.²⁸¹

The documents and testimony described above clearly show that Applicant abused its monopoly power in the generation and transmission of wholesale power to attempt to foreclose competition and to gain a competitive advantage.²⁸² Applicant knew full well and proved by its detailed study that it was then the sole wholesale power supplier with sufficient generation and the necessary transmission to serve Ft. Rucker. It also knew that AEC was a would-be competitor which sought to compete for the business by using the new generation and transmission facilities it intended to construct from the proceeds of the H-Loan. Applicant had initiated litigation and obtained an injunction to prevent or delay the consummation of that loan. It had also projected the extensive delay which would result from such litigation and successive appellate procedures, even if AEC were ultimately successful in the courts.

Although we have previously held that such litigation was not sham and was not anticompetitive in and of itself, this does not mean that Applicant was free to couple immunized litigation with other unlawful conduct in order to accomplish a proscribed purpose or effect. As the courts have stated, if the end result is unlawful, it matters not that the means used in violation may be lawful.²⁸³ The evidence shows that Applicant repeatedly informed the authorities at Ft. Rucker that the pending litigation would be prolonged, with the result that AEC would not have the necessary generation and transmission to serve the load with its own existing resources. Linked to these facts was the stated intention of Applicant that "Alabama Power Company would not supply power to Alabama Electric Cooperative for furnishing power to Ft. Rucker. . . we would not negotiate a contract with Alabama Electric Cooperative under such conditions" (DJ X 4,001). This stated intention amounted to the threat of an unjustified refusal to deal or sell wholesale power for the purpose of preventing AEC from submitting a competitive bid. In effect it was a proposed one-man boycott, and hence, a misuse of market power by a dominant utility.²⁸⁴

²⁸¹ See Section VI, Legal Standards, at p. 877, *supra*.

²⁸² *United States v. Griffith*, 334 U.S. 100, 107 (1948). See also pp. 853-856, *supra*.

²⁸³ *California Motor Transport Company v. Trucking Unlimited*, 404 U.S. 508, 515 (1972). See also pp. 850-856, *supra*.

²⁸⁴ See p. 856, *supra*.

The Applicant's witness James H. Miller urged that the refusal to deal was perhaps not stated so starkly as appears in Applicant's memoranda (DJ X 4,001, 4,006), and that the company was "under no illusions" about its obligation to serve AEC (Tr. 21, 572-21,574). We do not accept this attempted softening of the written words, based on the uncertain memory many years later of a witness whose interest and demeanor we observed on the witness stand. More importantly, if Applicant actually believed as it now contends that it was under a duty to sell wholesale power to AEC which the latter could use to compete for the Ft. Rucker load, the following written statement delivered in this context to Ft. Rucker authorities must be viewed as a deliberate misrepresentation:

As stated above, the only power supply contract between Alabama Power Company and Alabama Electric Cooperative, Inc., is terminable on a 90-days' notice. Alabama Power Company is not required to operate and maintain its system in such a manner as to enable Alabama Electric Cooperative, Inc., to take power under the contract referred to above and furnish service to Fort Rucker or any other customers served by Alabama Power Company nor is it required to operate and maintain its system so that Alabama Electric Cooperative, Inc., can achieve the same end by using such power to serve Fort Rucker or any other customers of Alabama Power Company through one of the distributing cooperatives served by Alabama Electric Cooperative, Inc. (DJ X 4,006, at p. 4).

Applicant seeks to excuse its conduct on the basis of its strong sense of grievance concerning the tax and lower interest advantages inhering in AEC and REA loans, and what it describes as the "callous attitude of REA" to limitations on the purpose of such loans (APP. Reply Br., pp. 841-842). However, these advantages given to cooperatives are the result of policy decisions by Congress, to whom actions seeking redress should be directed. Likewise, legal questions as to the scope and purpose of REA loans should be addressed to the courts, which Applicant did in its H-Loan litigation. We have held that such resort to the courts and attempts to influence legislative action are immunized from the anti-trust laws. But this does not entitle Applicant to go further, and engage in a species of self-help which is contrary to the antitrust laws.

Under all of the circumstances, Applicant's conduct in this transaction constitutes unfair methods of competition proscribed by Section 5 of the Federal Trade Commission Act, and it is inconsistent with the antitrust laws and their clearly underlying policies.²⁸⁵ Such course of conduct and the rationalizations used to justify it also have some bearing on the purpose and intent of Applicant in its other dealings with AEC as a potential competitor during the balance of the 1960's and the early 1970's.

²⁸⁵ See pp. 845-848, *supra*

M. Applicant's Preclusion of Small Electric Utilities from Regional Economic Coordination and the Formation of the Southeastern Electric Reliability Council

The Department, AEC, MEUA and Staff assert that Applicant has precluded small electric utilities, including AEC and Municipal Distribution Systems in central and southern Alabama, from regional economic coordination (DJ PFF 16.01-16.10). They assert that Applicant, in concert with others, acted to deny such small utilities economic coordination during the period of development and formation of regional electric reliability councils in the mid and late 1960's.²⁸⁶

On November 9, 1965, a massive power blackout occurred in the northeastern United States. As a result, a number of regulatory agencies, members of Congress and the public expressed serious concern about the reliability of the nation's electric power supply (FPC *National Power Survey* Part I, Chapter 17, p. 2 and Note 1, December 1971). Following the blackout, a number of proposed legislative acts were introduced in Congress to provide for greater assurance of reliability and the supply of electric power by the nation's electric utility. Certain of these proposed legislative acts would have amended the Federal Power Act to give the FPC authority to compel economic coordination, including coordination development, among various electric utilities (Tr. 16,780; Tr. 16,175; 17,192; DJ 893; DJ 900, DJ 902; DJ 904; DJ R 7,075; Tr. 18,566-18,567). Many privately owned electric utilities were concerned that such legislation would result in government forced power pooling and economic coordination with smaller publicly owned electric systems, rather than leaving such matters to private business judgment (DJ 893; DJ 900; DJ 902; DJ 904; DJ 909; Tr. 18,566-18,567; Tr. 18,725-18,726). Consequently, such proposed legislation was opposed by the private utilities, including Applicant and its affiliates in the Southern System (DJ 4,137-4,139; DJ 4,245-4,256; DJ 6,048;

²⁸⁶The Department originally sought to admit various documents (DJ 4,008; DJ 4,137-4,139; DJ 4,245-4,256; 5,001-5,002; 5,007-5,008; DJ 6048; DJ R 7,075; R 7,077-R 7,081; R 7,084) as unsponsored documentary evidence to establish Applicant's participation, in concert with others, in conduct designed to deny small utilities the benefits of regional coordination. The Department argued that these documents were relevant to the entire question of Applicant's conduct and policies concerning coordination with its small competitors in central and southern Alabama. The Board refused to admit these documents without sponsoring witnesses because of the seriousness of the anticompetitive charges which the Department was making (Tr. 15,066). Accordingly, the Board directed that the Department present witnesses in connection with the documents in order to adduce a more complete record with respect to Applicant's alleged conduct, in concert with others, in denying small utilities regional economic coordination (Tr. 15,066). Thereafter, the Department subpoenaed numerous witnesses who appeared and testified. The Board has evaluated the demeanor and credibility of all witnesses in reviewing the record evidence on the Department's charges in this matter. Our findings include, where appropriate, references to the demeanor and credibility of several witnesses. Some we find credible; others incredible.

Tr. 18,421; 18,424; DJ 895-900; DJ 902; DJ 904; DJ 906-909; DJ 914; DJ 960). In the end, such legislation was not enacted by Congress. Instead, the nation's electric utilities formed coordinating organizations for the express purpose of improving reliability on a regional basis (FPC *National Power Survey*, Part I, Chapter 17, December 1971).

At the time of the 1965 power blackout, Applicant was a member of the Southern Company Pool, a highly sophisticated power pool which enables the operating companies of the Southern System to achieve substantial economies and benefits in the operation of their electric systems.²⁸⁷ The pool includes only the operating companies of the Southern Company as it is a holding company pool. The Southern System had mutual agreements with neighboring electric utilities for exchanges of power, interconnections and reliability arrangements. Applicant, as a member of the Southern System, benefitted in these agreements (DJ 847; DJ 3,003-3,004; DJ 3,008; Tr. 15,937-15,938; Tr. 16,012-16,013; Tr. 16,188-16,189; Tr. 16,243-16,245; Tr. 17,398; Tr. 18,918-18,920; Tr. 18,834-18,836; Tr. 18,459).

In other parts of the southeast United States, other privately owned utilities had also formed power pools to achieve the benefits of coordination (DJ R 7,079; Tr. 16,515-16,516; Tr. 15,584; Tr. 16,130). The Carolinas-Virginia Power Pool (CARVA) was thus organized in 1964 and became operational in 1967. The pool consisted of Duke Power Company, South Carolina Electric and Gas Company, Carolina Power and Light Company and Virginia Electric and Power Company. The pool was dissolved in 1970 (Tr. 15,487; Tr. 18,035). The CARVA pool did not have any publicly owned utilities in its membership, although the South Carolina Public Service Authority (known as Santee-Cooper), a state-owned electric utility, did apply for admission to the pool in December 1965 (DJ 831; DJ R 7,079; DJ 15,518-15,519).

Elsewhere in the southeast, the Florida Operating Committee had been formed. This Committee was a voluntary organization whose participants were Florida Power Corp., Florida Power and Light Company; Tampa Electric Company; Orlando Utilities Department and Jacksonville Electric and Water Department. The latter two utilities were publicly owned and operated electric utilities. The Florida Operating Committee did not engage in the sale or exchange of power among its members. Such exchanges were made under individual contractual agreements among the Committee's members (Tr. 15,722-15,730).

In March 1965, Mr. William R. Brownlee, then Executive Vice President of Southern Services, the service company of the Southern Company and representing the Southern Pool, contacted the CARVA pool about the possibility of establishing interconnections and capacity and energy transactions. Mr. Brownlee also represented that the Southern Pool was interested in obtaining the

²⁸⁷ See pp. 832-833, *supra* (Tr. 18,858; DJ 3,009).

benefits of economic coordination of generating unit additions and diversity power exchanges (DJ 803; Tr. 16,031; Tr. 17,322). The Southern System was interested in obtaining economically beneficial capacity and energy exchanges with neighboring utilities, as well as the benefits of coordinated planning and operation (DJ 803; Tr. 17,337). Mr. Brownlee reported to the Southern System at their July 16, 1965, meeting on the results of his communication with CARVA (DJ R 7,029A; DJ 17,341-17,344). In August 1965, Mr. Brownlee continued his efforts to obtain coordination with CARVA (DJ 821).

On March 3, 1966, representatives of CARVA, Florida Power Corp. and the Southern System met in Birmingham to explore the desirability of a more formal organization, or organizations, for expanding the benefits of coordination (DJ 5,001; DJ 5,001A, DJ R 7,079; Tr. 15,513). Representing the CARVA Pool were Mr. D.G. Jeter of South Carolina Electric and Gas Co. and Mr. L.P. Julien of Duke Power. Mr. M.F. Hebb, Jr. and Mr. R.E. Raymond represented Florida Power. Mr. G.L. Smith and Mr. R.O. Usry, of Southern Services, represented the Southern System. Mr. Smith chaired the meeting (DJ R 7,079; Tr. 16,065; 17,390; 17,395). Mr. Brownlee was unable to attend because of illness in his family (DJ R 7,079). Just prior to the March 3, 1966, meeting, Mr. Brownlee prepared a memorandum proposing the creation of the Southeast Power Coordination Committee which would consist of two representatives each from CARVA, Florida Power, and the Southern Pool. The purpose of the proposed organization was to formalize and expand the economic and reliability coordination which had been carried on informally for several years among the parties. The economic coordination which would be encompassed by the new organization included, but was not limited to, strengthening of interconnections, mutual emergency assistance, exchange of diversity capacity, staggering construction of generating capacity, short-term capacity and energy arrangements, exchanges of economy energy, and coordination of voltage levels, reactive power supply, and relay protection. Mr. Brownlee also proposed that the parties agree to exchange information with one another as it became available on such items as the magnitude and characteristics of actual and forecasted loads, approved programs of capacity additions, consideration of capacity additions before these are determined, opportunities for staggering of construction of capacity, and approximate value of economy energy under various conditions (DJ 847, Tr. 17,366-17,369, 17,426, 17,441, Tr. 18,918-18,920, Tr. 16,864-16,865). Mr. Brownlee gave his memorandum to Mr. Smith with the expectation that Mr. Smith would use Mr. Brownlee's suggested approach to obtaining expanded coordination in the March 3rd meeting (Tr. 18,919-18,920, 18,446-18,447). Mr. Smith went to the meeting in favor of the approach outlined in Mr. Brownlee's memorandum (Tr. 17,440-17,441, 17,421).

At the meeting, the possibility of participation by nonbusiness managed power utilities was recognized and discussed as a problem. It was noted that the

Municipal Systems of Orlando and Jacksonville, Florida, were a part of the Florida Operating Committee, but that there were no such public power systems included in the Southern System or the CARVA Pool. Concern was also expressed by the representatives of the Southern System that one or more municipalities or cooperatives in the Southern service area might seek economic coordination in such a more formal organization for coordination (Tr. 16,093-16,094; DJ R 7,079; Tr. 16,083; Tr. 17,442).

It was the consensus of those at the meeting that the Florida representatives to the more formal coordinating organization would not involve membership by the Florida Municipal Systems. The Florida representatives would achieve coordination with municipal systems among themselves, and would, in turn, coordinate the entire Florida group through the more formal organization. It was also noted that TVA would be unable to participate in coordinating arrangements with Florida Power and perhaps the CARVA Pool because of the 1959 Bond Act. The parties believed that the Southern System coordinating arrangements with TVA could be reflected in coordination with CARVA and Florida through bilateral arrangements (DJ R 7,079).

Mr. Brownlee's proposed formal organization was ultimately abandoned in favor of a series of bilateral agreements because of concerns that small public power systems in the CARVA, Florida and Southern service areas would or could become members of the more formal organization and would seek economic coordination with the privately owned utilities who were participants (Tr. 17,426, 17,442; Tr. 16,093-16,094; Tr. 16,083; DJ R 7,079, DJ 5,001, DJ 5,001A).

The representatives of the utilities at the March 3rd meeting explored various ways that a coordinating group or groups could be formed. The first method considered small coordinating groups of representatives of adjacent areas. For example, one coordinating group might be composed of Southern and Florida; another group composed of Southern and CARVA; and another of Southern, Middle South and TVA. The second method would be to establish a larger group or council to consist of members from CARVA, Florida and Southern. The third method would be to form coordinating groups as task forces under the southeast region of the Interconnected System Group. This approach would inherently encompass certain governmental organizations, but would not include a pool such as the Middle South group since that pool was located in the southwest region of the Interconnected Systems Group. The fourth method involved working through established committees of the Edison Electric Institute or the Southeastern Electric Exchange. It was noted that coordinating organizations tied to these entities would be subject to the challenge that the publicly owned utilities of Orlando and Jacksonville were not qualified to be members of the Edison Electric Institute or the Southeastern Electric Exchange. The final method suggested involved the formation of coordinating groups which

would work through the regions of the Federal Power Commission. However, it was suggested that this approach would probably destroy the benefits of genuine coordination. (DJ R 7,079) It was the feeling of the representatives at the meeting that the first suggested method would be the most desirable, and the various groups of pools could work internally with other utilities within their general area such as publicly owned electric systems (DJ R 7,079; Tr. 17,432-17,433).

The representatives also discussed the scope of the activities which would be carried out by the more formal organization on coordination. It was suggested that these activities include joint determination of future capacity additions and the possible staggering of construction of capacity, and coordination of transmission installations, both internal and interconnections. The suggestions also included coordination of maintenance or generating units, exploration of the need for better communications, especially in emergency conditions, coordination of relaying and load restoration procedures, utilization of daily spinning reserve, exploration of procedures for investigating major system troubles where two or more groups were involved, coordination of voltage level and reactive power supply, exchange of information with one another as it became available on items such as load forecasts, capacity additions, opportunities for staggering of construction of capacity, the value of economy energy under various conditions, and opportunities for strengthening interconnections. The representatives also considered coordination between groups or pools to be within the scope of the activities of the more formal coordinating organization. Those in attendance at the March 3rd meeting recognized that all of the above items were being coordinated to some degree among their respective companies, and it was possible that various committees of their respective companies, which were already internally active on these matters, could be utilized to effect the suggestions for coordination. The representatives at the meeting agreed to discuss these matters within their respective areas for further ideas and development, and to meet at a subsequent time for further discussions. The representatives of the Southern Companies furnished the other representatives at the meeting with certain information and were informed that similar information would be provided them by the other representatives (DJ R 7,079).

The record contains the draft minutes of the March 3, 1966, meeting (DJ R 7,079) which was prepared by Mr. R.O. Usry of Southern Services. Mr. Usry's draft minutes were circulated to the other representatives who attended the meeting for their review and comment. The final formal minutes were then prepared after consideration of the comments of the persons who had attended, and then distributed to the Chief Executives of the Operating Companies of the Southern System, to the CARVA Companies and to Florida Power (Tr. 17,385-17,387, 17,396-17,397, 17,399, 17,463-17,467; 15,542-15,544; 16,075; 16,168; 16,858, 16,882-16,883; 15,654-16,655; DJ R 7,079, DJ 5,001, DJ

5,001A, DJ 809, DJ 848-850). The Board finds that these draft minutes represent the most reliable and credible evidence of what actually transpired at the March 3, 1966, meeting. Mr. Usry prepared the draft minutes in a normal course of business, and was sent to the meeting for the specific purpose of taking notes. Mr. Usry has testified that the notes are accurate²⁸⁸ (Tr. 16,882).

Following the March 3, 1966, meeting, Mr. Brownlee, on August 16, 1966, forwarded a preliminary draft of a proposed coordination agreement between the Southern System and the CARVA Pool to representatives of CARVA. Mr. Brownlee notes in sending the agreements that they were intended to incorporate the ideas generated among the representatives attending the March 3, 1966, meeting, and to provide for the maximum feasible degree of coordination between Southern and CARVA. The agreement is a bilateral arrangement between Southern and CARVA and encompasses economic coordination which had been discussed at the March 3, 1966, meeting as being within the scope of the activities of the more formal organization. Thus, Mr. Brownlee's draft described the duties of the Operating Committee to be formed under the bilateral agreement to include coordination of future capacity additions, and staggering of construction of capacity where mutually beneficial, and coordination of transmission, construction and protection arrangements to maximize system reliability (DJ R 7,078). The CARVA representatives, however, objected to Mr. Brownlee's draft as being too specific in its coordination provisions (DJ 828, DJ 827, R 7,078).

On February 7, 1967, Mr. Brownlee again contacted the representative for CARVA, and referred to the previous discussions between Southern and the CARVA Pool on the subject of coordination. Mr. Brownlee referred to the March 3, 1966, meeting as a basis for the proposed agreement and expressed a desire to implement the agreement as soon as possible (DJ R 7,080, R 7,078, DJ 821, DJ 803). On February 14, 1967, Mr. Franz W. Beyer, Vice President of Duke, invited representatives of the Southern System, Florida Power and the CARVA Companies to a meeting in Charlotte, North Carolina, at Duke's office on February 28, 1967, to discuss the advisability of entering into an agreement providing for coordination for reliability of their respective systems. Mr. Beyer suggested that the agreement be patterned after a recently signed East Central Area Reliability Coordination Agreement (ECAR) (DJ 840).

In response to Mr. Beyer's transmittal of the ECAR agreement to Southern, Mr. Smith again sent Mr. Beyer Mr. Brownlee's August 16, 1966, draft Southern-

²⁸⁸Mr. Brownlee attempted to explain away the substance of what is contained in the draft minutes of the March 3, 1966, meeting by stating that Mr. Usry was not "qualified" to take notes. We find this explanation absurd and an insult to the Board's intelligence. The record shows that Mr. Usry had attended numerous meetings of the Southern Company Operating Committee and served as the official notetaker at such meetings (Tr. 18,434; 18,437).

CARVA Agreement, along with the suggestion that Mr. Brownlee's draft also provide a basis for discussions in the February 28th meeting (DJ 830).

On February 28, 1967, Mr. Smith and Mr. Usry on behalf of Southern met with representatives of CARVA and Florida Power to continue discussions on a proposed coordination organization. Mr. Usry took notes of this meeting as did Mr. Beyer. These notes reveal that both Southern and Duke did not want publicly owned utilities such as municipalities and cooperatives to participate in any agreements involving economic coordination (DJ 5,002, pp. 4-5, R 7,077, p. 2). Thus, Mr. Smith, speaking for Southern, argued for a bilateral agreement containing economic coordination because of the problem of including publicly owned utilities in the agreement. Mr. Beyer, speaking for Duke, suggested a multilateral agreement dealing with reliability only, in order to present a better picture to regulatory bodies concerning overall reliability, and to avoid the problems of public power systems in the event they became parties to the agreement in the future (DJ 5,002, R 7,007, Tr. 18,123, Tr. 16,542-16,543, 16,548, 15,928-15,929). The discussions at this meeting clearly indicate that the parties wished to enter into agreement which would exclude publicly owned utilities, but could not agree on whether such an agreement shall be a multilateral agreement restricted to reliability as suggested by Duke, or a bilateral coordinating agreement as suggested by Southern. The notes of this meeting establish that the parties were concerned that publicly owned utilities might use the agreement as a forum for seeking economic coordination. In this regard, Mr. Smith revealed that Southern's legal counsel suggested that an agreement including economic coordination would act as a more effective deterrent against municipal or cooperative participation, whereas Mr. Beyer stated that CARVA's counsel had indicated that a reliability only type agreement would be less of an inducement and therefore a better deterrent to municipal and cooperative participation (DJ 5,002, DJ R 7,078).

Mr. Smith suggested that only general statements about coordination be included in the agreement, but Mr. Beyer replied that such coordination was being done anyway in existing bilateral interconnection agreements among the parties, and that if the agreement under discussion reflected economic coordination, cooperatives and municipalities might desire to participate. Concern was also expressed that Santee-Cooper, Orlando Utilities Department, Jacksonville Electric and Water Department, and other small entities in the Southern System would obtain or seek economic coordination through any proposed agreement, and therefore the agreement should be drawn to be least likely to interest municipalities and cooperatives (DJ 5,002, Tr. 16,144-16,147, Tr. 16,202, Tr. 16,321-16,323).

The record contains Mr. Usry's notes of the February 28, 1967, meeting (DJ 5,002) as well as Mr. Beyer's notes of the meeting (DJ R 7,077). The Board has examined each of these documents, and finds them to be reliable and credible

evidence of what actually took place at the February 28, 1967, meeting. The record shows that Mr. Usry prepared his documented notes from those which he actually took contemporaneously at the February 28, 1967, meeting. Mr Usry's notes were prepared in the regular course of business by him and were transmitted to Mr. Brownlee and Mr. Smith. They were labeled for internal use by the Southern System only. Moreover, Mr. Usry himself has testified that the notes which he took at this meeting, and as reflected in DJ 5,002, are accurate (Tr. 16,839-16,840, 16,845-16,847, 16,949, 16,963, 18,084-18,085, 18,135-18,136, 18,142).

Following this February 28th meeting, Mr. Brownlee and Mr. Smith met with CARVA representatives in Charlotte for further discussions. It became clear that there was a strong desire on the part of the CARVA companies to limit the proposed agreement to reliability only, but Mr. Brownlee and Mr. Smith argued for inclusion of economic coordination. In the end, it was agreed to limit the agreement to reliability (DJ 928, DJ 818, Tr. 18,147-18,148).

On April 28, 1967, the Southern System Operating Companies and Southern Services entered into a reliability agreement with the CARVA Companies. On December 1, 1967, the Southern System entered into a similar agreement with Florida Power. These agreements are known as bilateral or "rolling company-to-company," agreements (DJ 808; DJ R 7,084).

The Southern-CARVA Agreement is called a "Reliability Agreement," and eliminates most references to "coordination" as desired by the CARVA companies. The agreement, however, is bilateral as advocated by Southern. The Southern-Florida Power Agreement is substantially the same. These agreements were negotiated and executed without any invitation to, or participation by, publicly owned utilities, even though the electric systems of such utilities might have had an effect on the reliability of the electric systems of Southern and the CARVA companies, and Southern and Florida Power, which were already interconnected by reason of previously established agreements (Tr. 16,888; Tr. 18,073-18,074; 18,317-18,318; 15,759; 16,503-16,505; 16,468-16,469). But most significantly, these bilateral agreements have served as a basis for the parties to discuss various types of planning and coordination which were actually achieved through their existing interconnection agreements²⁸⁹ (Tr. 15,606-15,610; Tr. 15,694; Tr. 16,122-16,123; 16,154; 16,162; 16,668; Tr. 18,161).

The evidence of the March 3, 1966, and February 28, 1967, meetings clearly establishes that the participants intended to engage in various forms of economic coordination among themselves, but through a means which would deter, discourage and even exclude smaller publicly owned utilities, such as municipal distributors, cooperatives, and state-owned entities, with whom they

²⁸⁹ See discussions at pp. 828-831, *supra*.

competed, from such coordination²⁹⁰ (DJ 5,002; DJ R 7,078). We find Applicant's conduct in this regard to be anticompetitive and inconsistent with the antitrust laws. A most revealing illustration of the attitude toward publicly owned utilities by the Southern System in this period is reflected in a letter dated February 7, 1966, addressed to Applicant's President, Mr. Walter Bouldin, from Mr. Harlee Branch, Jr., President of the Southern Company (AEC X 16). In the opening paragraph of Mr. Branch's letter, he stated:

During the past year we have been increasingly concerned over the efforts of rural electric cooperatives to become full-fledged electric utilities seeking to serve all available markets (AEC X 16).

Mr. Bouldin went on to discuss various problems which the other operating companies of the Southern Systems were experiencing from such cooperatives. He then stated:

It now becomes necessary to include much stronger contractual provisions which will prevent cooperatives from taking power sold to them at less than compensatory rates and using this power to compete with us for nonfarm and nonrural loads (AEC X 16).

The Board finds that Applicant's conduct with respect to deterring, discouraging and excluding publicly owned utilities from economic coordination in this matter is consistent with the anticompetitive attitude of the Southern System which is shown in Mr. Branch's letter. Applicant clearly intended to, and did, deny in concert with other utilities, publicly owned utilities in its service area the benefits of economic coordination in order to eliminate competition from them.

Applicant's intention to deny smaller utilities the benefits of economic coordination, however, did not stop here. It was manifested throughout the remaining late 1960's while the proposed legislation seeking to amend the Federal Power Act to allow the FPC to compel coordination was pending before

²⁹⁰ Applicant asserts that Messrs. Brownlee, Smith and Usry only represented Southern Services at the March 3, 1966, and February 28, 1967, meetings, and therefore, Applicant cannot be held responsible for what took place (APP. PFF p. 28). The record shows, however, that Messrs. Brownlee, Smith and Usry were authorized to conduct negotiations and prepare draft coordination agreements on behalf of the Southern Companies with other utilities (Tr. 17,287; 17,324-17,327; 17,372-17,374; 17,380-17,383; 17,523-17,524). Moreover, they kept the operating committee of the Southern Companies advised of such matters (DJ 803; DJ 848; DJ 850; DJ R 7,022A; DJ R 7,029A; Tr. 17,324-17,325). In any event the CARVA representatives at these meetings understood that the Southern Services representatives were there to speak for and represent the Southern Operating Companies (Tr. 15,509; 15,652-15,653; 15,915-15,916; Tr. 16,692, 16,694). The Board rejects Applicant's theory that it cannot be held responsible for the action of Messrs. Brownlee, Smith and Usry at these two meetings.

Congress. This proposed legislation was the subject of discussion at various Executive Committee Meetings of the Southern Company which were held from July 1967 to November 1969 (DJ 4,245-4,246).

At that time, there was no reliability organization established in the southeastern United States which included publicly owned utilities (DJ 869). The Chief Executives of the Southern Companies appointed a committee to review the need for such a reliability organization, and the committee, which included a representative of Applicant, met to discuss the matter on May 9, 1968. Applicant's representative at this meeting emphasized that Applicant:

... would *not* be willing to take any action towards strengthening the reliability of service to AEC if such moves resulted in AEC being able to take over existing customers of Alabama [Power] (DJ 869). (Emphasis in original.)

The committee members also discussed the fact that the Operating Companies of the Southern System historically had dealt unilaterally with small utilities in their service areas in respect to all matters of power supply and service. Although the committee members recognized that a regional reliability organization, including these smaller utilities, could be created, it was the committee's consensus that the Operating Companies' unilateral approach should continue to be followed in discussing reliability with such utilities (DJ 867; 868; 869; Tr. 18,289-18,291; 18,294; Tr. 18,555; 18,582; 18,588-18,589). The committee's review of this subject did not end with this meeting.

The committee met again in July 1968. At that meeting, Applicant's representative expressed the fear that a general meeting of bulk power suppliers in the southeast could become a forum for demands by publicly owned utilities on matters unrelated to reliability. Consequently, the committee decided any reliability group should be structured so that matters of economic coordination would not be considered (DJ 872).

The committee's report was presented to the Executive Group of the Southern System Companies at a meeting held September 16-17, 1968. It was decided by the Executive Group to hold the matter of reliability organization in abeyance (DJ 873).

As noted above, the legislation introduced to effect coordination and reliability of electric systems was still pending in the Congress, even though by this time, several voluntary reliability organizations of utilities had been formed in various parts of the country (DJ 4,248-4,251). On May 9, 1969, Mr. Beyer of Duke Power wrote an internal memorandum to several members of his company's management committee who had responsibility for regional coordination matters (DJ R 7,075). Mr. Beyer's memorandum is most revealing.

Mr. Beyer stated that with the bilateral type of reliability agreements then in effect among private utilities in the Southeast, "each of the coordination areas

was in itself an economic entity.” Because of these economic considerations, Mr. Beyer stated that “planning within each of the coordination areas necessarily includes economic considerations and therefore dictates against the admission of any publicly owned entity to coordination councils.” Mr. Beyer further stated that publicly owned utilities such as the South Carolina Public Service Authority (Santee-Cooper) would not be interested in participating in a reliability agreement which left out economics as long as “proposed legislation contains provisions which intermix reliability with economics.” Mr. Beyer then noted that the “same situation exists in other coordinated areas in the Southeast” (DJ R 7,075).

Mr. Beyer then suggested the formation of a southeastern regional reliability coordination area, encompassing the CARVA Companies, TVA, the Southern Companies and Florida Power. He further suggested that the purpose and scope of the regional proposal should be defined so as to allow representation of any entity in the area having bulk power facilities. Mr. Beyer significantly added:

The existence of a reliability coordination agreement of this type would, I believe, be effective in combating the various proposals for reliability legislation by providing all entities access to planned councils and thereby removing reliability considerations as possible vehicles [sic] for economic concessions. This was our goal when we set out originally to organize the country into various coordinating areas. We were stymied because of the philosophy advocated by Mr. W. R. Brownlee, and I believe he would still object to the larger type organization (DJ R 7,075).

Mr. Beyer then suggested that Duke’s President, Mr. W. B. McGuire, attempt to convince Southern Company’s President, Mr. Alvin Vogtle, of the desirability of such a proposal. Mr. Beyer concluded his memorandum by stating:

The various coordination groups now existing in the Southeast would become in reality economic entities within the larger organization. While there would undoubtedly still be pressure for admittance to CARVA by municipalities and by SCPSA, the excuse of membership to secure reliable service would no longer exist (DJ R 7,075).

The record shows that the reference in Mr. Beyer’s memorandum to Mr. Brownlee’s philosophy related to the bilateral approach to coordination embodied in Mr. Brownlee’s draft bilateral agreement of August 16, 1966, between the Southern Companies and CARVA, which was sent to the CARVA companies and which was suggested by the Southern representative at the February 28, 1967, meeting. This type agreement calls for economic coordination, but excludes participation of public power systems (DJ R 7,078). Duke wanted the former but not the latter.

The suggestion contained in Mr. Beyer’s memorandum for a regional reliability organization ultimately developed into the formation of what is

presently known as the Southeastern Electric Reliability Council (SERC). The Southern Companies agreed to the formation of such an organization, as long as the existing bilateral agreements encompassing coordination were maintained in effect (Tr. 16,682; 16,686; 16,691; 16,692; 16,694). SERC was formally established on January 14, 1970, by twenty-two electric power systems, including several municipals and cooperatively owned systems. AEC is a member. SERC deals only with reliability of electric systems. The existing bilateral agreements between the Southern System Companies and neighboring utilities remain in effect (AEC X 21; APP. X 235, DJ 3,003; DJ 3,008).

The Board finds on this record that Applicant intended to, and did, take steps to ensure that economic coordination matters were eliminated or separated from reliability consideration in order to avoid strengthening the position of publicly owned utilities such as AEC which competed with Applicant. Applicant's conduct in this regard is anticompetitive and inconsistent with the anti-trust laws. Applicant's actions demonstrate a pattern of anticompetitive conduct which occurred throughout the 1960's into the early 1970's toward AEC. This anticompetitive conduct mandates that the Board grant relief in the form of placing conditions on the Farley licenses.

N. Other Anticompetitive Conduct

In dealing with a record as lengthy and complex as in this case, there are many subissues of fact and law which have been put forward by the parties but which are not in the mainstream of decisional significance. The Board has carefully considered all of the proposed findings of fact, conclusions of law, briefs and reply briefs filed by the parties. It would extend this decision and opinion unduly to allude to all such peripheral contentions. However, we note that such proffered issues included among others Applicant's alleged offers to purchase various distribution systems; its attempted acquisitions of certain transmission lines; and competition between Applicant and Covington Electric Cooperative to serve a new shopping center near the Town of Enterprise.

Any proposed findings of fact submitted by the parties, which are not incorporated directly or inferentially into this Initial Decision, are herewith rejected as being insupportable in fact or law or as being unnecessary to the rendering of this Decision.

IX. ACCESS TO NUCLEAR FACILITIES

The evidence in this case establishes that a situation inconsistent with the specified antitrust laws exists in Applicant's service area in central and southern Alabama. Applicant has achieved monopoly power over the generation and transmission of wholesale power in that market. That market dominance is

reinforced and enhanced by Applicant's participation in the Southern Company Pool, a highly sophisticated power pool utilizing a computerized central dispatching center and a comprehensive coordination of operation and development among the four companies which are the wholly owned subsidiaries of the Southern Company, a duly registered public utility holding company.²⁹¹ The operation of this pool, as a closely integrated power supply system, is clearly lawful under the Public Utility Holding Company Act, and it is not challenged as such by any of the parties.²⁹² However, such authorized activities do not immunize Applicant from antitrust scrutiny of its own conduct in its service area.

Applicant's attitude and course of conduct toward AEC changed in the 1960's, when the latter indicated that it intended to be a bulk power supplier rather than merely a wholesale customer of Applicant. This attitude is exemplified by the following portions of a letter dated September 7, 1966, to Walter Bouldin, President of Applicant, from Harlee Branch, Jr., President of the Southern Company:

During the past year we have been increasingly concerned over the efforts of rural electric cooperatives to become full-fledged electric utilities seeking to serve all available markets. . . . It is also apparent that provisions incorporated in earlier contracts (when the co-ops were not asserting full utility status) are no longer adequate to afford the needed protection. . . . It now becomes necessary to include much stronger contractual provisions which will prevent cooperatives from taking power sold to them at less than compensatory rates and using this power to compete with us for nonfarm and nonrural loads. In late 1964 we concurred in the creation of your rate schedule and contract "R-2" for the long-term sale of power to cooperatives. Since that rate and contract does not provide adequate protection under today's conditions, it is requested that no quotations be made to cooperatives for service under this rate schedule without advance discussion with us so we can seek maximum consistency and uniformity throughout our service area (AEC X 16). (Emphasis supplied.)

Our foregoing analyses of Applicant's actions indicate that an anticompetitive pattern or course of conduct toward AEC developed when potential competition for the sale of wholesale power was discerned. The threatened refusals to deal with AEC for the sale of deficit power and other services have been described in the Ft. Rucker transaction. Applicant's unjustified delays or refusal to enter into a reasonable interconnection agreement even after its attempted legal challenges had been overruled by the courts, had an anticompetitive purpose and effect. This is true also of certain provisions and aspects of the

²⁹¹ DJ X 603-605; 1,002; 3,009; 3,014-3,015.

²⁹² 15 U.S.C. Section 79 *et seq.*; APP X JMF-73.

SEPA wheeling or transmission arrangements. And Applicant's conduct in the SERC transactions was part of the same pattern addressed by the Appeal Board in *Wolf Creek*.²⁹³

Having concluded that Applicant possesses monopoly power in the generation and transmission of electric power in the relevant market of central and southern Alabama, and that it has used its dominant position to hinder or foreclose competition or potential competition for wholesale power supply, we now come to the central purpose of this antitrust review. The Commission has recognized that Section 105c "reflects a basic Congressional concern over access to power produced by nuclear facilities," and a Congressional intent that "access to nuclear facilities be as widespread as possible" in order to prevent the original public control from developing into a private monopoly via the NRC licensing process.²⁹⁴ The Declaration of the Atomic Energy Act of 1954, as amended, declares it to be the policy of the United States that "the development, use, and control of atomic energy shall be directed so as to . . . strengthen free competition in private enterprise."²⁹⁵ Accordingly, under the circumstances reflected in the record in the instant case, AEC as an actual or potential competitor for wholesale power supply must be given reasonable access to the nuclear facilities at the present or future units of the Farley Plant.

AEC must also be given such access to Applicant's dominant transmission system as is necessary to enable it to make effective use of nuclear-generated power as a bulk power supplier. As the Appeal Board has stated, the activities under a license are not to be viewed in isolation. The operations of a nuclear plant are not to be considered in an airtight chamber or *in vacuo* in ascertaining a meaningful nexus between activities under a license and the situation inconsistent with the antitrust laws.²⁹⁶ Here we have found that Applicant's activities, with regard to both generation and transmission, would maintain an anticompetitive situation "intertwined with or exacerbated by" the award of a license to construct or operate a nuclear facility.²⁹⁷ Accordingly, reasonable access to both nuclear generation and transmission is required in order to prevent the maintenance of an anticompetitive situation.

²⁹³ "It is far too late in the day to dispute that it runs counter to basic antitrust precepts to exercise monopoly power - however lawfully acquired initially - to foreclose competition or to gain competitive advantage, or to use dominance over a facility controlling market access to exclude competition and preserve a monopoly position. Electric utility companies are no more free than others to engage in those practices; their unjustified refusals to wheel power to or to interconnect with smaller entities in the field have regularly been called to account as violative of antitrust policies." *Kansas Gas and Electric Company et al.* (Wolf Creek Generating Station, Unit 1), ALAB-279, 1 NRC 559, 572 (1975).

²⁹⁴ Waterford I and II, discussed at pp. 840-841, *supra*.

²⁹⁵ 42 U.S.C. Section 2011. *See also* discussion at p. 838, *supra*.

²⁹⁶ *Kansas Gas and Electric Company, et al.* (Wolf Creek Generating Station, Unit 1), ALAB-279, 1 NRC 559, 568, 572-573 (1975). *See also* discussion at pp. 841-843, *supra*.

²⁹⁷ *Id.*, at 569.

The issues of nexus and access to nuclear facilities, which are interrelated, must be viewed in the context of the electric utility industry in the real world of today. The nation is in the midst of a profound and continuing energy crisis, with the cost and availability of all fuels the subject of serious concern. Oil and natural gas appear to be of declining significance for the generation of electricity, and hydroelectric capacity is now quite limited. Coal and nuclear power appear to be the chief sources of present and future energy requirements. Of these, nuclear power is still less expensive than coal, although its costs too continue to rise sharply.

If these factors are superimposed upon the existing monopoly situation, it is apparent that the Farley Plant's electricity is not merely commingled with other power generated by Applicant. These nuclear units represent an important new source of energy, at a time when the traditional sources of fuel for future use may well be unavailable or prohibitively expensive. They therefore are qualitatively different from mere increments in generating capacity, and they are essential to the viability of entities such as AEC. Under these circumstances, deliberately to withhold access to such essential nuclear facilities from a smaller competing entity would itself constitute anticompetitive conduct, with a clear nexus or connection between a situation inconsistent with the antitrust laws and the effect of reasonably probable activities under the license. We find that the exclusion of AEC from the Farley nuclear facilities probably would create a decisive competitive advantage to Applicant.

We now approach the question of the nature of access to nuclear facilities required in this case to obviate anticompetitive consequences of licensing. Since this is the first or liability phase of a bifurcated hearing, any conclusion expressed must be tentative or preliminary, simply offered to aid the parties in possible negotiations or to focus the issues for a remedy phase of hearings. As the legislative history discloses, the issue of fair access to nuclear facilities should be approached on a case-by-case basis, and could be satisfied by contractual arrangements for unit power as well as by ownership shares.²⁹⁸

Based upon evidence in the record describing the closely integrated operation of the large and complex Southern Company Pool, including coordinated planning and operation, we are dubious of the practicality of joint ownership.²⁹⁹ Many decisions both immediate and long range depend upon a closeness of relationship and mutual trust and confidence which are difficult between active competitors under the best of circumstances. Given the long history of mutual antagonism and distrust between Applicant and AEC, such problems are intensified. Accordingly, our present tentative belief is that the

²⁹⁸Hearings, pt. 1, pp. 9-10. See also p. 839, *supra*.

²⁹⁹DJ X 603-609, 1,002, 3,009, 3,014-3,015; Tr. 1,397-1,401; 5,098; 5,115-5,117 (Mayben).

furnishing of unit power³⁰⁰ by Applicant to AEC from the Farley Plant and future units, together with transmission or wheeling to enable AEC to make effective use of unit power as a wholesale supplier, would obviate the anticompetitive consequences of an unconditioned license.

No access to nuclear facilities as such appears to be required in the case of MEUA or its members. This result is based upon our finding that there is no significant actual or prospective competition between these entities at the retail distribution level.³⁰¹ We have also found that there is no "price squeeze" practiced by Applicant at the wholesale level, because its wholesale rates to MEUA customers have not been set too high, and Applicant is not serving its own retail customers at less than either long-run average or long-run incremental costs.³⁰² If AEC is granted reasonable access to nuclear facilities, presumably it could continue to be a competing wholesale power supplier. Therefore MEUA and its members would thereby have an alternative bulk power supply source. To go beyond this might be considered an unwarranted attempt to restructure the electric power industry at the retail distribution level, rather than fulfilling the statutory mandate of antitrust review under Section 105c.³⁰³

X. CONCLUSION

For the foregoing reasons, the Board has concluded that it is reasonably probable that the Applicant's activities under the Farley Plant's license would maintain a situation inconsistent with the specified antitrust laws. Accordingly, it will be necessary to attach conditions to the license which will prevent such a result. Since this is a bifurcated hearing in which the issue of liability was covered in the first phase of the proceeding, it will be necessary to continue to the second phase in order that the aspects of appropriate remedies may be considered.

In the meantime, the parties are urged to adopt the procedure recommended by the Court in a somewhat similar situation. In *United States v. Terminal Railroad Association of St. Louis*, 224 U.S. 383, 411-412 (1912), where it was held that a certain contract constituted a proscribed restraint of trade, the court remanded the case with directions that a decree be entered directing the parties to submit to the lower court within a time certain a plan for the reorganization of the contractual arrangements. Upon the failure of the

³⁰⁰We note that the license conditions proposed by the Department would require Applicant to grant equal participation (ownership or unit power purchase) in both Farley units and all future nuclear units installed by Applicant. See p. 815, *supra*.

³⁰¹See pp. 887-890, *supra*.

³⁰²See p. 939, *supra*.

³⁰³See p. 840, *supra*.

parties to come to an agreement which was in substantial accord with the opinion, the lower court would, after holding a hearing, enter such an order or decree as might be required.

In this case, capable and experienced counsel have addressed themselves to its complexities over a period of years. It is noted that during closing argument, counsel for the Applicant stated that it had never denied AEC access to nuclear generated power or to transmission and that it remained willing to provide such access (Tr. Oral Argument, November 22, 1976, pp. 120, 172-173). We therefore urge counsel immediately to commence negotiations for the purpose of agreeing to proposed license conditions consistent with our decision and opinion in phase one of this proceeding. Such proposed license conditions should encompass the Applicant providing AEC with reasonable access to nuclear generated power on a unit power basis, and with access to wheeling or transmission on reasonable terms and conditions in such a manner as to enable AEC to make effective use of its share of the nuclear generated power as a wholesale power supplier. Some consideration also should be given to the appropriate supply of bulk power when there is an outage at the nuclear facilities for any reason.

Counsel are directed to report to the Board in writing by April 22, 1977, whether they have been successful in negotiating the terms of proposed license conditions consistent with this opinion, or whether there is a reasonable likelihood of arriving at an expeditious agreement. If no agreement is possible, a hearing on the remedy phase of this proceeding shall commence at 10:00 A.M. on May 9, 1977, at the Commissions's Hearing Room, 5th Floor, 4350 East West Highway, Bethesda, Maryland 20014. We are mindful that Applicant has pledged not to seek a stay of any adverse decision of the Board in this first phase, and we expect that further proceedings will be conducted without any unnecessary delay (Tr. 502-503).

XI. ORDER

IT IS ORDERED, in accordance with the Atomic Energy Act of 1954, as amended, and the rules and regulations of the Nuclear Regulatory Commission in accordance with Sections 2.760, 2.762, 2.764, 2.785 and 2.786 that this Initial Decision shall become effective immediately and shall constitute, with respect to the matters covered herein, the final action of the Commission forty-five (45) days after issuance hereof, subject to any review pursuant to the above referenced rules. Exceptions to this Initial Decision may be filed by any party within seven (7) days after service of this Initial Decision. A brief in support of the exceptions must be filed within fifteen (15) days thereafter [twenty (20) days in the case of the NRC Staff]. Within fifteen (15) days of the filing and service of the brief by the Appellant [twenty (20) days in the case of the NRC Staff], any party filing such exceptions shall file a brief in support thereof.

IT IS SO ORDERED.

**THE ATOMIC SAFETY AND
LICENSING BOARD**

**Marshall E. Miller, Member
Dr. Kenneth G. Elzinga, Member
Michael L. Glaser, Chairman**

**Dated at Bethesda, Maryland
this 8th day of April 1977.**

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
ATOMIC SAFETY AND LICENSING BOARD

Robert M. Lazo, Chairman
Emmeth A. Luebke
David R. Schink

In the Matter of

Docket Nos. STN 50-508
STN 50-509

WASHINGTON PUBLIC POWER
SUPPLY SYSTEM

(WPPSS Nuclear Project Nos. 3 and 5)

April 8, 1977

The Licensing Board issues a partial initial decision on environmental and site suitability matters, authorizing issuance of a limited work authorization and specifying conditions for any construction permits which may be issued in the future.

NUCLEAR REGULATORY COMMISSION: AUTHORITY

The Federal government has exclusive authority under the doctrine of pre-emption to regulate the construction and operation of nuclear power plants, which necessarily includes regulation of radiological effluent discharges from such plants. *Northern States Power Company v. Minnesota*, 447 F.2d 1143 (8th Cir. 1971), *aff'd*, 405 U.S. 1035 (1972).

FWPCA: NRC AUTHORITY

In enacting the Federal Water Pollution Control Act Amendment of 1972, Congress did not intend to alter the exclusive authority of NRC to regulate the discharge of radioactive effluents composed of source, byproduct, or special nuclear materials. *Trains v. Colorado Public Interest Research Group*, 426 U.S. 1(1976).

TECHNICAL ISSUE DISCUSSED: Compliance with "Appendix I."

**PARTIAL INITIAL DECISION
AUTHORIZING LIMITED WORK AUTHORIZATION**

Appearances

Messrs. Joseph B. Knotts, Jr., and Nicholas S. Reynolds, Washington, D.C., and **Mr. Richard Q. Quigley,** Richland, Washington, for the applicant, Washington Public Power Supply System.

Mr. Thomas F. Carr, Assistant Attorney General of Washington, Olympia, Washington, for the State of Washington.

Messrs. Daniel T. Swanson and Henry J. McGurren for the Nuclear Regulatory Commission staff.

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I. INTRODUCTION

On August 9, 1974, the U.S. Atomic Energy Commission¹ issued a Notice of Hearing on Application for Construction Permits which was published in the *Federal Register* on August 23, 1974, (39 FR 30535) with respect to the application filed by the Washington Public Power Supply System (Applicant) on behalf of itself and four investor-owned electric utilities.² The application sought authority to construct two pressurized water nuclear reactors designated as WPPSS Nuclear Project Number 3 and WPPSS Nuclear Project Number 5 (WNP-3 and 5, or "facilities"). Each of these two facilities will be designed for operation at approximately 3,800 thermal megawatts with a net electrical output of approximately 1,300 megawatts. The facilities proposed would be located in Grays Harbor County, Washington, about 26 miles west of Olympia, and about one mile southeast of the confluence of the Chehalis and Satsop Rivers.

The Notice set forth the requirements pursuant to the Atomic Energy Act of 1954,³ as amended, and the National Environmental Policy Act of 1969,⁴ which must be met prior to the issuance of construction permits. The Notice also provided that any person whose interest might be affected by the proceeding could file a petition for leave to intervene, in accordance with the requirements of 10 CFR §2.714, not later than September 23, 1974. The Notice further provided that interested persons could file requests for limited appearances pursuant to the provisions of 10 CFR §2.715. In addition, the Notice designated an Atomic Safety and Licensing Board (Board) for this proceeding.

¹ The Nuclear Regulatory Commission (NRC) succeeded to the AEC's licensing powers and regulatory responsibilities on January 19, 1975. Energy Reorganization Act of 1974, Pub. L. No. 93-438, 88 Stat. 1233-1254. See 40 *Fed. Reg.* 3242, 3520.

² Ownership of WNP-3 will be on a basis of tenants-in-common with WPPSS owning 70% and Pacific Power and Light Company 10%, Portland General Electric Company 10%, Puget Sound Power and Light 5%, and the Washington Water Power Company 5%. Ownership of WNP-5 will be on a basis of tenants-in-common with WPPSS owning 90% and Pacific Power and Light Company owning 10%.

³ 42 U.S.C. § § 2011-2296 (1970).

⁴ 42 U.S.C. § § 4321-4349 (1970).

Although the Notice set forth all the issues which must be considered and decided by this Board to determine whether construction permits should be issued to the Applicant, this Partial Initial Decision addresses only the environmental issues specified by 10 CFR Part 51 and the site suitability issues specified by 10 CFR 50.10(e)(2). A partial decision addressing the remaining radiological health and safety issues, together with this Board's ultimate decision on issuance of the construction permits, will be issued after the conclusion of later public hearings on the remaining radiological health and safety aspects of the application.

Pursuant to the Commission's Notice, a timely petition for leave to intervene was filed by Donald F. X. Finn, *pro se*, on September 9, 1974. The petition was opposed by Applicant in its Answer of September 19, 1974, but it was supported by the Staff in its Answer of September 23, 1974. Pursuant to a "Notice and Order for Special Prehearing Conference," issued on October 25, 1974, the Board held a prehearing conference in Olympia, Washington, on November 19, 1974. Mr. Finn did not appear at the Special Prehearing Conference. By its Memorandum and Order dated December 3, 1974, as modified by its December 12, 1974, Memorandum and Order, the Board directed Mr. Finn to respond to questions posed by the Board regarding Mr. Finn's interest in the proceeding. On December 19, 1974, Mr. Finn responded by affidavit to the Board questions. The Applicant and the Staff replied to Mr. Finn's affidavit on December 27, 1974, and Applicant filed a Supplemental Reply on January 10, 1975. By a Memorandum and Order dated January 31, 1975, the Board denied Mr. Finn's Petition to Intervene for failure to demonstrate sufficient interest to acquire the status of a party in this proceeding.⁵ Mr. Finn elected not to appeal that determination. (See *Washington Public Power Supply System* (Nuclear Projects No. 1 and No. 4), ALAB-265, 1 NRC 374, April 15, 1975.)

On October 30, 1974, the Washington Thermal Power Plant Site Evaluation Council (TPPSEC) petitioned to participate in this proceeding as a representative of an interested state pursuant to 10 CFR §2.715(c). The petition was supported by the Staff and Applicant and at the Special Prehearing Conference held on November 9, 1974, the Board approved the participation of TPPSEC pursuant to 10 CFR §2.715(c).

On May 30, 1975, the Applicant filed a motion pursuant to 10 CFR §2.761(a) requesting a separate hearing on environmental and site suitability issues.⁶ On May 30, 1975, the Board issued a "Notice and Order Setting Final

⁵ On February 5, 1975, the Board issued an addendum to its Memorandum and Order of January 31, 1975, which did not affect its ruling denying Mr. Finn's Petition to Intervene.

⁶ By letter to the Commission dated October 18, 1974, the Applicant affirmed that it sought authorization, pursuant to 10 CFR §50.10(e), to engage in the limited work activities described in that letter (Applicant's Ex. 3). By letter dated June 20, 1975, the Applicant updated its list of proposed limited work authorization activities (Applicant's Ex. 5).

Prehearing Conference and Evidentiary Hearing on Environmental and Site Suitability Issues" (40 FR 24379), setting June 24, 1975, as the date for the Final Prehearing Conference and for the Evidentiary Hearing. On June 4, 1975, the Board issued another "Notice of Prehearing Conference and Evidentiary Hearing" (40 FR 24964) establishing Aberdeen, Washington, as the location of the Prehearing Conference and the Evidentiary Hearing. Because of a schedule conflict, the original Chairman, Mr. Paglin, was unable to continue his service on the Board. Accordingly, a "Notice of Reconstitution of Board" was issued on June 18, 1975, appointing Mr. Reilly as Chairman of this Board.

The public evidentiary hearing was held on June 24 and 25, 1975, in Aberdeen, Washington. In accordance with 10 CFR §2.715, a number of limited appearances were made at the hearing, both in support of and in opposition of the construction of the facilities (Tr. 106-164, 241-243, and 410-412). A few of those persons appearing raised questions concerning the environmental and site suitability aspects of the facility, and both the Applicant and the Staff provided responses to these questions (Tr. 395-403 and 404-408).

The record in this proceeding to date consists of transcripts from prehearing conferences on November 19, 1974, and June 24, 1975, transcripts of two days of evidentiary hearings held on June 24 and 25, 1975, containing, *inter alia*, the testimony of four witnesses presented by the Staff and 15 witnesses presented by the Applicant, and all the exhibits identified and admitted into evidence as listed in Appedix A to this Partial Initial Decision. At the end of the June 25, 1975, hearing session, the Board kept the record of the proceeding open to receive evidence relating to: (1) the environmental impact of radiological releases from WNP-3 and 5 in light of the new analysis then being performed by the Staff pursuant to Appendix I; (2) the Staff analysis of the Applicant's proposed preoperational environmental monitoring program; and (3) compliance with §401 of the Federal Water Pollution Control Act Amendments of 1972.⁷ The parties agreed to file incomplete proposed findings of fact on subjects not affected by the unresolved issues.

Thereafter, certain delays in the issuance of this Partial Initial Decision were encountered, due in part to the fact that the State of Washington Energy Facility Site Evaluation Council (EFSEC), previously named Thermal Power Plant Site Evaluation Council, did not act immediately on the Applicant's request for issuance of a certification for WNP-3 and WNP-5 pursuant to Section 401(a)(1) of the Federal Water Pollution Control Act Amendments of 1972. Additional delays were encountered due to the decision issued on July 21, 1976, by the United States Court of Appeals for the District of Columbia Circuit in *Natural Resources Defense Council v. Nuclear Regulatory Commission*, 547 F.2d 633 (D.C. Cir. 1976), *cert. granted sub. nom. Vermont Yankee Nuclear Power*

⁷Pub. L. 92-500, 86 Stat. 33 U.S.C. §1251 *et seq.*

Corp. v. NRDC, 45 U.S.L.W. 3570, and the Commission's imposition of a temporary moratorium on licensing in view of that decision. Finally, other delays were encountered while the Staff further evaluated the seismological aspects of the site. During the interim, the Applicant and Staff submitted additional evidence to clarify and update the record relating to certain environmental and site suitability matters.

Evidence addressing the above items, as well as other matters raised by the Board, has been submitted by the parties subsequent to the hearing. The Board hereby admits into evidence those submissions, consisting of Applicant Exhibits Nos. 17 through 37 and NRC Staff Exhibits Nos. 3 through 13, each of which has been considered by the Board in arriving at its decision.

On September 7, 1976, the Chairman of the Atomic Safety and Licensing Board Panel issued a "Notice of Reconstitution of Board" in which the instant Licensing Board Chairman was appointed to replace the previous Chairman who had resigned from the Panel, and therefore was unable to continue his service on this Board.

Thereafter, on January 18, 1977, Citizens for a Safe Environment (CASE) filed a petition for "limited right of intervention." The petition was opposed by both the Applicant and the Staff on the basis that it was untimely and that CASE had not shown good cause for the untimeliness of the petition. By Memorandum and Order dated March 8, 1977, the Board denied CASE's petition for leave to intervene, but granted CASE fifteen additional days to file an amended petition. CASE did not file an amended petition within the time period specified, and accordingly CASE was not permitted to intervene in this proceeding. Because both Intervention Petitions have been dismissed, and there are at present no contentions in issue between the Staff and the Applicant, this proceeding is not a contested proceeding as defined in 10 CFR §2.4(n).

In making the following findings and conclusions, the Board reviewed and considered the entire record of the proceeding and all of the proposed findings of fact and conclusions of law submitted by the parties. All of the proposed findings of fact and conclusions of law submitted by the parties which are not incorporated directly or inferentially in this Partial Initial Decision are rejected as being unsupported in law or fact or as being unnecessary to the rendering of this Decision.

II. FINDINGS OF FACT—ENVIRONMENTAL MATTERS

A. Compliance with the Federal Water Pollution Control Act Amendments of 1972

1. On April 27, 1976, the State of Washington Energy Facility Site Evaluation Council (EFSEC) certified, pursuant to §401(a)(1) of the Federal Water

Pollution Control Act Amendments of 1972 (33 U.S.C. § 1251, *et seq.*) that any discharge from the construction or operation of the facility will comply with the applicable provisions of §§ 301, 302, 306 and 307 of the FWPCA and will not violate the applicable water quality standards of the State of Washington as approved by the United States Environmental Protection Agency (Applicant Ex. 30). The Board finds that this certification satisfies the requirement of Section 401. EFSEC incorporated into the §401 Certification the conditions and limitations of the National Pollutant Discharge Elimination System (NPDES) Permit (Applicant Ex. 31), as presently approved or as later modified or renewed, for the facility. Pursuant to §401(d) of the FWPCA, the Board includes in any license or permit a provision for applicable conditions or effluent limitations set forth in the §401 Certification.

2. The Board notes that the conditions contained in the NPDES permit include restrictions on radioactive discharges which are not within the jurisdiction of the State of Washington to impose (see, *e.g.*, Applicant Ex. 31, Appendix A, General Conditions G-2 and G-24). Jurisdiction over the discharge of radioactive effluents composed of source, special nuclear, or byproduct material is preempted by the Nuclear Regulatory Commission.

3. In *Northern States Power Company v. Minnesota*, 447 F.2d 1143 (8th Cir. 1971), *aff'd*, 405 U.S. 1035 (1972), the Court held that the Federal government has exclusive authority under the doctrine of preemption to regulate the construction and operation of nuclear power plants, which necessarily includes regulation of radiological effluent discharges from such plants.

4. On June 1, 1976, the Supreme Court issued its opinion in *Train v. Colorado Public Interest Research Group* ("CPIRG")⁸ in which the Supreme Court held that the legislative history of the FWPCA reflects a Congressional intent in enacting the FWPCA not to alter the authority of the NRC to regulate the discharge of radioactive effluents composed of source, byproduct, and special nuclear materials. Accordingly, the Supreme Court concluded that "pollutants" subject to regulation under the FWPCA do not include radioactive effluents composed of source, byproduct or special nuclear materials, and that the NRC and not EPA (and not the states through EPA) is the Federal agency vested with the exclusive authority to regulate the discharge of these materials. Thus, the Supreme Court's decision in *Train v. CPIRG* establishes that EFSEC has no jurisdiction to regulate the discharge of source materials, byproduct materials, and special nuclear materials from nuclear plants. In view of the foregoing, the Board concludes that it cannot include in the construction permits as Section 401(d) conditions any limitations or requirements relating to the discharge of radioactive effluents composed of source, byproduct, and special nuclear materials sought to be imposed by EFSEC in the NPDES Permit.

⁸ 426 U.S. 1 (1976).

5. The construction permit for WNP-3 and 5 is to be conditioned as follows:

Any discharge resulting from the construction of this facility will comply with the conditions contained in the National Pollutant Discharge Elimination System Permit issued for the facility, as presently approved or as later modified, except for those conditions regulating the discharge of radioactive effluents composed of byproduct material, source material, and special nuclear material. In the event of any modification of the NPDES permit while this Construction Permit is extant, Permittee shall analyze all associated changes in or to the facility, its components, its construction or proposed operation or in the anticipated discharge of effluents therefrom, and if such changes would warrant any modification of this Construction Permit, or present an unreviewed safety question or involve any adverse environmental impact significantly greater than analyzed in the Final Environmental Statement, as supplemented, the Permittee shall file with the NRC, as appropriate, a request for modification of this Construction Permit, an analysis of any such safety question, or an analysis of any such change in the overall cost-benefit balance for the facility set forth in the Final Environmental Statement.

B. Compliance with Sections 102(A), (C) and (D) of the National Environmental Policy Act of 1969 and 10 CFR Part 51

6. As required by 10 CFR Part 51, the Applicant submitted, with its application, an Environmental Report (ER) dated August 1, 1974. The ER, as amended, was received into evidence as Applicant's Exhibit No. 2 (Tr. 172). Based on the environmental information submitted by the Applicant in the ER, as supplemented, and on its independent analysis and review, the Staff prepared a Draft Environmental Statement (DES) which was issued February 14, 1975. By a Notice of Availability published February 18, 1975, the public was invited to comment on the DES (40 FR 7012). Copies of the DES were also provided to appropriate Federal, state and local agencies for their comment. On June 4, 1975, the Staff published its Final Environmental Statement (FES) which includes, among other things, the full text of all comments received with respect to the DES (Appendix A) as well as the Staff's responses to those comments (Chapter 11). By a Notice of Availability, published June 4, 1975, the FES was also made available to various agencies and to the public (40 FR 24064). The FES was received into evidence as Staff Exhibit No. 1 (Tr. 187).

7. Staff testimony at the hearing amended the FES in some respects (Tr. 183-185, 306-307 and 403-404). The FES, as amended by the record of this proceeding, describes the plant site, the major systems of the plant, the environmental effects of site preparation and transmission line construction, environmental impacts of both plant operation and postulated design basis accidents,

and the Applicant's environmental monitoring program. The FES also contains a cost-benefit analysis which considers and balances the environmental effects of the proposed facility, alternatives available for reducing or avoiding adverse environmental effects, alternative methods for generating electricity, and the environmental, economic, technical, and other benefits of WNP-3 and 5.

8. The Staff concluded on the basis of its analysis and evaluation, set forth in the FES, that after weighing the environmental, economic, technical, and other benefits of WNP-3 and 5 against their environmental and other costs, that the action called for under the National Environmental Policy Act of 1969 (NEPA) and 10 CFR Part 51 is the issuance of construction permits subject to certain limitations to protect the environment (Staff Ex. 1, pp. ii and iii). The Board, on the basis of its consideration of the entire record, concurs that these are appropriate conditions to be imposed on the construction permits. Further, the Board finds that the FES, as supplemented and corrected by the testimony and evidence presented in this proceeding, is an adequate review and evaluation of the environmental impacts resulting from plant construction and operation.

1. Impact of Construction

9. The Applicant has identified and the Staff has reviewed the environmental impacts associated with construction of the facilities (ER §§4 and 11; FES §4).

a. Impact of Land Use

10. Present land use within the site area is predominately associated with the production of forest products, and substantially all of the land at the site is used as commercial tree farms. The primary impacts on land use will be the use of about 300 acres of the 2450-acre proposed site for construction activities. Some impact will result from the construction of transmission facilities and the clearing of rights-of-way. Construction of a new railroad spur line, access roads, and makeup and return water pipelines will consume an additional 70 acres (FES §4.1, 10.1.1.1).

11. The initial phase of site development requires that predominately forest vegetation from approximately 300 acres of land be cleared and grubbed. Approximately 90 cleared acres will be used for plant facilities. The remainder of the cleared acreage will be used temporarily for construction-related purposes, primarily as laydown areas.⁹ When construction is completed, the temporary

⁹By Order dated March 4, 1977, the Board authorized the Applicant to construct three onsite laydown areas for storage of prepurchased equipment and to upgrade the existing county road running from the major highway (Highway 12) at Elma to the bridge over the Chehalis River at South Elma. The Applicant proposes to upgrade the remaining secondary roads connecting the site with Highway 12.

areas will be landscaped. Topsoil to be stripped from areas to be excavated will be stored and used for surface dressing on areas to be landscaped. Much of the timber from the cleared land is marketable; logging debris and stumps are chipped or burned in accord with Washington State Department of Ecology regulations (ER §4.1.2.1). An estimated 7.5 million cubic yards of earth will be excavated during the cut and fill operations on this land site. To minimize the impact of these construction activities, the Applicant has committed to implement an erosion and sedimentation control program entailing construction of temporary controlled drainage ways, settling ponds, concrete or asphalt gutters and ramps, as well as surface mulching and grass seeding (FES §§4.1, 4.5.1; Staff Ex. 8; Applicant Ex. 27).

12. One known archeological site exists near the proposed plant. This is a burial site about 1-1/4 miles north-northeast of the proposed power plant and 1/2 mile west of the nearest proposed access road (FES §2.3.2). Applicant has committed to provide adequate protection of archeological resources at the site, including the hiring of an archeological consultant who can recognize and evaluate archeological materials, and direct procedures in the event any such materials are discovered during construction. The Staff considered that the impact of construction on potential archeological sites would be minimal.

13. The Applicant proposes to construct a total of four transmission lines, each approximately 3000 feet in length. A 230 kv line and a 500 kv line will connect each of the two nuclear reactor units of the proposed power plant with a switchyard at Satsop. The Satsop substation will be constructed near the Bonneville Power Administration (BPA) transmission corridor extending across the northern portion of the station. Transmission line structures will be of a steel pole type, and will be from 100 to 300 feet in height, depending upon the final location of the Satsop substation. The rights-of-way required for the transmission lines connecting the power plant and proposed Satsop substation lie completely within the site boundaries. The area to be traversed by the power lines is a portion of the laydown area to be cleared in preparation of the site (FES §§3.8, 4.3.1; ER §§3.9.1, 4.2).

14. The integration of the output from WNP-3 and WNP-5 into the existing Pacific Northwest grid system involves both new construction and renovation of existing facilities. Integration of this power into the existing regional grid is the responsibility of the BPA. BPA also has the responsibility for implementing NEPA with respect thereto. BPA has not made a final determination as to the routing locations and transmission facility designs. The Staff qualitatively evaluated the six alternatives being considered by BPA, and estimates that not more than 1500 acres of land will be disturbed. On the basis of prior experiences and the past practices of BPA in constructing transmission lines, the Staff concluded that the impact on land will be minor (ER, Appendix to §3.9; FES §§3.8, 4.1.2).

15. Railroad access to the site from the west was selected because less earthwork, visual impact and disturbed areas are involved. Construction of the railroad spur will involve approximately 70 acres of land. Preliminary information indicates that no significant blasting operations will be necessary for roadbed construction. A system of collection ditches and/or berms will be used for erosion and sediment control to collect runoff from the fill and cut areas. A large portion of the excavation for the railroad spur will be in sandstone which will allow slopes to be cut relatively steep in order to minimize excavation and impact (ER §4.1.2.3.6; FES §4.1.3). The impact will be further reduced by revegetation programs. The Staff concluded that the installation of the railroad spur will be environmentally acceptable (FES §4.1.3).

16. Approximately 10,000 feet of new asphalt road will be constructed to serve as the primary plant access road from the east. Construction of the access road will require clearing and grubbing to remove vegetation from the right-of-way but it is not expected to require blasting operations (ER §4.1.2.3.6, Figure 4.1-5; Applicant's Ex. 19; FES §4.1.4, Figure 2.3). Access from the west involves improvement in 3.2 miles of existing county road. In addition, a network of temporary roads will service plant construction activities (FES §4.1.4).

17. The makeup pipeline will be installed in the combination road/railroad embankment from the west to the facilities. At a point near the intersection of the plant railroad spur and the existing Union Pacific track (ER Figure 4.1-3), the makeup pipeline will connect with a system of pipelines, pumps, and a subsurface water intake system which will be installed in the flood plain of the Chehalis River. Approximately 50,000 cubic yards of earth will require excavation.

18. The return pipeline will be routed to coincide in part with an existing road, and no clearing will be required for the portion so routed. Approximately 10,000 cubic yards of earth will require excavation. A trench approximately six feet wide and four feet deep will be excavated in the bed of the Chehalis River for the installation of the return pipeline diffuser. A barrier will be placed around the excavation area to trap sediment resulting from the activities in the riverbed (ER §4.1.2.3.7; FES §4.1.5).

19. The offsite barge facility will be constructed on the Chehalis River approximately 2.2 miles upstream from South Montesano (Applicant's Ex. 19, 22 and 27). Excavation adjacent to the river will be conducted, to the greatest degree practical, behind a natural barrier to minimize sedimentation of the river (ER Figures 4.1-4 to 4.1-7). Runoff from the construction area for the barge facility, as well as the groundwater which may be pumped from excavations, will be collected and treated in a retention pond (ER §4.1.2.3.5; FES §4.1.6, Staff Ex. 8). Construction of the barge facility will cause the temporary elimination of approximately 20 acres of agricultural land. This land is used to grow forage and for cattle grazing. Little wildlife habitat losses will be incurred by this activity.

20. The Applicant submitted to the Staff detailed plans covering the dredging operation in the Chehalis River, the construction of the access road and the railroad spur, and excavation of borrow pits, disposal of surplus excavation, and construction of earth fills. The Staff independently reviewed these plans, and concluded that the environmental effects from these activities, when coupled with the controls and mitigative and protective measures described in the ER, will be at an acceptable level (Staff Ex. 8).

21. The Board notes that Applicant has also committed to the following: application of herbicides and pesticides, if required during construction, will be in accordance with Federal EPA guidelines, or, if pertinent, later revisions of those guides (Staff Ex. 8; FES §4.5.1(12)).

b. Impact on Water Use

22. Impacts on surface water usage will consist primarily of the siltation of adjacent waterways caused by erosion from land clearing and similar activities which will denude the areas. The major impact of construction activities on the surface water resources will result: (1) from laying the discharge diffuser in the Chehalis River, which will include dredging and disposal of riverbed spoils; and (2) excavation for the barge unloading facility. This construction will interfere with recreational use and may impede commercial traffic. However, these effects will be temporary and will end with the cessation of construction activity (FES §4.2.1). The Staff has evaluated this impact and has concluded that the adverse environmental effects will be at the minimum practicable level (FES §4.5.a; Staff Ex. 8).

23. Construction workers and their activities will require 500 gpm of groundwater, which will have some minor impact on local domestic wells north of the plant site. This withdrawal will be localized and temporary, and water will return to previous levels after cessation of construction activities (FES §4.2.2). Waste treatment facilities will be provided onsite. Most sanitary wastes will be collected for offsite disposal (FES §4.5.1).

c. Impact on Ecological Systems

24. Terrestrial impacts during construction will result in the loss of some vegetation, relocation and loss of some animals, erosion of some soil, and a change in the topography in an area of approximately 400 acres (FES §4.3.1). The loss of vegetation and animal life will be kept to a minimum, as a result of the Applicant's commitment to leave as much vegetation intact as possible, particularly as buffer zones between excavation areas and streams and to return about one-half of the affected area to vegetative cover after construction.

25. Construction will result in increased turbidity and siltation of area

streams and the Chehalis River. The installation of the discharge diffuser will disturb about 1000 square feet of streambed. This will result in a decrease of primary production of area fish and will kill benthic organisms occurring within and immediately downstream from the excavation. It was noted that previous construction and logging operations in the site vicinity have already lowered fish production due to elevated siltation rates and raised temperatures resulting from vegetation removal and blockage or alteration of stream channels by slash and debris. The proposed pollution controls relating to the construction of these facilities, including a system of retention ponds, dikes, and trenches, the implementation of a box culvert or multiple drainage structure for Elizabeth Creek during road construction, the use of riprap along disturbed stream banks, and the restoration of all land disturbed and not permanently utilized by structures to its original condition by natural or ornamental plantings will assure that further impact on aquatic systems will be kept to a minimum.

26. Construction activities will result in impacts normally incident to a large construction project of this nature such as dust, noise, and smoke. These impacts will have some effect on the esthetic quality of the local environment. However, these impacts will be relatively minor and of short duration. The Applicant has committed to take appropriate actions to minimize these impacts (ER §4.1.3; FES §4.1.1). For the most part, the construction activities will take place in relatively remote areas which are surrounded by forest vegetation, thereby resulting in some limiting of the dispersal of dust and some muting of the noise impact (FES §4.4.1). Traffic moving over U.S. Highway 12, the primary access to the site, will not contribute significantly to noise levels since the average daily traffic volume is already about 10,000 vehicles. The Staff concludes that the noise and dust generated by construction activities will likely be a minor nuisance to most residents of the area. Construction traffic offsite will use existing highways outside of the site. The resultant congestion will be most severe on existing secondary roads which connect the site with U.S. Highway 12.

d. Impacts on the Community

27. Acquisition of lands for the proposed power facilities will cause displacement of eleven families (ER §8.2.2.1.1.1). Additional displacements are expected to occur, but the number is expected to be small (ER Table 2.2-2).

28. About 85% of the labor required during peak construction (approximately 2200 workers in all) will be drawn from the ranks of local labor halls, resulting in no great influx of workers to become residents (ER §8.2.2). The small increase in population due to construction should therefore not impact greatly on demands for community services (FES §4.4.3), nor on recreational facilities of the area (FES §4.4.5). Although the proposed construction is expected to effect only minor changes in local populations, its impact on the

regional economy of increased local capital expenditures, tax revenues, and employment will be significantly beneficial (FES §4.4.2).

29. Potable water supplies, waste treatment facilities, and security measures will be provided onsite. Thus, commuting workers will not stress local community services (ER §4.1.2.3.4; FES §4.4.3). There are three hospitals within 20 miles of the site which are equipped with 231 beds. There are plans for providing additional services at each hospital. Local fire departments are adequate, and no increase in local government personnel, equipment or facilities will be necessary to accommodate in-moving construction personnel (FES §4.4.4).

e. Summary of Construction Impacts

30. The Board finds that the adverse impacts on the site area from construction of WNP-3 and 5 have been adequately described and evaluated. The Applicant has committed to certain measures and controls to limit adverse environmental effects during construction, as summarized in the FES (FES §4.5). The Board has considered the unavoidable impacts of construction, including the impacts on land use and water use, on the terrain, the terrestrial ecosystem and the aquatic environment, and the effects on the community, and finds that Applicant plans appropriate measures and controls to minimize such impacts.

2. Impact of Operation

a. Impact on Land Use

31. Operation of the proposed station during its expected life will result in a 30 to 40-year diversion of primarily forested lands to use for industrial purposes. The Applicant proposes that forest management will be precluded only in the area immediately surrounding plant structures and that only about 150 acres will be diverted from timber production after construction is completed (ER 4.2).

32. Direct land use impacts due to use of transmission lines constructed by the Applicant will be confined to onsite areas. A portion of the area beneath these lines will probably be used for activities associated with the station operation. That portion not so used will be seeded or planted with appropriate low-growing vegetation (ER 4.2.1). BPA will construct offsite transmission facilities and has indicated that it will cooperate with any agency or individual owner having control of lands along the transmission right-of-way for any beneficial use of that land whenever such use will not conflict with maintaining a safe and reliable transmission system (FES 5.1.2). Production of both irrigated and dry land agricultural crops is generally compatible with transmission corridors, with some inconvenience beneath power lines associated with crop dusting. However,

aerial dusting and fertilization is commonly practiced under BPA power lines. A minor impact will be the electrical effects usually associated with operation of high voltage transmission lines including induced voltages, ozone production, audible noise, and radio and television interference (FES 5.5.1.2). The Board concludes that the environmental effects associated with the high voltage transmission lines under consideration by BPA are acceptable.

b. Radiological Effluents

33. During routine operation of the plant, small quantities of radioactive material will be released to the environment. These releases must be controlled in accordance with Part 20 of the Commission's Regulations, 10 CFR Part 20. In addition, an applicant for construction permits must identify the design objectives and the means to be employed for keeping levels of radioactive materials in effluents to unrestricted areas as low as is reasonably achievable.

34. The Nuclear Regulatory Commission issued its opinion April 30, 1975, in *Rulemaking Hearing* (Numerical Guides for Design Objectives and Limiting Conditions for Operation to Meet the Criterion "As Low As Practicable" for Radioactive Material in Light-Water Cooled Nuclear Power Reactor Effluents), Docket No. RM-50-2, CLI-75-5, 1 NRC 277 ("Appendix I"). This Opinion provides numerical guides for design objectives to limit radioactive effluents from light-water-cooled reactors to as low as practicable. Appendix I became effective June 4, 1975, and applies to this proceeding. It sets maximum limits for the allowable estimated annual dose to any individual from exposure to the radioactive effluents from any single reactor, and in addition, requires that an applicant for a construction permit include in the design of its radioactive waste treatment systems all equipment that can, with a favorable cost-benefit analysis as determined by Appendix I requirements, reduce the total exposure to the population within 50 miles of the reactor.

35. By its motion during the evidentiary hearings held on June 24-26, 1975 (Tr. 369, 371), the Staff moved that the record be kept open on those matters regarding radiological impacts and indicated to the Board and the Applicant that in light of the new Appendix I, it was undertaking a reevaluation of the assessment of the radiological environmental impact considered in connection with the overall cost-benefit analysis presented for WNP-3 and WNP-5. The Board permitted the Staff additional time to file its evidentiary material regarding the radiological impacts of the WNP-3 and WNP-5 facilities.

36. On September 24, 1975, the Staff moved the introduction into evidence as exhibits of certain affidavits which present a revised NEPA evaluation and cost-benefit analysis for radiological impacts from normal operation of WNP-3 and WNP-5 facilities. The Board grants the Staff's Motion and receives these affidavits into the record of this proceeding (Staff Ex. 3, 4 and 5).

37. Application of the new Appendix I will require reassessment of the proposed rad-waste treatment system and may entail modification of that system in order to meet the established guides. The Staff is presently in the process of reassessing assumptions and evaluation models for projected radiological releases and doses to reflect the Commission's direction that such assumptions and models reflect the best available evidence, and result in models which do not substantially underestimate actual exposure. Appropriate models are also under development for use in determining man-rem estimates for sequential cost-benefit assessment of several designs. It will be some time before these model developments will be completed by the Staff and can be applied specifically to the rad-waste systems proposed for the WNP-3 and WNP-5 facilities to determine compliance with Appendix I. It is anticipated that the assessments will be completed in connection with radiological health and safety hearings (Staff Ex. 5).

38. In the interim, the Staff has attempted to estimate how the use of newer data and a broader population would affect the information presented and the conclusions drawn in the FES. Therefore, the Staff performed certain calculations which resulted in an upper-bound assessment of the potential radiological impacts resulting from normal operation of the WNP-3 and WNP-5 facilities. These interim calculations are reflected in the affidavits of Mr. Stoddart and Dr. Kastner (Staff Exhibits 3 and 4, respectively). The upper-bound dose estimates were calculated using revised estimated releases, which were based by Mr. Stoddart on current operating data. The release values used in the Staff's interim dose calculations are not anticipated to differ significantly from the values for the final assessment. In any event, Dr. Kastner's presentation of upper-bound dose estimates includes sufficient conservatism to account for any variation that might occur in the Staff's final calculation of radiological releases (Staff Ex. 3, Affidavit of Phillip G. Stoddart, at pp. 4-5).

39. The Staff's interim calculations for the purpose of demonstrating compliance with Appendix I, are not yet available (Staff Exhibit 5, at p. 4). These detailed calculations will be presented at the radiological health and safety hearings (Staff Exhibit 3, at p. 4; Staff Exhibit 4, at p. 3; Staff Exhibit 5, at p. 4). However, calculations performed by Mr. Stoddart, and calculations presented by Dr. Kastner result in dose estimates which are unlikely to be exceeded in the detailed assessment.

40. Changes to the Applicant's rad-waste system could adversely affect interim assessment of potential radiological impact. Accordingly, the Staff asked the Applicant to confirm, based upon information now available, that it does not intend to modify or remove any part of the rad-waste treatment systems and equipment presently described in its Preliminary Safety Analysis Report and Environmental Report. As described in Mr. Norris' affidavit (Staff Exhibit 5, at pp. 4.5), the Applicant has so committed. Although the Applicant indicated no intent to propose changes in the rad-waste systems and equipment, the Applicant

stated that it was reassessing the proposed design of its off-gas storage equipment. However, the Applicant committed to retain such off-gas storage capacity as will assure the 90-day storage time credited in the source term used in the FES analysis (FES §3.5.2.1). Therefore, the removal of off-gas storage equipment to the extent indicated in the Applicant's commitment letter of August 8, 1975 (which is attached to Staff Exhibit 5), would not affect the Staff's conclusion that WNP-3 and WNP-5 can be designed to meet the requirements of Appendix I.

41. The Technical Specifications issued as part of an operating license will necessarily establish effluent release limits which will assure that the Applicant operates WNP-3 and WNP-5 in conformance with the requirements of Appendix I to 10 CFR Part 50. On the basis of information presently available on the technology to reduce radioactive effluent releases, there is no technical reason why WNP-3 and WNP-5 cannot be designed to meet the requirements of Appendix I should any design change be necessary (Staff Ex. 3, at pp. 3-4). Should the detailed assessment to determine compliance with Appendix I show a need for any additional equipment, the Applicant has committed to its installation. The cost of any such installation would be insignificant in terms of the overall cost of the WNP-3 and WNP-5 facility [less than two-tenths of one percent (0.2%) of the total cost of WNP-3 and WNP-5] and thus would not affect the overall cost-benefit balance struck in the FES (Staff Ex. 5, pp. 5-7).

42. The Staff's interim dose assessment is based on the most current operating data and includes broader consideration of the population dose (man-rem) impact by inclusion of the thyroid man-rem dose. Consideration in the FES was limited to the maximum individual thyroid dose. In addition, the estimated release of gaseous C-14 and particulates released in gaseous effluents have been included in the Staff's interim assessment (Staff Ex. 3, at p. 6. and Table 1).

43. Although the Staff's detailed assessment to determine compliance with Appendix I will include an evaluation of maximum individual radiological exposure, which exposure will be controlled by the requirements of Appendix I (Staff Exhibit 5, at p. 4), an "upper-bound" estimate of annual population doses to the general public due to plant effluents has been ascertained. This annual dose will not exceed 61 man-rem to the total body and 74 man-rem to the thyroid (Staff Ex. 4, at p. 4, Table II). As indicated in Staff Exhibits 4 (at p. 4) and 5 (at p. 7), these upper-bound estimates of the radiological impact on the general public from normal operation, although greater than those discussed in the FES in Section 5.4.2, do not significantly affect the results of the overall cost-benefit balance associated with the proposed WNP-3 and WNP-5 facilities. Even when the commission's interim value of \$1,000 per man-rem is considered, the overall cost represented by the dose estimates given is less than \$200,000 per year. This is a small fraction of the annualized station cost [less than two-tenths of one percent (0.2%) of the station annual costs] described in the FES (Staff

Exhibit 1, Table 10.2) of \$190 million per year, and would not affect the overall balance struck in Chapter 10 of the FES (Staff Ex. 4, at p. 4). The Board finds that the low level releases from normal operation of WNP-3 and WNP-5 will have no serious impact. The foregoing values of 61 man-rem to the body and 74 man-rem to the thyroid represent an upper-bound estimate of the radiological impact on the general public from normal operation of WNP-3 and WNP-5 with rad-waste equipment as proposed in the PSAR, Chapters 6, 9, 10, 11 and 12.

44. On September 4, 1975, the Commission issued an amendment to Appendix I (40 Fed. Reg. 40816) providing that utilities whose applications for construction permits for light-water-cooled power reactors were docketed between January 2, 1971, and June 4, 1976, need not comply with the cost-benefit requirements of Section II, Paragraph D to Appendix I, provided the rad-waste systems and equipment described in the preliminary or final safety analysis report and amendments thereto satisfy the design objectives proposed by the Staff in the Appendix I rulemaking proceeding. However, Applicant, by letter dated September 29, 1975 (Staff Exhibit 7), notified the Staff that it had elected not to utilize the exemption provided in this Appendix I amendment. Therefore, the Staff will perform its sequential cost-benefit assessment for various designs and will submit this at the health and safety hearing, along with the Staff's specific assessment of the compliance of WNP-3 and WNP-5 with the maximum individual and maximum organ dose limits. However, the cost of additional equipment, if any is required, would not contribute a significant amount to the overall cost of the facilities—again less than two-tenths of one percent (0.2%) of the overall cost of the facilities. Moreover, the addition of equipment to reduce the release of radioactive effluent would in turn reduce the radiological impact costs estimated above (Staff Ex. 5, pp. 7, 8).

45. The Board finds that any additional costs which might be incurred through compliance with Appendix I would be very small in terms of the overall cost-benefit balance and would not adversely affect it. In view of the Applicant's commitment to install any needed additional equipment, the radiological effects on other organisms as described in Section 5.4.2 of the FES will not be substantially affected by the requirements of the new Appendix I Guides (Staff Ex. 5, p. 7).

c. Heat Dissipation System

46. Most of the waste heat from the facilities will be dissipated to the atmosphere by an evaporative closed-cycle system using one large natural-draft cooling tower for turbine condenser cooling for each unit. Under normal two-unit operating conditions a design supply of 72.5 cfs of makeup water will be required. Approximately 90 percent of this makeup water will be drawn from the Chehalis River through induced infiltration to a series of Ranney-type collec-

tors or other subsurface collectors, and the remaining 10 percent will be drawn from the surrounding groundwater aquifer. Approximately 60 cfs of water will be consumptively used by the facilities through evaporation and drift, and 12.5 cfs will be returned to the river as blowdown. A conservative withdrawal rate of 72.5 cfs from the Chehalis River corresponds to approximately 1 percent of the average annual flow rate of the river and 17 percent of the 10-year, 7-day low flow rate of the river.

47. Drawdown will affect approximately 6,000 feet of river channel, resulting in the lowering of river levels by approximately 0.2 feet during the low flow periods and may eliminate some of the riffle sand pools which exist during low tides. In addition, as a result of the Ranney-type intake system, both the marsh, and Elizabeth Creek, a south bank tributary of the Chehalis River which flows through a marshy area just before its confluence with the Chehalis, may be drawn down during low flows (FES §5.2.1). The Applicant has made provisions for mitigating adverse impacts associated with this consumptive use by purchasing releases of 62 cfs of flow from the Wynoochee Reservoir to supplement the Chehalis River during low flow periods (ER §5.1.2; FES §5.2.1).

48. Subsurface water intake systems have been successfully used when suitable water-bearing permeable material is present. The Staff concluded that a Ranney-type intake system utilizing horizontal collectors is far superior to any surface water intake system (FES §9.3.2, Staff Ex. 8). The withdrawal of groundwater will result in a drawdown of the water table away from the Ranney-type collectors. However, in view of the depth of the water table and the depth of wells in the Chehalis River Valley, the small amount of drawdown expected by the plant is not calculated to have an adverse impact on local wells (FES §5.2.2).

49. The Applicant considers either a Ranney-type system or a well field utilizing vertical wells to be equally suitable from the environmental standpoint and preferable to any surface system (ER §10.2.3; ER Appendix to §2.5 (Amendment No. 3)). A feasibility study commissioned by the Applicant indicates that either a well field or a Ranney system can be developed in the area proposed. An essential feature of a subsurface intake system is assurance that no impingement or entrainment of aquatic organisms will occur (ER §5.1.3; FES §5.5.2). The Applicant is committed to the use of a subsurface water intake system. The Staff will require the Applicant to justify any rejection of the presently proposed Ranney-type intake system (Staff Ex. 8).

50. The natural-draft cooling towers rely primarily on the evaporation of water to dissipate waste heat and thus discharge large quantities of water vapor and heat to the atmosphere. As the air passes from the tower and is cooled by the ambient atmosphere, it becomes supersaturated and excess moisture condenses, forming a visible cloudlike plume. The length of the visible plume and the altitude it reaches will depend primarily upon prevailing meteorological condi-

tions, with possible environmental impacts including the initiation of clouds and changes in local rain, drizzle, icing and snowfall patterns. Other than the appearance of the extended plume, the main impact of the elevated plume is the reduction of sunshine reach in the shaded area. The decrease in incoming radiation at ground level is not expected to be significant because of the shifting shadow and the small area affected (FES §5.3.2.2). The plumes rarely, if ever, would reach the ground. Therefore, the threat of ground-level fogging and icing is minimal (FES §5.3.2.3).

51. A small fraction of the cooling water which is carried into the plume as drift carries with it impurities contained in the cooling water. A maximum of approximately 22 gpm of drift (0.002% of the circulating water flow rate) will be ejected from the natural-draft cooling towers. It is estimated that about one-half will be deposited within 1,000 to 2,000 feet of the towers, predominantly to the northeast and southwest. The rest will be dispersed as a very fine aerosol or as dust (FES §5.5.1.1). Although sufficiently concentrated salts deposited directly on vegetation or root uptake of salt might cause osmotic stress and lead to leaf burn and wilting, the concentration and chemical composition of salts from the WNP-3 and 5 cooling towers are not expected to have this effect. During most of the year, salt deposits on plants will quickly be washed away by the abundant rainfall at the site. However, for two months of the summer, rains are less frequent. During this period, drift salts may accumulate and could conceivably induce subtle effects in the more sensitive species of plants, insects, fungi, and microbes.

52. The operation of WNP-3 and 5 will affect the aquatic ecosystem as a result of withdrawal of makeup water from the Chehalis River via the Ranney-type collectors, and as a result of discharge of blowdown into the Chehalis River by means of the proposed discharge diffuser. Drawdown of the water level in the river can expose the productive near-shore habitat and disrupt the spawning grounds of shore-spawning fishes. Low surface water may cause some resident fish to move out of the affected areas, but migrating salmon are able to use shallow channels for passage and should not be unduly affected by exposure of the shallow areas as long as the channel is not obstructed. Nearby Elizabeth Creek and its associated marsh may become dry during low flows. This could result in the blockage of the stream for anadromous fish and loss of resident populations. The Staff has estimated that an annual maximum representing only about 0.1% of the total estimated number of annual juvenile coho and chum salmon migrating past the site will be so affected.

53. The Applicant and the Staff independently analyzed the effect of water discharge to the river. The return pipeline for blowdown to the river will use a high velocity diffuser discharging at a slight positive angle to promote rapid mixing close to the diffuser and to reduce scour and other physical damage to the streambed. Before discharge to the Chehalis River, a supplemental cooling

facility will cool blowdown waters below temperatures of water in the cooling tower. Under the most extreme conditions, including a 25° F temperature difference between river temperature and discharge temperature and the 10-year, 7-day low flow, the Staff has calculated that the maximum temperature excess at the surface is approximately 2° F and the extent of the 3° F isotherm is only approximately eight feet from the diffuser (FES §5.3.1; ER 5.1.3, Tables 3.4-1 and 10.3-1).

54. The turbulence of the diffuser may cause a disorientation for some organisms which normally orient into the current and could cause traps for some organized organisms, causing them to remain in the mixing zone. Almost all migrating juvenile and adult anadromous fish will be able to pass by the diffuser site. Although it is expected that fish will be able to detect and avoid the thermal plume successfully, it is possible that during low flow some disorientation and temporary blockage of fish movements upstream may occur, depending upon the actual configuration and position of the plume. The record in this proceeding indicates that the resident fish population will not be significantly adversely affected by the heat and turbulence associated with the blowdown because of the small portion of the river affected by the discharge and the small temperature difference between the discharge and the ambient river (Tr. 332-336). The heat and turbulence associated with the blowdown will have a minimal effect upon aquatic life.

55. The Staff calculated the increase in chemical concentrations in the Chehalis River due to discharge from the proposed facility (FES, pp. 5-6, Table 5.2). The calculations showed that at the edge of the 3° F isotherm most chemical constituents will not be present in sufficient concentrations to have significant effect on the aquatic ecosystem (FES §5.5.2.3). Some organisms in the downstream drift, including juvenile anadromous fish, will be unable to avoid the higher concentrations within the 3° F isotherm closer to the discharge diffuser. Although exposure times will be short, some deleterious sublethal effects may be experienced.

56. Chlorine will be used as a biocide in treatment of the condensers, makeup lines, and sanitary waste systems. After chlorination, the effluent will be monitored for chlorine concentration before its release into the Chehalis River. When the concentration of residual chlorine in the recirculating water drops to 0.02 mg/l, blowdown will be initiated, to continue for a maximum of one hour if tests for chlorine remain acceptable (ER Amendment 5 (Supp. 7), p. 3.6-4). If it is found that greater chlorine doses will be required, the Applicant will install dechlorination facilities (FES §5.5.2.3, and Tr. 317, 318). The record of this proceeding indicates that Applicant would add no chlorine to the recirculating water while the plant is in blowdown, and that Applicant would be continuously analyzing the blowdown water for chlorine and its byproducts (Tr. 326). In addition, the proposed facilities include cooling tower holdup reservoirs to

control the releases by holding discharge water until such time as the chemical levels reach allowable limits (Tr. 318, 319). At a residual chlorine blowdown concentration of 0.02 mg/l, the effective concentration at the edge of the mixing zone will be below 0.002 mg/l, and thus well below toxic levels for most organisms.

57. The Board concludes that the environmental impacts of the operation of the WNP-3 and 5 heat-dissipation system will be within acceptable limits.

d. Impacts on the Community

58. Operation of the power plant will require the services of about 190 full-time personnel (ER §8.1.2.1.2). The number of vehicles moving to and from the station will be considerably less than that during peak construction (ER §8.1.2.1.2; FES §5.6.1).

59. The influx of operating personnel will not appreciably increase the population nor disrupt social relationships in communities adjacent to the station. The Staff calculated that the total number of people moving into the area, including the operation staff and their families, will probably not exceed 450 people (FES §5.6.2). These people will be distributed in the various communities surrounding the station, so that population of any one community will be little affected. The annual payroll for the operation staff is estimated by the Applicant to be three million dollars; and unlike the situation predicted for the construction period, most consumer spending will occur within 25 miles of the station. Local purchase of goods and services for plant operation and local spending by operation staff are expected to stimulate the local economy. The recreational opportunities of the area will be little affected either by the influx of operating personnel or by the development of the station.

60. Surveys conducted of noise at existing nuclear units of similar design have shown levels to be 40dB(A) at 4,000 feet (the approximate exclusion radius) from the source (FES §5.1.1). Noise ratings for normal conversation at 12 feet are 50dB(A), and a soft whisper at 15 feet are 30dB(A). It is concluded that the expected noise level of 40dB(A) is acceptable.

61. Local residents of the Chehalis River Valley, as well as motorists traversing the more immediate portions of U.S. Highway 12, will be able to see the cooling towers above the southern skyline. The domes of the reactor buildings will also be visible from certain points (FES §4.4.1). The aesthetic impact will be minimized by the simple symmetry and subdued coloring of the structures. The natural-draft cooling towers, and to a lesser extent, the mechanical-draft cooling towers will create visible plumes and some fogging at higher elevations. Plumes will be greatest during the fall and winter months when local weather is characterized by overcast conditions and light rain and drizzle (FES §5.3.2 and 2.6.1; ER §5.1.1.2). The plume is not expected to create ground-level fogging

nor decrease incoming sunlight significantly. Because of the remoteness of the station, the general public will be unaffected by exhaust fumes from auxiliary boilers, diesel engines, and similar equipment, as well as dust emissions associated with plant operation (FES §5.6.1).

e. Summary of Operation Impacts

62. The Board finds that the impacts on the site area from operation of the facility have been adequately described and evaluated. The Board further finds that the operation will not have a significant impact on the terrestrial and aquatic biota on or near the site. Further, the influx of operating personnel will constitute a minimal impact on the communities near the site. The Board notes that the site is sufficiently remote so that visual impacts are small and the noise levels will be acceptable offsite. The air pollution from occasional operation of the auxiliary boilers, diesel engines and similar equipment will not be significant.

3. Environmental Monitoring

63. A preoperational environmental monitoring program for WNP-3 and 5 was described by the Applicant in ER §6.1. Staff Analysis of this program determined that the hydrological, meteorological and radiological monitoring would be adequate if the following modifications were adopted (FES §§6.1.1, 6.1.2, and 6.1.4):

- a. Install a gaging station at the intake site (RM 17).
- b. Include grab samples (quarterly) for water quality analysis of Fuller Creek and the unnamed creek north of the site.
- c. Conduct surveillance and measurement of depths of the "green banks" area just upstream of the intake site during periods of normal, high, and low flows.
- d. Determine groundwater quality by chemical analysis of water from several nearby wells on the north side of the Chehalis River.
- e. Monitor water levels in these wells (quarterly).
- f. Set a level for gross beta content in airborne particulates and groundwater above which gamma isotopic analysis of an individual sample will also be performed (e.g., 1 pCi/m³ air and 30 pCi/l water).
- g. Initiate sampling and analysis of goat milk as for other milk.
- h. Initiate analysis of green leafy vegetables for I-131.
- i. Initiate soil sampling and analysis program.
- j. Collect shellfish and crabs at Grays Harbor and analyze as indicated for benthos.
- k. Collect game animals and game birds of commercial and recreational importance and perform appropriate radiological analyses.

64. The Applicant's ecological monitoring program, as originally proposed, was found inadequate by the Staff (FES §§6.1.3.1 and 6.1.3.2). A revised program (Applicant Ex. 15), including extensive terrestrial and aquatic studies, was reviewed by the Staff. On November 4, 1975, an affidavit detailing the conclusions of this review was presented; the Staff moved that it be admitted into evidence. The Board received this affidavit into the record of the proceeding as Staff Ex. 6. This affidavit states that the following monitoring programs will supply sufficient information on which to evaluate the terrestrial impacts of WNP-3 and 5:

- A. Use infrared photography on periodic aerial photogrammetric surveys of vegetational communities which are subjected to drift effects from cooling towers.
- B. Make photographic transects (color and infrared) of lichen as an indicator organism for cooling tower drift effects.
- C. Monitor chemical composition of the drift, including replicate analyses of major components.
- D. Establish procedures and instructions to control and monitor construction impacts as recommended in Regulatory Guide 4.2, paragraph 4.5 (Revision 1, 1975).

The Staff considers the remaining ecological studies proposed by the Applicant to be necessary.

65. The Applicant's revised aquatic monitoring program was reviewed by the Staff and found acceptable with the following addition:

Establish an additional benthos/drift and periphyton station at the Chehalis River holding area above the discharge.

The additional station should be constructed in order to provide a reference station located outside the immediate influence of the plant cooling water discharge.

66. The Board finds that the preoperational environmental monitoring program, if revised to include the above modifications and additions, will provide an effective program to establish the baseline characteristics of the site environs and are therefore acceptable.

4. Fuel Transportation and Uranium Fuel Cycle

67. Transportation of fuel to and from the site and transportation of radioactive waste from the site will be in accordance with Commission regulations, requirements of the Department of Transportation, and applicable state regulations (ER §5.3.4; FES §5.4.2.5, Table 5.10). Under normal shipping conditions, there will be small unavoidable radiation exposure to the transportation person-

nel and to the general public along the route. Under postulated accident conditions, the probability of significant exposure is small (FES §7.2). The Board finds that the transportation of new fuel to the facility or spent fuel and radioactive wastes from the facility will have minimal environmental impact as represented in 10 CFR Part 51, Table S-4.

68. On July 21, 1976, the United States Court of Appeals for the District of Columbia Circuit held in *Natural Resources Defense Council* ("NRDC") v. *Nuclear Regulatory Commission*, 547 F.2d 633 (D.C. Cir. 1976), cert. granted sub nom., *Vermont Yankee Nuclear Power Corporation v. NRDC*, 45 U.S.L.W. 3570 (U.S. February 22, 1977),¹⁰ that the portion of then Table S-3 of 10 CFR Part 51 which accounted for the environmental impacts associated with the spent fuel reprocessing and waste management phases of the uranium fuel cycle was defective under NEPA. In response to the *NRDC v. NRC* decision, the Commission suspended further licensing activities, and reopened the uranium fuel cycle rule making proceeding which has produced Table S-3. In addition, the Commission directed that the Staff conduct a documented environmental analysis to supplement WASH-1248, "Environmental Survey of the Uranium fuel cycle rulemaking proceeding which has produced Table S-3. In addition, the Commission directed that the Staff conduct a documented environmental (August 16, 1976). The Staff's analysis (NUREG-0116) was issued on October 18, 1976, and the Commission issued for public comment a proposed interim rule to replace Table S-3 pending completion of the reopened rulemaking proceeding. See 41 Fed. Reg. 45849 (October 18, 1976).¹¹

69. On November 5, 1976, the Commission concluded that licensing of light-water reactors could be resumed on a conditional basis using the values for reprocessing and waste management set forth in original Table S-3 (41 Fed. Reg. 49898, November 11, 1976). However, the Commission also directed that the revised values presented in the proposed interim rule must be examined to determine whether use of those values would tilt the cost-benefit balance against issuance of the license. The Staff conducted its analysis on this basis, and on February 24, 1977, submitted its evidence in the form of an affidavit of Mr. Jan D. Norris, which the Board received into evidence as Staff Exhibit 11.

70. The Staff assessed the environmental effects of the uranium fuel cycle in Table S-3 and concluded that the fuel cycle effects presented in Table S-3 are sufficiently small so that when they are superimposed upon the other assessed environmental impacts associated with WNP-3 and 5 the overall environmental

¹⁰On October 8, 1976, the Court of Appeals stayed its mandate in the *NRDC v. NRC* case. The grant of *certiorari* by the Supreme Court on February 22, 1977, has the legal effect of continuing the stay of mandate (42 Fed. Reg. 13803, n. 4 (March 14, 1977)).

¹¹The comments received relating to the proposed interim rule and the Commission's responses thereto were published by the Commission in March 1977 (NUREG-0216).

impacts are not appreciably changed. In accordance with the Commission's directive contained in the Supplemental General Statement of Policy, the Staff also assessed the effect of using the revised chemical processing and waste storage values set forth in the Commission's Notice of Proposed Rulemaking of October 18, 1976, on the cost-benefit balance for WNP-3 and 5. The Staff concluded that these impacts are so small that there is no significant change in impact from that associated with the effects presented in Table S-3 and, accordingly, the use of the fuel cycle effects presented in Table S-3, with consideration of the revised values set forth in the Commission's Notice of Proposed Rulemaking of October 18, 1976, does not alter the overall cost-benefit balance for WNP-3 and 5.

71. On March 14, 1977, the Commission published an effective interim rule setting forth revised values for the environmental impacts of the spent fuel reprocessing and waste management phases of the uranium fuel cycle (42 Fed. Reg. 13803). Some values set forth in the new interim rule differ slightly from the corresponding values established by the Commission in NUREG-0116. However, the Commission determined that the difference was so small that in cases pending before Boards in which the evidentiary record on the fuel cycle impact issues has been compiled, the cases are to be decided on the basis of the existing record without substituting the interim rule values for the values contained in the previously proposed rule. As noted, the Staff, on February 24, 1977, filed an affidavit by Jan Norris which presented an evaluation of the environmental effects of the uranium fuel cycle in Table S-3, thereby completing the evidentiary record for WNP-3 and 5 on fuel cycle impacts. Accordingly, the Board determined that no further testimony was required to be filed, nor was any received, in this case regarding the fuel cycle.

72. The Board finds on the basis of the existing record, including Staff Exhibit 11, that the environmental impacts associated with the uranium fuel cycle (including the spent fuel reprocessing and waste management phases of that cycle) are not significant and do not tip the cost-benefit balance against licensing of these projects.

5. Environmental Effects of Plant Accidents

73. The environmental effects of postulated accidents have been assessed by the Applicant (ER §7). The Staff has reviewed the Applicant's assessment, has made independent calculations, and has concluded that the environmental risks are extremely small (FES §7). The radiological effects of accidents on the environment have been assessed using the standard accident assumptions and guidance issued as a proposed amendment to Appendix D to 10 CFR Part 50 on December 1, 1971 (36 FR 22851). When considered with the probability of occurrence, the annual potential radiation exposure of the population from all

postulated radiological accidents is a very small fraction of the exposure from natural background. The Board finds that the environmental risks due to postulated radiological accidents are extremely small.

6. Need for Power

74. WPPSS, the Applicant, is not a conventional utility engaged in the generation, distribution, and retail sales of electric power. The Applicant is a joint operating agency of the State of Washington which is legally empowered to acquire, construct, and operate facilities for the generation and transmission of electric power. It has 21 members, including the cities of Richland, Seattle, and Tacoma, and 18 public utility districts. It does not sell electricity directly to consumers.

75. WNP-3 and WNP-5 are to be constructed and operated to supply power for the Hydro-Thermal Program developed jointly by utilities of the Pacific Northwest and the Bonneville Power Administration. BPA is the dominant factor in transmission of power. The entire output of WNP-3 and 5 will be delivered to BPA in exchange for BPA power supplied to the consumer and investor-owned utilities which have contracted with the Applicant to pay the plant costs over its life.

76. The major source of power in the Pacific Northwest is hydroelectric, but the annual electric energy output of hydroelectric projects in the West Group Area is limited by the total water abundance. Therefore, water must be conserved. The peak output from power houses supported by storage reservoirs can be increased by installation of additional turbines and generators. This approach to meeting growth peak loads allows the region to adopt relatively low reserve requirements and is substantially less expensive than the available alternatives such as combustion turbine units or cycling steam units. One of the principal goals of the hydrothermal program for the Pacific Northwest is therefore the provision of additional hydroelectric capacity to meet the peak demand period.

77. The role of fossil-fired and nuclear steam plants for the region is primarily to satisfy the expected growth of energy consumption on an average rather than peak demand basis. Although base load steam plants contribute to available capacity at times of peak demand and thereby reduce the need for additional hydroelectric capacity, it would be uneconomical to add base load capacity mainly to meet peak demand (FES 8.2; Connor, following Tr. 191). WPN-3 and 5 will be constructed and operated to meet the anticipated annual energy load, not the peak demand, of the West Group Area. The Board has evaluated the need for the facility on this basis.

78. Because of the strong interconnections provided by the BPA transmission system and because of established patterns of close coordination, the

electric utility organizations within the Pacific Northwest region have formed a single regional system, known as the West Group Area. The West Group Area includes Washington, Oregon (with minor exceptions), southern Idaho, the eleven western counties of Montana, and a small portion of northern California. Five privately owned utility companies and 104 publicly owned utilities and cooperatives distribute electric power within the region. Nineteen large industrial customers purchase power directly from BPA. In terms of aggregate average demand for power, the private and public utilities are comparable, current demand for each group being on the order of 5,000 MWe (FES 8.1).

79. In the Pacific Northwest, five private utilities, 104 publicly owned agencies, WPPSS and BPA have formed the Joint Power Planning Council to coordinate planning for thermal and hydroelectric resources for the region. The Joint Power Planning Council has developed the Hydro-Thermal Power Program for power generation to meet the anticipated regional load growth. Long range planning for resources to meet loads is based upon studies prepared by the Pacific Northwest Utilities Conference Committee (PNUCC), which prepares for the region an annual 11-year forecast ("Forecast"). The 1975, 1976, and 1977 Forecasts are Applicant's Exhibits 10, 29, and 34, respectively. PNUCC also expands the Forecast into a 20-year planning document titled "Long-Range Projection of Power Loads and Resources for Thermal Planning-West Group Area," commonly termed the "Blue Book." These documents form the basis for utility planning for future resources in the region. Since it will be the function of these facilities to serve the energy requirements of public and private bodies throughout the Pacific Northwest, the energy demand characteristics of the region are viewed as those pertinent to the licensing of these facilities (ER § 1.1; FES §8.1).

80. The 11-year forecasts use judgmental factors and, in the case of most of the major utilities, they use building block techniques. This technique builds load estimates by components. Reliance is placed on historical information, trends, and judgments as to such matters as future population growth, and use of energy by residential, commercial and industrial sectors, as well as the number of judgmental experience factors associated with the individual utility service area. Population projections are the keystone of the load estimates of each utility. The significant factor regarding population in estimating loads in the 1980's is that portion of the population which will affect power requirements in that time frame. Experience has shown that electric energy use is sensitive to the number of adult members of the population but not to the number of children. Adults account for the number of households and the number of jobs using electricity.

81. Annually each utility in the West Group Area reviews the load forecasts it made in the previous year, to determine if the projections are still valid. If changed conditions are noted, the forecast is revised. Estimates of energy availability are then made, and adjusted as necessary to reflect current construction

schedules and planning dates. These revised forecasts of loads and estimates of energy availability are transmitted to the PNUCC where they are compiled on a yearly basis. The totals then become the data used in the West Group Forecast (ER §1.1; Gallup, Tr. following p. 197).

82. The Board reviewed the power needs as presented by Applicant and Staff witnesses (Gallup, following Tr. 197; Applicant Ex. 28, Anderson, following Tr. 204; Connor, following Tr. 191; and Staff Ex. 10), as well as forecasts by BPA (Applicant Ex. 7) and the 1975, 1976 and 1977 West Group Forecasts (Applicant Exs. 10, 29, and 34). These statistics indicate that the power consumption growth rate for the 15 years prior to 1975 was about 5.6% per year (FES 8.2.1 and Table 8.1; Applicant's Ex. 10). The Staff testimony provided a graphic presentation plotting the average Native Firm Load for the Pacific Northwest region vs. the year. The graph had actual values to June 30, 1974, and projected values thereafter (FES Figure 8.2). Actual values for more recent years were not provided in the updated information on Need for Power requested by the Board (Applicant Exhibits 28, 29 and 34; Staff Exhibit 10). In evaluating the slope of the line representing the historical values of average load plotted from mid-1969 through mid-1974 (solid triangles), the Board finds load growth value of approximately 3.7% per year in contrast to the 5% per year value indicated by the projected load values (open circles). The Board has extrapolated this 3.7% per year growth line to 1985 and finds a projected load of 17×10^6 KWe, compared to about 21×10^6 KWe for the 5% growth line. This decrease of about 4×10^6 KWe in 1985 projected load represents roughly the excess output of four nuclear power units of 1×10^6 KWe each. It was noted that the 3.7% per year growth line is consistent with the lower range of load growth values resulting from the Applicant's econometric study of energy requirements for the West Group Area (Anderson, Tr. 204). Subsequently, the 1976 Forecast was revised downward from 5% per year to project 4.8% in average annual energy load growth over the next 10 years (Applicant's Exhibit 29).

83. The 1977 Forecast indicated a further decline in growth rate with an average annual increase now projected at 4.5% (Applicant's Ex. 34). The Board notes that the projected energy loads in 1984-85 have dropped from 22,581 megawatts in the 1975 forecast to 22,027 megawatts in the 1976 forecast to 21,401 megawatts in the 1977 forecast.

84. The Board considered the effect of overestimated demand on the cost of power. A witness for the Applicant observed that capital carrying costs due to excess capacity are mitigated by the following factors: (1) demand for electricity will continue to grow, so any excess in generating capacity would probably disappear in one or two years; (2) during that period, excess power could be sold outside the West Group Area; (3) thermal generating units with higher operating costs could be retired, as they were replaced by nuclear units with lower operating costs; and (4) the Applicant could stretch construction

schedules if overbuilding were anticipated. Applicant's witness noted that pre-building capacity is actually cheaper when construction costs escalate faster than cost of capital (Anderson, Tr. following p. 204; Conner Tr. 256-261).

85. According to Staff testimony a prematurely built plant, with no market for its power, would increase costs in correspondence to fixed charges for plant ownership during the period of no sales of power. Such costs would be about 44 million dollars per year. However, readjustments are always possible in a system as large as WPPSS, so that some use of the plant would surely reduce these losses. As an example, BPA has the capability of sending power generated by the West Group Area over the intertie transmission lines to California at a rate of about 3½ million kilowatts. Therefore, surplus power could be exported to California, alleviating the financial impact of excess generating capacity in the West Group Area. An additional advantage of substituting this power for power generated by oil-fired plants in California would be reduction of pollution and lowered costs for California consumers.

86. The Board considered the effect of increased power costs on residential consumer demand for power (Tr. 219). The Forecast considered alternative sources of energy available to homeowners and also computed increased costs of these alternative energy sources in the future (Tr. 219; Gallup, pp. 19-28, following Tr. 197). Some electrical uses such as lighting, refrigeration, and motors have no alternative energy source. The convenience of these items is a strong deterrent to major reduction in loads. Other residential demands for electricity such as cooking and heating would be relatively elastic if alternative fossil fuels were available and if the cost of electricity were to rise to the point where a shift to fossil fuels were economically attractive. However, such substitution of fossil fuels for electricity is unlikely in the Pacific Northwest. In the last 15 years, a high percentage of new houses adopted electric heating, not only because of the relatively low cost of electric power in the Pacific Northwest but also because natural gas had only limited availability. Cost and availability of gas and cost of oil, will continue to limit use of these alternative energy sources in the Pacific Northwest. Conversion to fossil fuels in electrically heated houses would require installation of chimney flues at considerable expense. Increasing use of insulation in housing, more efficient uses of lighting, and increased efficiency of electrical appliances were also considered by the forecasters.

87. Conversions from oil heating to electric heating will probably accelerate (Tr.219-221). Energy conservation, in response to increased cost will tend to counterbalance this acceleration. Conservation, in conjunction with elimination of promotional activities by utilities, will reduce the future growth and consumption (FES 8.2 and Tr. 222 and 223). When all factors are considered, the use of electrical energy is more likely to increase due to population growth, rising cost of alternative sources and scarcity of alternate sources, than it is to decrease due to conservation practices.

88. The Board considered the effect of variations in temperature on demand for power, and raised the possibility of climatic changes (e.g., a long-term warming) reducing the overall demand. The record indicates that by 1986, a change of 1 degree-day will cause a change of about four million kilowatt hours of consumption. Thus, a climatic change of 1° average temperature (a large change) would alter demand by less than one major power plant. Given the present state of knowledge on climatic variation, there is very little confidence that a utility person could safely predict such changes. Historical data indicates that western Washington has experienced little, if any, change in temperature (less than 1°F) from the mid-19th century to the present (Tr. 248, 249; Staff Ex. 2).

89. A comparison between loads and resources is made in the Forecast to determine whether projected resources are adequate to meet projected loads. When deficiencies are detected, the utilities coordinate plans to meet them. Conversely, when surpluses are detected, the utilities coordinate plans to defer surplus resources.

90. A licensing and construction milestone method was used for the first time in predicting estimated resources in the 1975 Forecast. This method incorporates slippages based upon national trends. It was noted that it would be highly optimistic to assume that all new resources will be completed as scheduled using the milestone approach (Gallup, Tr. following p. 197, Attachment A, Sheets 1.5 and 1.6). The 1976 and the 1977 Forecasts reveal that milestone operating dates for several generating facilities have slipped relative to corresponding dates in the 1975 Forecast. These slips more than offset the decreases in energy loads forecast in the 1976 and 1977 Forecasts (Applicant's Ex. 29, 33 and 34). According to the 1977 forecast there will be a deficit of 1647¹² megawatts in 1983-84.

91. On March 17, 1977, Applicant sent a letter to the Staff updating the expected earliest and latest construction completion dates for WNP-3 to November 1, 1982, and November 1, 1984, and for WNP-5 to May 1, 1984, and May 1, 1986 (letter from D. L. Renberger to Bernard C. Rusche dated March 17, 1977 - Applicant Ex. 35). Applicant also updated its projected commercial operation dates for WNP-3 and 5 to July 1983 and January 1985, respectively (*Id.*). The delay in scheduled operation for WNP-3 and 5 will prolong the period of expected energy shortages in the West Group Area predicted by Staff witness Donald W. Connor, based on the 1976 West Group Forecast (Testimony of Donald W. Connor, p. 2 following Tr. 191; Tr. 294-95, 278; Staff Ex. 10).

92. According to the 1977 Forecast the projected deficit will be reduced

¹² Quoting resource deficiencies to three or four significant figures may cause false assurance in their accuracy considering that the 1985 projected loads may be uncertain by as much as the output from four nuclear power units, as noted earlier.

only to 701 average megawatts of resources in 1984-85 when WNP-3 is expected to provide power.¹³ When reserve requirements of 407 average megawatts are included in the estimate of energy loads, this deficiency looms even greater. Thus, the total critical period energy deficiency (including reserves) for the year 1984-85 is estimated to be 1108¹⁴ megawatts of resources. The deficiency in 1984-85 could be even greater, if any of the planned generating facilities in the region should again slip in schedule such that resources credited to these facilities in the 1977 Forecast for 1984-85 are unavailable. These facilities include WNP-3, WNP-4, and Skagit Unit 1. Likewise, a deficiency would result in 1985-86 if the energy from WNP-5 and Pebble Springs 1 should not be available at that time (Applicant's Exhibit 34).

The Board noted that two plants show advanced operating dates (Applicant's Exhibit 34); nevertheless it must assume further slippages to be more probable than further advances.

93. In 1985-86 (when the 1977 Forecast predicts that the energy from WNP-5 will be available), the Forecast indicates that there will be a deficiency of approximately 4 average megawatts, assuming that all planned units are completed as scheduled. When reserve requirements of 436 megawatts are included, the estimate of energy deficiency for 1985-86 becomes 440¹⁵ megawatts of resources (Applicant's Exhibits 33 and 34).

94. Based on this Forecast and historical stream flow records, the probability that projected average capacity will be adequate for projected firm loads in every year through 1986-87, even if WNP-3 and 5 are completed on schedule, is only 45 percent (Applicant Exhibit 34, Table - Estimated Loads and Resources). The Staff testified that any probability under 96 percent for the Pacific Northwest must be judged to be inadequate (Connor, Staff Ex. 10, p. 3).

95. The Board has considered effects of energy conservation that growth rates may have been overestimated, and that the proposed plants may become unnecessary. Weighing the effect of reduced supplies of alternate energy sources, the future population patterns, the substantial danger of power shortage should projected growth rates be correct, and considering the available mitigating actions should the forecasts prove wrong, the Board concludes that there will be a need for the baseload energy which can be produced from WNP-3 and WNP-5.

¹³The 1977 West Group Forecast schedules WNP-3 and WNP-5 for commercial operation in May of 1983 and November of 1984, respectively. However, for realistic planning purposes, the West Group Forecast does not take credit for the capacity from WNP-3 and WNP-5 until May of 1984 and November 1985, respectively (Applicant's Exhibits 33 and 34).

¹⁴Note 12, *supra*.

¹⁵Note 12, *supra*.

The revised schedule for commercial operation is now given as July 1983 for WNP-3 and January 1985 for WNP-5.¹⁶

7. Consideration of Alternatives

96. The Applicant considered possible alternative means for furnishing the projected energy capability of the facilities. These included purchase of power, hydroelectric power, fossil fuel plants, and geothermal energy. The Staff independently evaluated alternative energy sources (ER § 9.1, 9.2; FES § 9.1).

97. Purchased power would be a viable alternative only if the utilities of another region were prepared to export large amounts of power on a long-term basis. This is not the case at present and there is no general economical or environmental rationale for the development of excess new thermal plants by neighboring utilities outside the region for this purpose. Only coal is considered to be a viable alternative means of generating the electricity required by the West Group Area. Other energy sources such as natural gas, petroleum liquids, municipal solid wastes, and hydroelectric are in short supply. The technologies for exploiting solar or wind power cannot yet produce central station power in the quantities needed at reasonable cost. The existing combustion turbine generating capability within the region consists of small oil-fired plants which would be uneconomical for use in baseload generation for the area (FES § 9.1).

98. The Staff considered the alternatives of a coal-fired plant located either at the proposed Satsop site or near a mine in Montana or Wyoming. The environmental costs of a coal-fired plant located at the proposed Satsop site include the consumption of an irreplaceable resource (coal), significant emission to the atmosphere of sulphur, dust, and oxides of nitrogen, and production of a large volume of solid ash waste. If the coal-fired plant were located near a mine-mouth, there would be additional environmental costs of constructing nearly 1,000 miles of new transmission lines. The Staff's estimates of the comparative economic costs of both coal-fired plant alternatives versus the proposed nuclear plant favors the nuclear plant due to lower generating costs (FES § 9.2.2 and Tables 9.4 and 9.5).

99. The Staff evaluated the health effects attributable to the entire fuel cycles for both the coal alternative and the nuclear alternative and concluded that, while the increased risk of health effects for either fuel cycle represents a

¹⁶ March 17, 1977, letter D. L. Renberger, WPPSS, to B. C. Rusche, NRC. This letter states that:

Prior to commencement of safety hearings in this matter, the Applicant will submit to the NRC an amendment to the formal application reflecting that the earliest and latest dates for completion of construction for WNP-3 are now November 1, 1982, and November 1, 1984, respectively, and for WNP-5 are now May 1, 1984, and May 1, 1986, respectively.

very small incremental risk to the average member of the public, the nuclear fuel cycle is considerably less harmful to man than the coal fuel cycle. Although there are large uncertainties due to lack of adequate data, the coal fuel cycle may be more harmful to man by factors of 4 to 290 (depending on the effect being considered), for an all nuclear economy, or by factors of 3 to 23 using the assumption that all of the electricity needed in the uranium fuel cycle comes from coal-powered plants (Staff Exhibit 13).

100. In considering the viability of geothermal energy as an alternative to nuclear power, the crucial issue is the time within which potential geothermal resources may be discovered, developed into proven reserves, and finally developed into producing fields with associated generating facilities. As of October 1974, there had been no wells drilled in Washington to test or evaluate any potential geothermal resource. No leases may be issued until environmental impact statements for exploration activities on Federal lands are issued by the Forest Service. The Forest Service has no present plans to issue impact statements involving that area in Washington generally recognized to be most promising from a geothermal resource standpoint.

101. An analysis of potential geothermal resources for electric energy production was commissioned by the Applicant to verify the conclusion in the ER and FES that geothermal resources could not provide the energy which would be available from the nuclear facilities in the specified time frame. The Applicant's witness testified that the focus of the analysis was on the central part of Washington. The literature and ongoing leasing activity indicate that this area is the most likely to be developed. The geothermal resource most likely to be found in Washington is a liquid-dominated system of low salinity at temperatures between 100°C and 200°C. There are numerous technological constraints for liquid-dominated geothermal resources at such low temperatures. Only 400-500 MWe of installed capacity using liquid-dominated systems exists in the world. These involve systems characterized generally by higher temperature fluids than those expected in Washington (Tillson, Tr. following p. 346). The study concluded that there are no proven geothermal reserves of the quality which would support the generation of electricity in quantities needed for the area (Applicant Exhibit 13; Tr. 349-365).

102. The Staff concluded that it would be unrealistic to defer needed nuclear generating capacity in anticipation of successful exploration for and development of geothermal resources. The Board agrees that geothermal sources are not viable alternatives to the proposed nuclear facilities, that only coal offers a viable alternative to nuclear power as a means of generating the electricity required by the West Group area (FES §9.1.2), and that a comparison of the economic and health costs of coal-fired plant alternative versus the proposed nuclear plant favors the nuclear facilities.

103. The Applicant has considered numerous alternative sites. The Staff

made an independent evaluation (ER §9.3; FES §9.2.1). In 1972, Applicant contacted the consulting firm of Dames & Moore which carried out a study identifying ten potential sites in western Washington. After an initial evaluation, these were narrowed down to five sites: Horn Creek, Lacomas Prairie, Delezene Creek, the Hanford Reservation, and the Satsop site. These sites were evaluated with regard to the existing land use, the surrounding population, accessibility to roads, railroads and transmission lines, water quality, the existence of known faults, foundation material, and meteorological conditions. Numerical ratings were assigned to derive rankings for the sites. The Staff assessed the alternative sites and found that the method used by the Applicant was reasonable, and that Satsop was the preferable site. The Board finds that the Staff's independent assessment of the alternative sites is adequate.

104. Both Applicant and Staff analysed possible modifications to the proposed plant design that might significantly change the balance between economic and environmental costs. The cooling system for WNP-3 and 5 is required to dissipate 8.7×10^9 BTU/hr/unit when the plant is operating at full load. Six methods of dissipating waste heat from steam electric power plants were considered: once-through cooling, cooling lakes, natural-draft evaporative cooling towers, mechanical-draft evaporative cooling towers, spray canals, and dry cooling towers (FES §9.3.1).

105. The Board agrees with Staff and Applicant evaluations that once-through cooling is not a viable alternative because of lack of sufficient cooling water in the Chehalis River. The Staff also concluded that such a system would fail to meet the water quality standards of the State of Washington.

106. Mechanical-draft cooling towers also are rejected because of the atmospheric impacts. This alternative has a greatly increased potential for ground-level fogging and icing caused by the relatively low discharge point for the water vapor from the towers.

107. Wet and dry mechanical-draft cooling towers, although environmentally acceptable at the site, compare unfavorably with the natural-draft cooling towers from an economic and environmental standpoint. A spray canal as an alternative has disadvantages consisting of economic and atmospheric impacts. More fogging and icing would occur with spray canals than with the natural-draft towers. The capital, operation and maintenance costs are greater with the spray canal. The construction of a cooling lake is not a technically feasible alternative due to the lack of suitable flat land near the plant. It would likely create a fogging problem at the site.

108. Dry cooling towers were considered. They function without large quantities of cooling water, and without creating drift, fogging, icing problems, or blowdown dispersal. Dry cooling towers would effectively reduce plant energy production by 5 to 15% depending on ambient temperatures. Bus-bar energy costs can be expected to be about 20% more with dry cooling towers

than with a once-through system and 15% more than with a wet cooling tower system. Some air pollution problems can be encountered, as well as noise generation and aesthetic disadvantages. About 10 acres per unit would be required to accommodate the dry cooling towers. Additional area would be required for maintenance access, piping runs, clearance, condensate storage tanks, etc.

109. Natural-draft cooling towers rely primarily on the evaporation of water to dissipate waste heat and thus discharge large quantities of water vapor and heat to the atmosphere. As the air passes from the tower and is cooled, it becomes supersaturated and the excess moisture condenses, forming a visible cloudlike plume. Because of momentum and buoyancy, the plume rising from a tower will usually continue to rise, carrying with it evaporated water and a mist of water droplets called "drift." The length of the visible plume and the altitude it reaches will depend primarily upon prevailing meteorological conditions. Because a tower discharges large amounts of heat and water vapor from a small area, the possibility exists that inadvertent weather modification will occur in the locale. It is conceivable that the fallout of salts contained in the drift could produce adverse effects. Based on experience at operating cooling towers, the Staff agrees with the Applicant's conclusion that the drift rate will be very small and, due in part to the high quality of the circulating water, no significant salt depositions will occur on or off the site. Experience at power plants with such towers indicates that the primary impact will be the visual intrusion of the large size of the towers themselves and of the visible plumes aloft (ER §3.4, 5.1; FES §3.4, 5.3).

110. The Board concludes, after weighing the overall advantages and disadvantages of the various alternative cooling systems, that the natural-draft cooling towers are most advantageous from economic and environmental considerations.

111. The Ranney-type water intake system proposed by the Applicant will be located adjacent to the south bank of the Chehalis River approximately midway between the Satsop and Wynoochee River. Placement of the Raney-type system will involve an area of about 5 acres and the collectors will draw water at a depth of about 80 to 100 feet (FES, §9.3.2). An alternative location for the water intake was considered by Applicant, but tests revealed that sufficient water did not exist for the two operating plants without causing excessive draw-down. The Ranney-type intake system is superior to any surface water intake system. It draws water from underneath the stream bed and avoids impact due to impingement or entrainment of aquatic organisms. A well field was considered and would also alleviate any problem of impingement or entrainment. The Board concludes that adequate consideration was given to the choice of the location and type of intake system.

8. Cost-Benefit Analysis

112. The Staff conducted a cost-benefit study and concluded that the proposed design, as set forth in the Staff's Final Environmental Statement is an acceptable choice, after weighing the economic, environmental, and technical costs and benefits. The Staff determined that the benefits from WNP-3 and 5 far outweigh its cost (FES 10). In accordance with the Commission's rules and regulations and Notice of Hearing published in the *Federal Register* on August 23, 1974 (39 Fed. Reg. 30535), the Board has independently considered the costs and benefits of the proposed facilities based upon the evidence of record and has arrived at an overall cost-benefit balance.

113. The Board finds that the principal benefit of the proposed project is the addition of 16.3 million megawatt hours per year of electricity which is needed to provide reliable electric service to residential, commercial and industrial users in the Pacific Northwest. A rated electrical generating capacity of 2480 megawatts will be available over the life of the plant for baseload operation in the Applicant's system.

114. The Board finds on the basis of its independent analysis that the principal environmental and economic costs are as follows:

- 1) Removal from timber production or other use of approximately 325 acres during construction;
- 2) Removal from timber production of approximately 150 acres during operation;
- 3) Use of about 1,500 acres for transmission line right-of-way;
- 4) Temporary disturbance of the river bank and bottom during construction of the discharge diffuser and the barge facility. About one mile of river bank, presently privately owned, will be temporarily removed from recreational use due to construction of the Ranney-type collectors, the discharge structures, and the barge facilities;
- 5) Some unavoidable temporary adverse environmental impacts during construction, such as minor soil erosion and loss of vegetation and small mammals;
- 6) Community impacts, including increased traffic on local highways during construction;
- 7) The station structures, transmission towers and lines, and vapor plumes from the cooling towers will be observable in rural and forest scenery;
- 8) Chemical deposition, principally salt from operation of the cooling towers, will occur on the site and to a lesser degree on the land surrounding the site and may alter salt sensitive flora and fauna;
- 9) Consumptive use of water of 60 cfs with both units in operation, equal to approximately 0.9% of average Chehalis River flow;

- 10) Small chemical and thermal discharges to the river and minor environmental effects near the discharge structure;
- 11) Release of a small quantity of radioactive materials during normal operation, although their effect will be negligible. The Staff's "upper-bound" analysis indicates that the annual doses from all effluent pathways from WNP-3 and WNP-5 received by the U.S. population will not exceed 61 man-rem to the total body and 74 man-rem to the thyroid (Staff Ex. 4). Considering a value of \$1,000 per man-rem, the overall cost represented by the dose estimates are found to be very small, less than \$200,000 per year, or less than 0.2% of the annualized station cost;
- 12) A small risk of accidental release of radioactive materials either onsite or during transportation.
- 13) A small environmental cost related to the uranium fuel cycle. In accordance with the Commission's directive contained in the Supplemental General Statement of Policy, the Staff reassessed this cost using the chemical processing and waste storage values set forth in the Commission's Notice of Proposed Rulemaking of October 18, 1976, and concluded that the change from previous assessment based on Table S-3 would be insignificant; the use of the revised values set forth in the Commission's Notice of Proposed Rulemaking of October 18, 1976, does not alter the conclusions of the benefit-cost balance;
- 14) Consumptive use of uranium fuel resources;
- 15) The capital and operating costs of the plant.

115. Based upon the entire record in this proceeding, the Board finds that a systematic, interdisciplinary approach has been employed in the environmental (NEPA) review of WNP-3 and WNP-5, that environmental factors have been given appropriate consideration in decision-making along with technical and other considerations, and that evaluation of alternatives to minimize environmental impacts and suitable cost-benefit analyses, as required by NEPA and 10 CFR Part 51, have been conducted.

116. The Board finds that the benefits of operation of WNP-3 and WNP-5 outweigh the environmental, economic, and other costs, and, therefore, the balancing of these factors favors issuance of construction permits for the proposed facilities, if such action is also found to be warranted following completion of the health and safety portion of this proceeding.

III. FINDINGS OF FACT-SITE SUITABILITY

117. The Applicant and the Staff have independently evaluated the suitability of the proposed site for WNP-3 and WNP-5 from the standpoint of radiological health and safety considerations. The evaluation has included a considera-

tion of the reactor site criteria identified in 10 CFR Part 100 of the Commission's regulations (PSAR §2; Staff Report following Tr. 189).

118. In accordance with 10 CFR §50.10(e)(2), the Board has reviewed the site proposed for WNP-3 and 5 to determine whether, based upon the available information to date, there is reasonable assurance that the proposed site is a suitable location for nuclear power reactors of the general size and type proposed from the standpoint of radiological health and safety considerations under the Atomic Energy Act of 1954, as amended, and rules and regulations promulgated by the Commission pursuant thereto.

119. The proposed site is located in the southeastern portion of Grays Harbor County, Washington. The site is approximately 16 miles east of the City of Aberdeen, 2 miles south of the community of Satsop, and 26 miles west-southwest of Olympia (PSAR 1.2; U.S. Nuclear Regulatory Commission Report on the Site Suitability of the Proposed WPPSS Nuclear Projects No. 3 and No. 5, p. 1, following Tr. 189, hereinafter referred to as "Staff Report").

120. The proposed WNP-3 and WNP-5 facilities will use a nuclear steam supply system utilizing a pressurized water reactor supplied by Combustion Engineering Incorporated and designated as their System 80 design. This system is similar in design to those reviewed and approved for other nuclear power plants now in operation or under construction, e.g., Waterford Unit 3 (Docket No. 50-382). Each WNP-3 and WNP-5 nuclear steam supply system will be designed for a thermal output of 3800 megawatts and a net electrical output of 1240 megawatts. This compares with the nuclear steam supply system thermal output of 3410 megawatts and a net electrical output of 1165 megawatts for Waterford Unit 3. Waterford Unit 3 is among the class of CE-supplied pressurized water reactor plants with the highest reactor power level currently approved for a construction permit (PSAR 1.2, Staff Rpt.).

121. Major differences between the design of WNP-3 and WNP-5 and approved units of the same general class (CE-supplied pressurized water reactor plants such as Waterford Unit 3) include upper guide structure design, bottom mounted in-core instrumentation, reconstitutable fuel assemblies, power rating, inlet coolant temperature, and flow rate. These differences do not affect site suitability since the functions and operation of these systems and components will be essentially identical to those approved for other plants. Consideration of reactor design differences will be presented in the Safety Evaluation Report, which will report the results of the review of the construction permit application. The design basis accident analyses related to site suitability have been conducted for an ultimate core thermal power level of 4100 megawatts, which is achievable for these units. However, if these units are approved for operating licenses, the maximum core thermal power will be limited to 3800 megawatts in accordance with Regulatory Guide 1.49 and the Commission's Policy Statement on March 5, 1973 (Staff Rpt., pp. 1, 2).

122. The Board's review has included consideration of these reactor siting criteria established by the Commission's regulations (10 CFR Part 100) concerning site suitability as related to the radiological health and safety of the public. Factors considered in the review were the population distribution and density, use characteristics of the site environs (including whether there are nearby industrial, transportation or military facilities that could influence the acceptability of the site) and the physical characteristics of the site (including meteorology, hydrology, geology, and seismology).

A. Site Description and Exclusion Area Control

123. The site consists of 2,450 acres, the largest part of which is located on a ridge above the Chehalis River. The planned location of the plant structures is at an elevation of 390 feet mean sea level (MSL) (Staff Rpt., p. 3).

124. The exclusion area is approximately circular in shape, with a minimum boundary distance of 4,300 feet (1,310 meters). The Applicant will own only part of the exclusion area. The Applicant plans to obtain the authority to determine all activities within the balance of the exclusion area by entering into agreements with the land owners and through the acquisition of appropriate easements on these nonowned properties. The only activities unrelated to plant operation on the nonowned properties within the exclusion area will be timber farming activities. These activities will be controlled through the use of easements.

125. The Applicant presently owns about 800 acres (Tr. 379). In addition, Applicant has purchased the mineral rights on about one-half of the land which it has acquired in fee, and is negotiating for the remainder of the mineral rights (Tr. 379).

126. The property within the exclusion area which will not be owned by the Applicant is owned by individuals or private corporations, with the exception of a 110-acre tract which is owned by the State of Washington. These lands are all commercial tree farms. The easements to be obtained by the Applicant for these nonowned lands will specify that the Applicant will be notified (1) in advance of the commencement of any activity which is to be undertaken in these areas and (2) in advance of any entry upon these lands by the owner, his agents or employees. In addition, no buildings or residences of any kind may be constructed in these areas other than temporary structures and facilities as may be necessary for timber farming operations. Plans and specifications for construction of any such temporary buildings will be submitted to the Applicant for review and approval. The mineral rights for the nonowned lands will not be acquired by the Applicant. However, the easements will include control over mineral rights and will specifically exclude mineral exploration and mining activities. The Applicant has completed negotiation for easements on most of the parcels of nonowned

lands within the exclusion area, and is actively negotiating for the remaining parcels (Tr. 379). In addition, Applicant has the authority to condemn this land for its purposes should the negotiations prove unsuccessful (RCW §43.52.391; Applicant Ex. 16).

127. Based on the Applicant's present ownership of portions of the land within the exclusion area, its agreements and easements executed with the property owners of the land within the exclusion area not owned by the Applicant, and the Applicant's authority to condemn land on which it cannot acquire easements, the Board finds reasonable assurance that the Applicant can comply with the requirements of 10 CFR Part 100 with respect to Applicant's control over the exclusion area (PSAR 2.1; App. ex. 20 and 25; Staff Rpt.; Tr. 377-380; SER §2).

128. The exclusion area will not be traversed by any public waterways or railroads. A Grays Harbor County road, an extension of Keyes Road, will provide vehicular access to the exclusion area. A Bonneville Power Administration (BPA) transmission corridor also crosses the exclusion area (Staff Rpt., p. 5). The Staff concluded that these routes are not so close to the proposed facilities as to interfere with their normal operation and that appropriate arrangements can be made, as provided in 10 CFR Part 100.3(a), so that no significant hazards to the public health and safety will result from use of these routes (PSAR §2.2.2; SER 2).

B. Population and Population Distribution

129. The proposed site is located in a rural area with low population (Staff Rpt., pp. 6-8). The 1970 population density within ten miles of the site was 31 persons per square mile, and within 30 miles of the site was 44 persons per square mile. The Staff performed an independent evaluation of this population information, and concluded that the population densities are anticipated to increase only slightly by 1980, near the time of the commercial operation of the first unit of the proposed plant. By 2020, the population density is projected to be 43 persons per square mile within 10 miles of the site and 78 persons per square mile within 30 miles.

130. Grays Harbor County attracts a number of daily and seasonal transients, primarily during the summer months. The majority of these transients are visitors to the Pacific Coast area of the county some 30 miles west of the site. The average transient population at parks within 10 miles of the site would increase the population density by about 15%.

131. The Applicant has selected a low population zone with an outer radius of three miles. The total 1970 resident population within the low population zone was 260 persons, the majority of which resided in the Chehalis River Valley. There are no significant transient populations within the low population

zone other than highway travelers through the area. As a result of evaluation of the low population zone proposed by the Applicant for the WNP-3 and WNP-5 site, the Staff concludes that there is reasonable assurance that the 10 CFR Part 100 definition of the low population zone can be satisfied. No unusual characteristics have been identified with respect to the low population zone which would prevent the development of appropriate emergency response procedures (PSAR §2, Staff Rpt., SER 2).

132. The nearest population center, as defined in 10 CFR Part 100, is the Aberdeen-Hoquiam urban area, which contained a 1970 population of 28,549 persons. Furthermore, Staff projects that no area closer than the Aberdeen-Hoquiam area will develop into a population center within the operating lifetime of the proposed WNP-3 and WNP-5 facilities. The Aberdeen-Hoquiam populated area, as well as its political boundary, begins at a point more than ten miles west of the site. This distance satisfactorily meets the 10 CFR Part 100 requirement that the population center distance be more than one and one-third times the low population zone distance.

133. The Board concludes that the specified minimum exclusion distance of 4,300 feet (1,310 meters) and the low population zone radius of 3 miles (4,830 meters) are of sufficient size because they compare favorably with the minimum exclusion distances and low population zone radii of previously licensed plants of similar size and design. There is reasonable assurance that adequate engineered safety features can be provided to satisfy the exposure guidelines of 10 CFR Part 100 for reactors of the general type and size proposed for the WNP-3 and WNP-5 site.

C. Nearby Industrial, Transportation, and Military Facilities

134. There is little industrial activity in the vicinity of the proposed site. One small manufacturing facility employing 10 persons is located 4.8 miles northwest of the site. The Applicant states that there are plans to construct a chemical plant 4.7 miles east-northeast of the site. The facility will employ about 50 people and the main product will be bleaching chemicals for the pulp industry. A quantity of methanol and nitrogen gas will be stored at the chemical plant but, because of their distance from the site, these materials will present no hazard to the proposed nuclear plant (Staff Rpt., p. 9).

135. U.S. Highway 12, the major highway in the vicinity of the site, is a four-lane divided highway which passes in an east-west direction through the Chehalis Valley about 3 miles north of the site.

136. A single track railroad line, maintained by the Union Pacific Railroad, runs along the south bank of the Chehalis River approximately one mile north of the proposed location of the plant structures (and about 350 feet lower in elevation). A main line of the Northern Pacific Railroad runs through the

Chehalis Valley about three miles north of the site. The average daily rail traffic on the Union Pacific line is comprised of two freight trains carrying mainly lumber and related products. Some hazardous materials consisting primarily of caustic soda, chlorine and propane are shipped on this line. It is also projected that about one tank car of methanol will be shipped on the railroad every three to four months when the new chemical plant east-northeast of the site is in operation. The Applicant has evaluated postulated accidents on the railroad one mile north of the site including an explosion, formation of a flammable vapor cloud, and a chlorine release. The Staff independently reviewed the analyses and concluded that the consequences of these railroad accidents are such that the plant could be designed to withstand them, if necessary (*Id.*, pp. 9, 10).

137. The Chehalis River flows in a westerly direction in the valley about one mile north of the site. The river is used by small pleasure and fishing craft and is not utilized for commercial barge transportation in the vicinity of the site (*Id.*, p. 10).

138. Elma Municipal Airport is located approximately two miles northeast of the site. The airport has a single turf runway 2,000 feet in length and is used by light private aircraft. It is estimated that at present there are approximately 1,825 operations per year. Expansion of the airport is currently under study and, depending on the results of the study and availability of resources, there are plans to pave the runway and extend it to approximately 3,500 feet. With the proposed improvements, the airport will be capable of handling aircraft up to 12,500 pounds gross weight. A Washington State planning document projects a growth to approximately 4,000 operations per year for the Elma airport. The Federal Aviation Administration's national airport system plan, published in 1972, projects 7,000 operations per year at Elma in 10 years, all of which will be aircraft under 12,500 pounds (PSAR 2.2.2; Staff Rpt.; SER 2).

139. The nearest airport with scheduled commercial flights is Bowerman Airport located in Hogueam about 22 miles west of the site. An airway between Olympia and Hoquiam passes near the site area. There are currently 12 scheduled flights per day between these cities by single and light twin-engine aircraft at altitudes between 5,000 and 10,000 feet. This airway is also routinely used by the U.S. Army from Fort Lewis, Washington, for training flights involving single and twin-engine aircraft and helicopters. A maximum of 15 to 20 military flights per day is estimated, although military traffic is estimated to average approximately 12 to 15 flights per month (*Id.*, p. 11) On the basis of previous analyses of aircraft activity at other nuclear power plant sites, it is concluded that the type and number of aircraft utilizing the aviation facilities in the vicinity of the proposed site are such that the plant could be designed to withstand the impact of such aircraft, if required.

140. There are neither military facilities nor pipelines in the vicinity of the site. The area around the plant will be cleared to provide a minimum distance of

300 feet from the safety related structures to protect the plant against forest fires.

141. On the basis of the testimony regarding industrial, transportation, and military activities in the vicinity of the proposed WNP-3 and WNP-5 site, the Board concludes that there are no nearby activities which would preclude site acceptability, and that the WNP-3 and WNP-5 site is suitable for reactors of the general type and size proposed.

D. Meteorology

142. The plant site, located in the Chehalis River Valley of western Washington, is in a region where atmospheric dispersion conditions are about average for the western United States. The testimony includes a description of meteorological conditions at the site, including the climatology of the region, local meteorological conditions, and expected severe weather (FES 2.6; PSAR 2.3; Staff Rpt., p. 12; FES 2.6; SER 2).

143. The design of the facility is based on the Design Basis Tornado model (300 miles/hour) recommended by Regulatory Guide 1.76, and is therefore adequate for this region of the United States (Staff Rpt., p. 12).

144. The Applicant has provided joint frequency distributions of wind speed and direction by atmospheric stability class (based on vertical temperature difference collected onsite during the one year period from May 1973 through April 1974). Staff atmospheric dispersion estimates were based on wind direction and speed measured at the 10-meter level and the vertical temperature difference between the 10- and 60-meter levels. The Staff performed an evaluation of short-term accidental releases from plant buildings and vents, assuming a ground-level release with a building wake factor (c_A) of 1500 m^2 and using the meteorological data described above and the diffusion model described in Regulatory Guide 1.4. The Staff compared the short-term (0-2 hour) relative concentration (X/Q) value calculated for this site with similar values calculated by the Staff for over 40 other sites. This comparison indicates that dispersion conditions at this site are better than at 30% of the other sites previously approved (*Id.*, pp. 12, 13).

145. The Board concurs with the Staff conclusion that there are no meteorological characteristics that would preclude site acceptability.

E. Hydrology

146. The proposed site for WNP-3 and WNP-5 is located about one mile south of the confluence of the Chehalis River and the Satsop River. The proposed plant grade will be at elevation 390 feet MSL (Staff Rpt., p. 13).

147. The potential for flooding at the site from several sources has been

evaluated by the Applicant. The Staff performed an independent evaluation of the potential for flooding at the site and concluded that the facility will be adequately protected from an occurrence of the Probable Maximum Flood (PMF) in the Chehalis River, due to the large elevation difference which exists between proposed plant grade (elev. 390 MSL) and the PMF level in the river (estimated by the Applicant as 53.1 MSL) (PSAR 2.4; Staff Rpt., p. 13).

148. The Applicant has proposed site drainage facilities, including the roofs of safety-related buildings, that will be designed so that an occurrence of the local probable maximum precipitation (PMP) will not constitute a threat to safety-related facilities. The Staff's independent evaluation indicates that these proposed design bases meet the criteria suggested in Regulatory Guide 1.70.1, "Additional Information, Hydrological Considerations for Nuclear Power Plants."

149. In consideration of the location and elevation of the site, and the location of nearby dams and local meteorology, the Staff concluded that tsunamis, dam failures, and surges are not factors that influence the design bases for the facility (PSAR 2.4; Staff Report, p. 14).

150. Groundwater in the site vicinity occurs predominantly in the alluvial aquifer that underlies the Chehalis River Valley at the northern limits of the site area. The site is underlain by weathered and fresh sandstones of the Astoria Formation, which produce little groundwater.

151. Makeup water for the circulating water system cooling towers consists of groundwater obtained from the aquifer in the Chehalis River Valley by means of a series of collector wells. The aquifer is approximately two miles wide extending upstream about 15 miles and downstream about 14 miles. The aquifer is highly permeable, consisting primarily of alluvial sands and gravels. Due to the high permeability of these materials, a hydraulic connection exists between the aquifer and surface water flow in the Chehalis and Satsop Rivers. Induced infiltration of surface water will occur due to the high rate of hydraulic conductivity between the river and the aquifer, thus providing adequate water to the proposed collector wells. We conclude that an adequate water supply can be provided (PSAR 2.4, Staff Report p. 14; SER 2).

152. Emergency safe shutdown and cooldown of each unit can be accomplished using the Ultimate Heat Sink, which consists of a system of dry cooling towers and components that reject excess heat to the atmosphere. Because of its design, the Ultimate Heat Sink does not require a makeup water supply (Staff Report, p. 15).

153. The Applicant proposes to install a dewatering system to operate throughout the life of the plant, to draw the groundwater level at safety-related structures down to foundation mat level. The proposed system will use a series of vertical and horizontal drains, and although the design is still undergoing

safety review by the Staff, clearly no unique conditions exist in the aquifer which preclude installation of an adequate system.

154. The Board concludes that the proposed site is acceptable for reactors of the size and type proposed for WNP-3 and WNP-5 with regard to hydrological conditions.

F. Geology

155. The proposed WNP-3 and WNP-5 site is located in the Pacific Border Physiographic Province of Washington State. Specifically, the site area lies in the Chehalis Lowlands which comprise a physiographic zone separating the northern termination of the Oregon Coast Range from the Olympic Mountains.

156. The site is located on a ridge at the northern edge of the Willapa Hills. The ridge at the plant location lies at approximately 480 feet (MSL) elevation. The general plant grade will be cut or filled to 390 feet (MSL) and the plant foundation will be located at 320 feet (MSL) (Staff Rpt., pp. 17, 19).

157. The site and its environs are largely underlain by Cenozoic (Tertiary) strata. Lithologically, these Cenozoic strata consist predominantly of marine clastic sediments deposited on a basement of Tertiary (Eocene) oceanic basalts. At the proposed site, the power block's foundations will rest on massively bedded sandstones of Tertiary (Miocene) age (PSAR 2.5; Staff Rpt., p. 16; SER 2).

158. Surface and subsurface investigations by the Applicant included geological mapping, drilling, trenching, geophysical surveys, remote sensing techniques, aerial photography, comprehensive literature search, as well as extensive laboratory and field testing. Subsurface investigations have been utilized by the Applicant in order to define the foundation conditions within the site area (Staff Rpt., pp. 18, 19). Fresh sandstone of the Astoria formation is the bearing stratum for all Category I foundations. The Astoria formation is divided into four material types: residual soil, weathered sandstone, fresh sandstone and tuff. Residual soil extends from the ground surface to the top of the weathered sandstone. Weathered sandstone grades to fresh sandstone with increasing depth and can be differentiated on the basis of color change. Tuff beds have been encountered in some areas and are identified by color, hardness and mineralogy (PSAR 2.4, Staff Rpt., p. 18, SER 2). The fresh sandstone under the proposed foundation is gray, coarse to fine grained sandstone with low to moderate hardness. The bearing capacity and settlement analyses indicate that the fresh sandstone will provide adequate foundation support. The Applicant's slope stability analysis and the landslide investigations show there is adequate safety against slope failure in the plant area (PSAR 2.55; App. 2.5.L).

159. The Staff, based on its independent analysis and evaluation of available foundation engineering data, including the results of investigations performed by

the Applicant, has concluded that there are no foundation considerations, such as bearing capacity failures, excessive differential settlement, slope failure, or liquefaction that would preclude the acceptability of the site for a plant of the general size and type proposed by the Applicant.

160. Tectonic activities in this region before the Cenozoic era were quite complex, and activity has continued through the Cenozoic (Tertiary plus Quaternary). During the Tertiary, several orogenic periods caused folding and faulting of the older rocks and general uplift of the region. The structural features formed by these orogenies were subsequently eroded during the Quaternary to produce the present topography. The last major deformation in this region appears to have ended in the late Tertiary (Pliocene). However, evidence from the Quaternary (Pleistocene) deposits in the coastal areas west of the site, plus the fact that faulting in the Puget Sound area has been dated at 1100 years before present, and the fact that three stratovolcanoes in the central part of the State remain active today, all indicate that some tectonism has continued through the Pleistocene and into the present.

161. Numerous faults of a generally northwest or northeast trend occur throughout the basaltic rocks of the region. Some of these faults displace Tertiary strata in the region. Several significant faults (some with several thousand feet of displacement) in the site area can be associated by various means with deformations no younger in age than Late Tertiary; and, thus, they are not considered to be capable faults within the meaning of Appendix A to 10 CFR Part 100.

162. In summary, the geologic conditions of the proposed WNP-3 and WNP-5 site and its surrounding environs are very complex and the area is tectonically active. Based on the Staff's independent review of the Applicant's work to date, there are no known geologic problems that cannot be solved by feasible design; and there are no known foundation hazards at the proposed WNP-3 and WNP-5 site or immediate vicinity that present a risk to the proposed facilities.

163. The Board concludes that this site is suitable from a geologic standpoint and that there are no foundation considerations that would preclude the acceptability of the site for a nuclear power plant of the size and type proposed (PSAR 2.5; Staff Rpt., p. 18; Applicant's Ex. 21).

G. Seismology

164. The greatest concentration of earthquake activity within the site region is in the Puget Trough which, at its closest approach, is approximately 22-25 miles away from the site. This earthquake activity is outside the tectonic province in which the site is located. The largest historic earthquakes in the site's region occurred in 1872, 1949, and 1965 and reached intensity VIII(MM). The latter two earthquakes occurred northeast of Olympia (37 miles from the site) in

1949 and between Seattle and Tacoma (58 miles from the site) in 1965 and reached intensity VIII(MM) (PSAR §§2.5.0.2, 2.5.2.1, 2.5.2.6, Figures 2.5.11, 2.5.13, 2.5.51; Staff Ex. 1, §2.4.2).

165. The Applicant and the Staff also evaluated the earthquake which occurred earlier in the North Cascades. The Staff received additional information on this earthquake, one of the largest of the regional earthquakes reviewed in the FES, which occurred on December 14, 1872 (Staff Ex. 1, §2.4.2 and Staff Ex. 12). This information consisted of Amendment 37 to the PSAR and a report of an expert review panel established by several Pacific Northwest utilities. The Staff reviewed this information to determine the impact of this earthquake on the Satsop site. The Staff determined that this earthquake was centered east of the Cascade Mountains approximately 180 miles northeast of the site for WNP-3 and WNP-5, and that the magnitude was in the 7 to 7-1/4 range. This information supports earlier Staff estimates of earthquakes as stated in the Safety Evaluation Report.

166. The Staff concluded that the proposed facility could be designed to withstand earthquakes of intensity VIII(MM). Other nuclear power plants of the size and type proposed for the WNP-3 and 5 site have been designed to withstand earthquakes of this intensity at other sites (Staff Report, p. 19). Accordingly, the Staff reaffirmed its conclusion stated in the Site Suitability Report, that there are no seismological considerations that would preclude the acceptability of the Satsop site for a plant of the general size and type proposed (Staff Report, p. 19). The Board agrees.

H. Conclusions on Site Suitability

167. On the basis of our analysis and evaluation, the Board concludes that, in all respects, the proposed WNP-3 and WNP-5 site is a suitable location for the two nuclear power reactor units of the general type and size proposed from the standpoint of radiological health and safety considerations under the Atomic Energy Act of 1954, as amended, and the rules and regulations promulgated by the Commission in conformance with this Act.

IV. CONCLUSIONS OF LAW AND CONDITIONS

The Board has given careful consideration to all of the documentary and oral evidence presented by the parties. Based upon our review of the entire record in this proceeding and the foregoing findings, and in accordance with 10 CFR §50.10(e) and Part 51 of the Commission's regulations, the Board has concluded as follows:

- (1) The environmental review conducted by the Staff pursuant to the National Environmental Policy Act of 1969 has been adequate;

- (2) The certification issued to the Applicant on April 27, 1976, by the Energy Facility Site Evaluation Council pursuant to §401(a)(1) of the Federal Water Pollution Control Act Amendments of 1972 satisfies the requirements of §401.
- (3) The requirements of §102(2)(A), (C) and (D) of the National Environmental Policy Act of 1969 and 10 CFR Part 51 have been complied with in this proceeding;
- (4) The Board has independently considered the final balance among conflicting factors contained in the record in the proceeding and determines that the appropriate action to be taken (if this Board, after hearing the evidence in the radiological health and safety phase of this proceeding, should make affirmative findings on issues 1-3 and a negative finding on issue 4 set forth in the Notice of Hearing) is issuance of construction permits for the proposed WNP-3 and WNP-5 facilities, subject to the conditions for protection of the environment recommended by the Staff and committed to by the Applicant, as follows:

Conditions

1. Construction plans and specifications will contain specific erosion and sediment control measures governing the excavation of borrow pits, the disposal of surplus excavation, and the construction of earth fills. State-of-the-art construction methods as discussed by the U.S. Environmental Protection Agency will be adhered to.
2. Grading, groundcover, and seeding will be completed in each area of the site, providing its permanent configuration, as early as possible. Topsoil, having been stockpiled, will be returned to all disturbed areas and seeded. Topsoil compatible with ornamental planting and with native conifer species will be obtained from local sources if site stockpiles become depleted or are found to be low in quality. Temporary plantings for erosion protection will continue throughout the construction period as required. In areas where cutting and filling produce surplus excavation, earth sculpture techniques will be employed to return the site to complementary gradients and naturalistic land forms. Landscape plantings will be introduced in order to blend facilities into the landscape and complete the restoration process. Cleared areas will be stabilized in order to prevent long-term erosion. Recommendations from the Soil Conservation Service will be considered in reseeding areas in natural vegetation. Shrubs and ground covers, particularly fruit and browse varieties, will be preserved wherever practicable.

3. Water flow from the immediate plant area will be controlled by early installation of portions of the plant storm drain system. Drainage from the plant northwest area and the construction laydown area will be controlled by a system of catch basins, ditches, stilling basins, and settlement ponds. Drainage from the owner controlled storage area and the plant northwest will be controlled by a similar system of diversion ditches, drop inlets, stilling basins, and settlement ponds. Drainage from the plant south will be controlled by a system of cut slopes with berm ditches and down drains.
4. During clearing operations, stumps and other unsaleable timber will be disposed of by mulching or chipping. If chipping cannot be utilized, the material will be burned in accordance with Washington State Department of Ecology Open Burning Regulation, Chapter 18-12 EAC. During this burning operation, all necessary attendant fire control personnel and equipment will be on hand, and the burning operations will be deferred during air quality and fire hazard situations.
5. All permanent roads will be paved and provided with adequate drainage facilities such as culverts, drainage ditches and catch basins necessary to protect the site against erosion and uncontrolled runoff. Where construction of embankments or cuts are required, special temporary drainage measures will be taken to avoid excessive erosion. Permanent plant area drainage facilities will be installed during the early stages of construction and will be utilized throughout the construction period. The railroad spur will be designed in accordance with the specifications of the Union Pacific Railroad and the American Railroad Engineers Association, and all necessary drainage facilities (ditches, culverts) will be provided.
6. Vegetation will be left along the stream banks to minimize siltation and prevent temperature rises in the stream. During clearing operations, every effort will be made to prevent debris from falling into and clogging any stream channels. Care will be taken during construction to ensure that the natural landscape along the Chehalis River is not damaged. Measures will be instituted to insure that there will be no serious erosion, or permanent damage to the riverbed, or the biota in the river. Construction activities will be scheduled and provisions made so that there will be minimal interference with fish migration in the Chehalis River and Satsop Rivers or their tributaries.
7. Spillage of gasoline and oil from construction machinery will be closely

controlled. A maintenance area of about 10,000 square feet will be established to control any spillage. Petroleum byproducts will be disposed of by the various contractors in a manner which complies with EPA Effluent Guidelines for Construction of Steam Electric Generating Plants.

8. Waste material from the concrete mixing plant will be disposed in a sanitary landfill onsite or transferred to the nearest locally approved disposal area. After dumping is complete, the onsite disposal area will be fully leveled, terraced and landscaped to blend with existing vegetation.
9. The major portion of construction personnel sanitary wastes will be disposed of by the use of temporary portable toilets. These facilities will be served by an outside contractor, and wastes will be disposed offsite in compliance with State of Washington, Department of Labor and Industries Safety Standards for Construction Work, WAC-296-40-055, Sanitary Facilities. Sanitary wastes from facilities located in the construction office and warehouse will be treated onsite. The plant will be installed and maintained by a licensed contractor. Sewage plant effluent will be discharged via a tile field.
10. The Applicant will retain the services of an archeological consultant to insure that any archeological materials discovered will be recognized and evaluated. The consulting archeologist will instruct construction personnel as to the kinds of materials having historical or archeological significance, as well as procedures to be followed in the event such materials are discovered during the course of construction activities. The Applicant will provide adequate protection of archeological resources as needed and, in the event that protection is not a feasible alternative, project funds will be made available to support adequate provisions for salvage and analyses of archeological material.
11. Clearing of transmission line rights-of-way will include all measures described in 1 above. In addition, cleanup of all debris will be required. No herbicides or pesticides will be used.
12. Application of herbicides and pesticides, if required during construction, will be in accordance with Federal EPA guidelines or, if pertinent, later revisions of those guidelines.
13. The Applicant shall establish a control program which shall include

written procedures and instructions to control all construction activities as prescribed herein and shall provide for periodic management audits to determine the adequacy of implementation of environmental conditions. The Applicant shall maintain sufficient records to furnish evidence of compliance with all the environmental conditions herein.

14. Before engaging in a construction activity not evaluated by the Commission, the Applicant will prepare and record an environmental evaluation of such activity. When the evaluation indicates that such activity may result in a significant adverse environmental impact that was not evaluated, or that is significantly greater than that evaluated in this Environmental Statement, the Applicant shall provide a written evaluation of such activities and obtain prior approval of the Director of Nuclear Reactor Regulation for the activities.
 15. If unexpected harmful effects or evidence of irreversible damage are detected during facility construction, the Applicant shall provide to the Staff an acceptable analysis of the problem and a plan of action to eliminate or significantly reduce the harmful effects or damage.
 16. Any discharge resulting from the construction of this facility will comply with the conditions contained in the National Pollutant Discharge Elimination System Permit issued for the facility, as presently approved or as later modified, except for those conditions regulating the discharge of radioactive effluents composed of byproduct material, source material, and special nuclear material. In the event of any modification of the NPDES Permit while this Construction Permit is extant, Permittee shall analyze all associated changes in or to the facility, its components, its construction or proposed operation, or in the anticipated discharge of effluents therefrom, and if such changes would warrant any modification of this Construction Permit, or present an unreviewed safety question or involve any adverse environmental impact significantly greater than analyzed in the Final Environmental Statement, as supplemented, the Permittee shall file with the NRC, as appropriate, a request for modification of this Construction Permit, an analysis of any such safety question, or an analysis of any such change of the environmental impacts and of any change in the overall cost-benefit balance for the facility set forth in the Final Environmental Statement.
- (5) Based upon the available information and review to date, there is reasonable assurance that the site for WNP-3 and WNP-5 is a suitable location for a nuclear power reactor of the general size and type pro-

posed from the standpoint of radiological health and safety considerations under the Atomic Energy Act of 1954, as amended, and rules and regulations promulgated by the Commission pursuant thereto.

- (6) The Board further concludes that it has made all of the findings necessary to permit the Director of Nuclear Reactor Regulation to issue limited work authorizations for WPPSS Nuclear Project No. 3 and WPPSS Nuclear Project No. 5.

V. ORDER

Based upon the Board's Findings and Conclusions, and pursuant to the Atomic Energy Act of 1954, as amended, and the Commission's regulations, IT IS ORDERED that this Partial Initial Decision shall constitute a portion of the ultimate Initial Decision to be issued upon completion of the radiological health and safety phase of this proceeding.

It is further ORDERED, in accordance with §§2.760, 2.762 and 2.764 of the Commission's Rules of Practice, 10 CFR Part 2, that this Partial Initial Decision shall be effective immediately and shall constitute the final action of the Commission thirty (30) days after the date of issuance hereof, subject to any review pursuant to the Rules of Practice. Exceptions to this Partial Initial Decision may be filed by any party within seven (7) days after service of this Partial Initial Decision. A brief in support of the exceptions shall be filed within fifteen (15) days thereafter (twenty (20) days in the case of the Regulatory Staff). Within fifteen (15) days after the service of the brief of appellant (twenty (20) days in the case of the Regulatory Staff), any other party may file a brief in support of, or in opposition to, the exceptions.

IT IS SO ORDERED.

ATOMIC SAFETY AND LICENSING BOARD

Dr. Emmeth A. Luebke, Member
Dr. David R. Schink, Member
Robert M. Lazo, Chairman

Issued at Bethesda, Maryland,
this 8th day of April 1977

[Appendixes A and B have been omitted from this publication but are available in the NRC Public Document Room, 1717 H Street, Washington, D.C.]

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
ATOMIC SAFETY AND LICENSING BOARD

Daniel M. Head, Chairman
Elizabeth S. Bowers
Edward Luton

In the Matter of

Docket No. P-564-A

PACIFIC GAS AND ELECTRIC COMPANY

(Stanislaus Nuclear Project, Unit 1)

April 15, 1977

The Licensing Board grants three petitions for leave to intervene in this antitrust proceeding (one of which was untimely), orders an antitrust hearing to be held, and refers a motion for summary disposition to the Licensing Board which will be appointed to conduct that hearing.

LICENSING BOARD: JURISDICTION

A licensing board established for the sole purpose of ruling on intervention petitions does not have jurisdiction to rule on a motion for summary judgment.

RULES OF PRACTICE: INTERVENTION PETITION (ANTITRUST)

The "one contention" rule of *Prairie Island* is inappropriate for an antitrust proceeding. A petition to intervene in an antitrust proceeding must (1) describe the situation allegedly inconsistent with the antitrust laws which is the basis for intervention; (2) describe how that situation conflicts with the policies underlying the Sherman Act, Clayton Act, or FTC Act; (3) describe how the situation allegedly inconsistent with the antitrust laws would be created or maintained by activities under the license; and (4) identify the specific relief sought, with an explanation of why the relief will not be satisfied by the license conditions, if any, which have been proposed by the Department of Justice. *Kansas City Gas and Electric Co.* (Wolf Creek, Unit 1), ALAB-279, 1 NRC 559 (1975). The question is whether, in the totality of the circumstances, the petition describes the alleged inconsistent situation with enough clarity and precision to enable the applicant and the Licensing Board to determine the nature of the claim and

upon what it is founded. *Kansas City Gas and Electric Co.* (Wolf Creek, Unit 1), ALAB-299, 2 NRC 740, 749-30 (1975).

ATOMIC ENERGY ACT: ANTITRUST JURISDICTION

If a licensing board finds that an antitrust issue has been properly raised under the Commission's Rules or Regulations, then it is empowered to order an antitrust hearing, notwithstanding the recommendation of the Justice Department that no hearing is necessary. *Kansas City Gas & Electric Co.* (Wolf Creek, Unit 1), ALAB-279, 1 NRC 559, 565-66 (1975).

RULES OF PRACTICE: NONTIMELY INTERVENTION PETITIONS

In considering a late petition to intervene, a licensing board must analyze both the justification offered for the lateness and the four factors of 10 CFR §2.714(a). When the latecomer has no good excuse, the burden of sustaining intervention on the basis of the other four factors is considerably greater. *Nuclear Fuel Services, Inc.* (West Valley Reprocessing Plant), CLI-75-4, 1 NRC 273, 275 (1975).

MEMORANDUM AND ORDER

I. BACKGROUND

By letter dated May 5, 1976, the U.S. Attorney General gave his advice to the U.S. Nuclear Regulatory Commission (the Commission) regarding the antitrust aspects of the application by Pacific Gas and Electric Company (the Applicant or PG&E) to construct the Stanislaus Nuclear Project, Unit 1 (Stanislaus). The Commission published in the *Federal Register* on May 17, 1976, a "Notice of Receipt of Attorney General's Advice and Time for Filing of Petitions to Intervene on Antitrust Matters" (41 FR 20225). This notice provided that petitions to intervene and requests for hearing should be filed by June 16, 1976.

The May 5, 1976, advice letter from the Attorney General noted that the Department of Justice (the Department) has previously given advice with respect to other PG&E applications, including an August 2, 1972, letter informing the Atomic Energy Commission¹ that certain conduct of PG&E had created a situation inconsistent with the antitrust laws and that construction and operation of the Mendocino plant by PG&E appeared likely to maintain that situation. In

¹Under the Energy Reorganization Act of 1974, the U.S. Atomic Energy Commission went out of existence and its regulatory functions, including its antitrust responsibilities, were assumed by the U.S. Nuclear Regulatory Commission.

view of this, the Department recommended that an antitrust hearing be held with regard to the Mendocino application. However, the Mendocino application was withdrawn because of unrelated difficulties.

Subsequently, the Department advised the Commission on November 24, 1975, in connection with the San Joaquin Nuclear Project, that PG&E may have modified some of its anticompetitive practices which were the basis of the recommendation for an antitrust hearing on the Mendocino application. The San Joaquin letter did not state whether the modifications were such that a situation inconsistent with antitrust laws no longer existed although it concluded that no antitrust hearing was necessary on San Joaquin because the Department would soon be rendering its advice with respect to Stanislaus.

Thereafter, the Department did render its advice on May 5, 1976, concerning Stanislaus, and informed the Commission that it has reached an agreement with PG&E on a Statement of Commitments which the Department believes will obviate the antitrust problem posed by PG&E's activities and remedy the situation inconsistent with the antitrust laws. In view of this and the fact that PG&E was agreeable to having the Commission incorporate the Statement of Commitments as conditions to the Stanislaus license, the Department concluded that an antitrust hearing would not be necessary with respect to the Stanislaus application, if the Commission issues the license so conditioned.

On June 15, 1976, the Atomic Safety and Licensing Board Panel established an Atomic Safety and Licensing Board (the Board) to rule on petitions and/or requests for leave to intervene in this proceeding. This Board consists of Mrs. Elizabeth S. Bowers and Mr. Edward Luton as members, and Mr. Daniel M. Head as chairman.

Two potential petitioners, the Northern California Power Agency (NCPA) and the State of California Department of Water Resources (DWR), filed a series of motions requesting extensions of time to file petitions to intervene. The reason for these motions was to permit the parties to conduct settlement negotiations. Since good cause was shown for these extensions and since generally there was no objection by the Applicant and the Commission Regulatory Staff (the Staff)², the Board granted the extensions. The last extension was until October 15, 1976, and the Board noted in its September 22, 1976, Order granting the extension that:

The extension, however, is not a blanket extension to any potential party as requested in the motion but is only granted to NCPA on behalf of itself and its members.

Timely petitions to intervene were received from NCPA and DWR by Octo-

²The Staff did object to the length of the final extension request and the Board did shorten that time period.

ber 15, 1976. Additionally, a petition to intervene dated October 15, 1976, was received from the Cities of Anaheim and Riverside, California (Cities). In view of the above-noted ruling in the Board's Order of September 22, 1976, the Cities petition was considered nontimely under Section 2.714 of the Commission's Rules of Practice, 10 CFR Part 2.

Because of the length and complexity of the petitions to intervene, the Applicant and the Staff both sought and received two extensions of time to respond, the last expiring December 13, 1976, for the Applicant and December 17, 1976, for the Staff. The Applicant and the Staff each filed detailed responses to the petitions and, in addition, the Applicant submitted an extensive motion for summary disposition together with supporting documentation.

In light of the Applicant's motion for summary disposition, NCPA moved for a ruling that that motion is premature since this Board has been established only to rule on petitions to intervene. Additionally, NCPA requested that this proceeding be consolidated with a proceeding before the Federal Power Commission (FPC).

The Board set oral argument for February 8, 1977, on the petitions to intervene and on whether the board has jurisdiction to hear the motion for summary disposition.³ On February 8, 1977, the Board heard extensive oral argument on the petitions to intervene, and also entertained brief discussion on the request to consolidate this proceeding with the FPC case and on its jurisdiction to hear the motion for summary disposition.

In this Memorandum and Order the Board will first deal with the request to consolidate this proceeding with the FPC proceeding and with the jurisdictional issue relating to the motion for summary disposition. The Board will then present its analyses of applicable intervention principles in antitrust proceedings and will individually rule upon the three petitions to intervene.

II. MOTION TO CONSOLIDATE

The motion by NCPA to consolidate this proceeding with an FPC proceeding was disposed of on the record by the Board at the February 8, 1977, oral argument. That motion was denied without prejudice as being premature, since no decision had yet been reached on whether an NRC antitrust proceeding would be held (Tr. 219).

III. MOTION FOR SUMMARY DISPOSITION

The Board did not reach the Applicant's motion for summary disposition on

³This oral argument was originally scheduled for January 25, 1977, but at the request of NCPA and with the consent of the other parties, it was rescheduled for February 8, 1977, to permit time for analyses of the impact of the initial decision in *Toledo Edison Co., et al.* (Davis-Besse Nuclear Power Station, Units 1, 2 and 3), Docket Nos. 50-346A, *et al.*

the merits but merely considered the jurisdictional issue. The Board has concluded that it does not have jurisdiction to rule on the motion for summary disposition. The Board's charter, when established by the Atomic Safety and Licensing Board Panel on June 15, 1976, was specifically "to rule on petitions and/or requests for leave to intervene" in this proceeding. As this Board sees it, a petition must have been granted and a hearing ordered for the motion for summary disposition to become ripe for adjudication. Then the Board charged with handling the proceeding on the merits can determine the propriety of summary disposition. Conversely, the function of the petitions board is to determine in the first instance whether there is sufficient grounds to grant a petition to intervene and order that a hearing on the merits be held. Summary disposition is, therefore, more appropriately left to the actual licensing board.

An argument can be made that the power to grant a hearing also carries with it the power to grant a motion for summary disposition and deny the hearing. However, the Board does not find this argument persuasive and will not stretch its interpretation of its authority that far, particularly where there is a readily available forum to hear the motion in the licensing board designated to conduct the proceeding on the merits. We also note that of necessity summary disposition acts as an adjudication on the merits, a fact which strongly supports the position that such motions are properly under the jurisdiction of the licensing board dealing with the proceeding on the merits.

Accordingly, the Board hereby rules that it does not have jurisdiction to hear the motion for summary disposition and is referring it to the licensing board which will be established to conduct the antitrust proceeding regarding Stanislaus.

IV. ANALYSIS OF PERTINENT ANTITRUST INTERVENTION PRINCIPLES

Initially, in considering the petitions to intervene the Board is faced with two problems. The first is an assessment of the proper principles to be applied to determine whether intervention is permissible and the second is to evaluate the Cities' petition under the rules governing nontimely petitions. Therefore, before dealing with the petitions individually, a brief discussion of the principles governing intervention and late filed petitions is in order.

In its analysis, the Board must look to two areas to determine the validity of the petitions. The first is Section 2.714, the Commission's rule on intervention. Section 2.714 requires that the petitioner establish an interest in the proceeding and how that interest may be affected by the results of the proceeding (the interest requirement). It also requires the petitioner to set out his contentions and the basis therefore (the contentions requirement). Under the leading case of *Northern States Power Co.* (Prairie Island Generating Plant, Units 1 and 2),

CLI-73-12, 6 AEC 241 (1973), a petitions board to fulfill its responsibilities need find only the requisite interest and at least one viable contention to grant intervention. However, this interest and one contention rationale does not seem appropriate for consideration of an antitrust petition. The Atomic Safety and Licensing Appeal Board (the Appeal Board) implicitly recognized this anomalous situation in *Kansas City Gas and Electric Co., et al.* (Wolf Creek Generating Station, Unit No. 1), ALAB-279, 1 NRC 559 (1975) (Wolf Creek I). There, the Appeal Board held that a petition to intervene in an antitrust proceeding must meet the following criteria. It must (1) describe the situation allegedly inconsistent with the antitrust laws which is the basis for intervention; (2) describe how that situation conflicts with the policies underlying the Sherman Act, Clayton Act, or FTC Act; (3) describe how the situation allegedly inconsistent with the antitrust laws would be created or maintained by activities under the license; and (4) identify the specific relief sought, with an explanation of why the relief will not be satisfied by the license conditions, if any, which have been proposed by the Department of Justice. See also *Louisiana Power and Light Co.* (Waterford Steam Generating Station, Unit 3), CLI-73-7, 6 AEC 48 (1973) (Waterford I), and *Louisiana Power and Light Co.* (Waterford Steam Generating Station, Unit 2), CLI-73-25, 6 AEC 619 (1973) (Waterford II). Further, the Appeal Board pointed out in the subsequent Wolf Creek Decision, *Kansas City Gas and Electric Co., et al.* (Wolf Creek Generating Station, Unit 1), ALAB-299, 2 NRC 740, 749-50 (1975) (Wolf Creek II), that:

What must be decided in evaluating the adequacy of an intervention petition in one of our antitrust cases is whether, in the totality of the circumstances of the particular case, that petition describes the alleged inconsistent situation with enough clarity and precision to enable the applicant and the Licensing Board to determine the nature of the claim and upon what it is founded.

A difficulty arises in reconciling the *Prairie Island* interest and one contention rule with the broader requirements set out in the *Wolf Creek* I and II decisions. On the one hand, a petitions board could, after finding the proper interest, take the position that it need only identify a contention alleging one antitrust violation or action inconsistent with the antitrust law which of itself would constitute a situation inconsistent with the antitrust laws and therefore be a proper basis for ordering a hearing. This, however, appears at odds with the language in *Wolf Creek* II that the Board will consider the "totality of the circumstances of the particular case to determine whether a petition describes an alleged inconsistent situation." In this Board's view, the rationale set out in the *Wolf Creek* I and II decisions is more appropriate to govern a petitions board's deliberation than the more narrow interpretation that all a petitions board need do is identify interest and one particular contention. Also, the broad rationale is

in keeping with the concept behind the antitrust provisions of the Atomic Energy Act of 1954, as amended (the Act), 42 U.S.C. 2011, *et seq.*, and in particular with the rationale behind Section 105 of the Act.⁴ We note that the Commission in *Waterford II* at 621 and the Appeal Board in *Wolf Creek I* at 579 have held that the relationship of the specific facility to the Applicant's total system or power pool should be evaluated in every case.

In light of the above, it would be inappropriate for this petitions board to make a narrow interpretation of Section 2.714 and order an antitrust hearing on the basis of identifying only one isolated antitrust contention. While this petitions board, of course, need not rule on every contention raised by the petitions nor attempt to define in detail the issues that might be appropriate for a hearing, it feels constrained to evaluate the situation generally to determine whether to order an antitrust hearing. Accordingly, this petitions board has made a more general analysis of the alleged "situation inconsistent" in its deliberations on the petitions to intervene.⁵

Another general point warrants brief comment. The Justice Department in its advice letter informed the Commission of its agreement with the Applicant on commitments which the Department considered would obviate the antitrust problems and remedy the situation inconsistent with the antitrust laws which the Department believed existed in northern and central California. Therefore, in its advice to the Commission, the Department concluded that having the commitments inserted as conditions to the Stanislaus license would obviate the necessity for an antitrust hearing. This, however, as pointed out in *Wolf Creek I* at 565-66, does not preclude the Commission instituting an antitrust hearing:

The second situation which may necessitate a formal antitrust proceeding—and the one with which we are concerned here—is described in the Joint Committee Report which accompanied the enactment of Section 105c in 1970. In the case where the Attorney General does not recommend a hearing "but antitrust issues are raised by another in a manner according with the Commission's rules or regulations, the Commission would [then] be obliged to give such consideration thereto as may be required by the Administrative Procedure Act and the Commission's rules or regulations." (Footnotes omitted.)

It is clear, therefore, that this Board is empowered to order an antitrust hearing notwithstanding the recommendations of the Justice Department that no hearing is necessary, if the Board finds that an antitrust issue has been properly raised under the Commission's rules or regulations.

⁴See the extensive discussion of the legislative history of Section 105 which runs throughout the *Wolf Creek I* decision.

⁵The Board notes with approval that the Staff also made general analyses in its pleadings. This was of substantial value to the Board in its resolution of the petitions.

Further, the petition to intervene by Cities was filed late and the Board must assess it under the rules governing late intervention. These principles are contained in Section 2.714(a) and (d) of the Commission's Rules of Practice, which provide in pertinent part:

- (a) Nontimely filings will not be entertained absent a determination. . . that the petitioner has made a substantial showing of good cause for failure to file on time, and with particular reference to the following factors in addition to those set out in paragraph (d) of this section:
- (1) The availability of other means whereby the petitioner's interest will be protected.
 - (2) The extent to which the petitioner's participation may reasonably be expected to assist in developing a sound record.
 - (3) The extent to which the petitioner's interests will be represented by existing parties.
 - (4) The extent to which the petitioner's participation will broaden the issues or delay the proceeding.

* * * *

- (d) . . . the atomic safety and licensing board designated to rule on petitions to intervene and/or request for a hearing shall, in ruling on a petition for leave to intervene, consider the following factors, among other things:
- (1) The nature of the petitioner's right under the Act to be made a party to the proceeding.
 - (2) The nature and extent of the petitioner's property, financial or other interest in the proceeding.
 - (3) The possible effect of any order which may be entered in the proceeding on the petitioner's interest.

It is apparent that the four factors under Section 2.714(a) and the three factors under Section 2.714(d) are closely related and can overlap in particular factual situations. The Board will take them all into account in its evaluation of the Cities' petition.

A further consideration in late filing is raised by the Commission's decision in *Nuclear Fuel Services, Inc.* (West Valley Reprocessing Plant), CLI-75-4, 1

NRC 273 (1975). In *West Valley*, the Commission held that a licensing board must analyze both the justification offered for the lateness and the four factors in Section 2.714(a), which have been set out above. The Commission recognized that, even without good cause, a late petitioner could be admitted as a party on the basis of the four other factors. The decision does mention, though, that petitioners have a substantial burden in justifying their tardiness and that the burden of sustaining intervention on the basis of the other four factors in the rule is considerably greater when the latecomer has no good excuse. *West Valley* at 275. These principles, of course, are applicable to the Cities petition.

V. PETITIONS TO INTERVENE

A. Northern California Power Agency (NCPA)

1. Interest

NCPA is a public agency of the State of California and is comprised of eleven member cities and one rural electric cooperative as an associate member. Each NCPA member owns and operates an electric distribution system within PG&E's service area, and is a competitor and/or potential competitor of PG&E in the retail and bulk power sales markets. NCPA members serve approximately 400,000 customers and have forecasts for 1980 demands of about 1,000 megawatts (NCPA Petition, pp. 3-4).

For a better concept of the competitive situation, a brief description of PG&E also is warranted. PG&E is a privately owned, integrated electrical and gas utility with a forty-seven county service area in northern and central California. As of December 31, 1975, PG&E owned and operated over 17,000 circuit miles of transmission lines, served over 3,000 electrical customers, and owned and operated 55 hydroelectric and 12 generating plants with a normal operating capacity of approximately 10,582 megawatts. PG&E's maximum demand on its total system through December 31, 1975, was approximately 11,648 megawatts (NCPA Petition, pp. 3, 4).

Although PG&E will offer to NCPA membership participation in Stanislaus, NCPA, considers the terms and conditions presently associated with that offer to be such that its participation will not be on an economical and competitive basis. Further, NCPA contends that, despite the Statement of Commitments, PG&E practices and restraints are anticompetitive, and will maintain and/or enhance the monopolistic and anticompetitive position of PG&E, thereby preventing NCPA from becoming an effective competitor.

The Staff has concluded that the NCPA petition establishes its interest and how that interest might be affected by the proceeding. Therefore, the Staff argues that NCPA has met the interest requirement of Section 2.714 (Staff Re-

sponse to NCPA Petition, pp. 6, 7). PG&E does not contest NCPA's interest and, accordingly, the Board has concluded that NCPA has shown an interest sufficient to meet the requirements of Section 2.174.

2. The Situation Inconsistent

As we have noted above, our view of the pertinent antitrust intervention principles is that a petitions board should consider the totality of the circumstances of the particular case to determine whether a petition describes a situation inconsistent rather than merely identify one contention that could be considered a situation inconsistent. Our analysis, therefore, will seek to satisfy both the requirements of Section 2.714 and the *Wolf Creek I* requirements in an integrated fashion.

The Board, however, will not attempt to deal with every allegation by NCPA regarding PG&E's operations which were cited as constituting the situation inconsistent with the antitrust laws. Rather, the Board considers that the general analysis approach used by the Staff in its response is the proper method of evaluation (Staff Response to NCPA, pp. 8-14), and has followed that approach for its evaluation.⁶ In addition, the Board found the Staff's assessments generally accurate and has adopted them in most instances.

Briefly, the overall situation can be summarized as follows. Allegedly PG&E has established and maintained monopoly control of electrical generation, transmission and wholesale electrical power in its service area, has exercised and is presently exercising its monopoly power or dominant power over generation and transmission in its service area, and has exercised and presently is exercising control over access to alternate sources of bulk power supply in its service area and throughout California, in a manner inconsistent with the antitrust laws, specifically Sections 1 and 2 of the Sherman Act and Section 5 of the FTC Act. In particular, the situation inconsistent is constituted by, *inter alia*:

- (1) PG&E has required that smaller utilities purchasing electricity from it, such as certain NCPA members, enter into long-term all-requirements contracts in order to preclude those utilities from obtaining alternative sources of bulk power supply;
- (2) PG&E has on various occasions refused to wheel low-cost bulk power to certain NCPA members, thereby foreclosing access by those utilities to such low-cost power;

⁶In the Board's analysis, references are made to various alleged situations and practices. No statement of such situations or practices by the Board should be construed as a Board finding regarding the truth of such allegations. That is a matter for proof at the evidentiary hearing.

- (3) PG&E is a party to contracts which prohibit the sale or wheeling of power by others;
- (4) PG&E is a party to separate contracts with the U.S. Bureau of Reclamation and the Sacramento Municipal Utility District (SMUD) which limit the manner and territory in which those two entities market power and energy;
- (5) PG&E has imposed other unreasonable restraints on the Bureau of Reclamation with respect to the Central Valley Project (CVP), which restraints benefit PG&E and damage the preference customers of CVP, including NCPA members;
- (6) PG&E has contracted to be the exclusive purchaser of the entire hydroelectric output of certain generating facilities;
- (7) PG&E has contracted with SMUD to be the exclusive purchaser of all of SMUD's surplus power;
- (8) PG&E has refused to engage in joint planning and/or operation with NCPA to support proposed baseload geothermal generation by NCPA;
- (9) PG&E is a party to the California Power Pool which is comprised of the three largest privately owned electrical utilities in California, and which limits interconnections and coordination between Pool members and smaller utilities;
- (10) In 1970, PG&E refused to grant NCPA access to the California Power Pool; and
- (11) PG&E is a party to the Seven Party Agreement which grants PG&E and the other two members of the California Power Pool the power to exclude all surplus power available from the Pacific northwest for marketing in California from NCPA and its members.

Furthermore, NCPA contends it has been harmed by the situation inconsistent with the antitrust laws created by PG&E and states that that situation will be created, maintained or enhanced by the issuance of the Stanislaus license with only the conditions presently contained in the current Statement of Commitments.

Next, we must turn to whether the NCPA petition establishes a nexus between the above-described situation inconsistent with the antitrust laws and the activities to be conducted under the Stanislaus license. In the Board's opinion, such a nexus has been established in the NCPA petition. NCPA presently depends on the Applicant and CVP for all their power. This dependence can be lessened by NCPA members obtaining meaningful ownership participation in Stanislaus and by securing access to alternative sources of bulk power through reasonable use of PG&E's transmission system. NCPA asserts that, even under the Statement of Commitments, PG&E can still deny NCPA both meaningful ownership participation in Stanislaus and reasonable use of PG&E's transmission

system, thereby precluding NCPA from becoming an effective competitor of PG&E in the wholesale power supply market. Denial of meaningful participation by NCPA in Stanislaus and denial of the reasonable use of the transmission system for Stanislaus power owned by NCPA would serve to maintain and strengthen PG&E's monopolistic position in the wholesale power market and its monopolistic position with regard to generation and transmission in its service area. There is, therefore, a nexus between the situation inconsistent with the antitrust laws and the activities under the Stanislaus license.

Further, the NCPA petition does adequately set forth the relief sought. NCPA contends that the Statement of Commitments by PG&E does not give meaningful participation on Stanislaus and requests that different commitments be required to insure such meaningful participation. Further, NCPA asks the right to utilize PG&E's transmission capacity without there being what is characterized as a veto power by PG&E over transactions between NCPA and entities outside PG&E's control area. NCPA also seeks the right to purchase partial requirements from PG&E without being required to pay a penalty, the right to equalize reserves without a penalty, and the right to participate on an equivalent basis in various contracts to which PG&E is a party and which have been used to exclude or inhibit NCPA from access to alternate bulk power supply or which otherwise restrain NCPA competition. Also, NCPA has requested that it be permitted to participate in the California Power Pool and the Seven Party Agreement.

Overall, the Board considers that the NCPA petition has met the requirement of Section 2.714 and *Wolf Creek I*. In particular, the Board finds that the petition has described a situation inconsistent with the antitrust laws, that there has been a nexus established between that situation and the proposed activities under the license, that the petition has adequately asserted that the PG&E Statement of Commitments will not cure the alleged inconsistent situation, and that the petition contains an adequate showing of relief requested by NCPA. Accordingly, the Board hereby grants the NCPA petition to intervene and request for hearing.

B. State of California Department of Water Resources (DWR)

1. Interest

DWR is an agency of the State of California which is responsible for, *inter alia*, monitoring, protecting, conserving and developing the State's water resources and for planning to meet California's water needs. In connection with those responsibilities, DWR is an electric utility authorized to purchase and sell electrical power. Under the California State Water Project (CSWP), DWR is responsible for insuring that water not needed in northern California is con-

served and delivered to water-deficient areas elsewhere in the State, a responsibility which will require at full operation 12 billion kilowatt hours of electrical energy. This makes DWR a perspective major participant in any large-scale power plant development and has created a substantial need for use by DWR of high-capacity electrical transmission facilities (DWR Petition, pp. 1, 2).

DWR is a competitor of PG&E in the bulk power supply market with a potential for further competition therein. DWR, therefore, has an interest in bulk power in northern and central California which it asserts is substantially effective by the existence of a monopoly power by PG&E over bulk power supply and high-voltage transmission service. DWR alleges that the rates it pays for bulk power in northern and central California are affected by the PG&E monopoly.

Further, DWR asserts that the Stanislaus facility would tend to increase PG&E's monopolistic control of bulk power and transmission. Therefore, DWR's interest will be affected by the outcome of this proceeding and by any conditions that might be attached to the Stanislaus license to remedy such anticompetitive or monopolistic situation.

The Staff supports the DWR position that it has an interest in the proceeding sufficient to meet the requirements of Section 2.714. In addition, the Applicant does not specifically contest DWR's interest. Considering all the factors relating to the DWR interest, the Board finds that the DWR petition meets the interest requirements of Section 2.714.

2. The Situation Inconsistent

As with NCPA, the Board considers a general analysis of the situation inconsistent is appropriate, although it will not deal with every allegation made by DWR. Briefly, the situation inconsistent as alleged by DWR can be summarized as follows:

DWR asserts that there is a conscious course of conduct by PG&E to exclude DWR and others from obtaining independent generation in northern and central California. This course of conduct consists of PG&E demanding all-requirements contracts from the parties to whom it sells power and all-output contracts from the parties from whom it purchases power. In addition, PG&E has excluded importation into northern and central California of power that could be available to DWR. This has been done by the use of market division agreements, in particular the Seven Party Agreement and the California Power Pool Agreement.

DWR also alleges the PG&E's all-requirements contracts and all-supplemental power requirements contracts remove potential buyers from DWR for substantial periods of time and are therefore anticompetitive. DWR alleges that the

buyers excluded are potential customers of the Stanislaus power that will be owned by DWR.

Further, DWR claims that PG&E has a bottleneck control over the bulk power supply in northern and central California, which control is used to monopolize transmission facilities in that market. DWR cites restriction on its use of the Northwest intertie as a specific use by PG&E of its monopolistic control. In addition, DWR points to certain predatory practices by PG&E to prevent development of independent transmission capacity by DWR and others. Such predatory practices include offering very low and perhaps nonprofitable rates to DWR and others when DWR has indicated an interest in building its own transmission capacity.

DWR takes the position that the above described situation constitutes a maintenance by PG&E of a monopoly in northern and central California over power generation, customers and high voltage transmission, and that the contracts and practices alluded to are anticompetitive and in restraint of trade. DWR alleges that overall this situation is inconsistent with the antitrust laws and in particular is in violation of and/or inconsistent with Sections 1 and 2 of the Sherman Act.

Further, the Board notes that the Staff's specific analysis of DWR's points is substantially accurate (Staff Response to DWR Petition, pp. 8-9). The Board, therefore, is setting it out herein and adopting it as a helpful particularization of many aspects of the situation inconsistent alleged by DWR. These points identified by the Staff are:

- (1) PG&E required the U.S. Bureau of Reclamation, as a condition to its purchasing wheeling services from PG&E, to limit severely the geographical area in which it can sell power, to restrict the preference agency load of the Bureau's system, and to deny the use of the Bureau's transmission system for wheeling other utilities' excess capacity to potential customers such as DWR;
- (2) PG&E has contracted with SMUD to be the exclusive purchaser of all SMUD surplus power;
- (3) The PG&E-SMUD contract limits the development of new generation by SMUD;
- (4) PG&E has refused to permit DWR to use the California segment of the Pacific Northwest intertie for any intrastate transmission;
- (5) PG&E is a party to the California Power Pool which serves to divide the bulk power sale market and restrict competition therein;
- (6) The California Power Pool has refused the requests of other California utilities to become equal members of the Pool;
- (7) PG&E has refused to wheel DWR's own power except specifically for operation of CSWP pumps;

- (8) PG&E is a party of the Seven Party Agreement which gives PG&E and the other members of the California Power Pool priority to purchase excess Northwest power, thereby eliminating potential competition with PG&E by Pacific Northwest utilities for bulk power sales to DWR and others.

Further, in the Board's opinion, DWR has established a nexus between the above-described situation inconsistent and the licensed activities under Stanislaus. DWR alleges that PG&E's ownership of Stanislaus will enhance its control over the generation and bulk power supply market in northern and central California and that the transmission facilities which PG&E will build to integrate Stanislaus into its system will further increase PG&E's monopoly of high-voltage transmission and bulk power. Also, DWR contends that the Statement of Commitments made by PG&E will not alleviate the situation inconsistent with the antitrust laws but will in fact maintain such a situation. Therefore, the Board considers that DWR has made a sufficient showing of nexus in connection with the situation inconsistent alleged.

In addition, under *Wolf Creek I*, the Board must look to the relief requested by DWR. In this regard, DWR has asked that the Statement of Commitments be revised to provide for joint ownership of all electrical facilities of Stanislaus, including the high-voltage lines connecting PG&E's transmission system. DWR also seeks a revision of the requirement that an agreement to participate be consummated within one year of the offer since such time limit is unreasonable. In addition, DWR contends that the limits placed on PG&E's duty to interconnect are unreasonable and should be changed. DWR also requests that utilities interconnecting with PG&E not be subject to any limitations on interconnections with other utilities unless PG&E is subject to the same limitations. Further, DWR seeks that the prohibition on intrastate transfers of DWR share of the Northwest intertie be lifted. In addition, DWR asserts that existing restrictions on the sale of bulk power by entities other than PG&E should be abrogated and that all utilities be permitted to generate and/or import power for use or sale to others on an equal basis. DWR also contends that PG&E should be required to negotiate in good faith the sale of wheeling services.

In the Board's view, the above adequately establishes the relief requested by DWR and, considering the relief requested by, it sets forth allegations sufficient to show that such relief will not be cured by the PG&E Statement of Commitments.

Accordingly, the Board concludes that the DWR petition meets both the interest and contention requirements of Section 2.714 and has satisfied the requirements of *Wolf Creek I*. Therefore, the Board hereby grants the DWR petition to intervene and request for hearing.

C. Cities of Riverside and Anaheim (Cities)

The Cities petition creates an added difficulty since this petition is late filed under Section 2.714. The Board will first consider the merits of the Cities petition since this analysis is also pertinent to its assessment of the late petition principles set out in *Nuclear Fuel Services, Inc.* (West Valley Reprocessing Plant), CLI-75-4, 1 NRC 273 (1975).

1. Interest

Anaheim and Riverside are both located entirely outside of PG&E's service area and are municipal corporations which own and operate electrical distribution systems for the supply of electrical power and energy to their respective citizens consumers. Their combined peak demand in 1975 was about 550 megawatts and they purchase their power from Southern California Edison and Nevada Power Company. Cities contend that they compete with PG&E with regard to attracting potential customers to locate within their service area as opposed to that of PG&E's. This particularly relates to new large industrial customers. Also, Cities allege that they are potential competitors with PG&E in the bulk power market which can extend to all portions of the State (Cities Petition, pp. 2-5).

In particular, Cities assert that they have asked for but have been denied participation in Stanislaus and that such participation is necessary for them to obtain the most economical power supply for their consumers and to compete effectively with PG&E and other utilities in California for new industrial customers. They also state that they have unsuccessfully sought access to PG&E's transmission system in order to compete with PG&E for low cost bulk power from utilities both within and outside PG&E's control area. The Cities alleged that PG&E has created a situation inconsistent with the antitrust laws and that the operation of Stanislaus without them having access as a partial owner and access to transmission facilities will create and maintain the situation inconsistent with the antitrust laws. They claim their interest will be affected by the granting of a construction permit for Stanislaus with the current Statement of Commitments as conditions since those commitments do not provide for either partial ownership of Stanislaus by Cities or for access by Cities to PG&E's transmission system.

The Staff supports the Cities position regarding interest but the Applicant opposes it. Applicant takes the position that Cities do not have the requisite interest in view of their location outside PG&E's service area. The Applicant points out that the distance of Anaheim and Riverside from the proposed facility is over 300 miles. In the Board's view, Cities have established that they have an interest sufficient to meet Section 2.714 requirements in this proceeding.

There exists a potential for bulk power supply competition with PG&E, and there is a potential for competition for large industrial customers between Cities and PG&E. Further, since Stanislaus participation could affect the Cities ability to compete for such large customers and possibly their ability to compete in the bulk power supply market, their interest is affected by the outcome of this proceeding, which could determine their right to participate in Stanislaus. In the Board's view, Cities has shown sufficient interest in its petition to meet the requirements of Section 2.714.

2. The Situation Inconsistent

As noted above, the Board considers that a general analysis of the situation inconsistent is appropriate for determination of whether to grant an antitrust hearing. Again, the Board has found the Staff's analysis accurate and has largely adopted it herein (see Staff Response to Cities Petition, pp. 10-14). The Cities point to PG&E's alleged present monopoly power in its service area with regard to generation, transmission and wholesale supply of electric power as well as PG&E's control over effective access to the bulk power supply market in that area and throughout California. The claim that this monopolistic position has been created and maintained by PG&E in a manner inconsistent with the anti-trust laws, specifically with Sections 1 and 2 of the Sherman Act and Section 5 of the FTC Act.

In particular, Cities states that PG&E and two other utilities in California comprise the California Power Pool and control among them the high-voltage transmission and the major generating resources in California. Cities allege that the terms of the Pool agreement severely restrict the ability of smaller utilities to interconnect and coordinate with the three Pool members and do not provide any mechanism for nonmember utilities to join the Pool. It is also asserted that PG&E and the other members of the California Power Pool are parties to the Seven Party Agreement with four major Northwest utilities. Under the terms of this Agreement the three California companies can exclude all surplus power available from the Northwest utilities from being marketed into public systems in California. Allegedly this exclusion reduces and eliminates competition by non-Pool members for sales to or purchases from the Northwest utilities and results in the continuation of PG&E's monopoly of production and sales of energy in California. Also, Cities alleged that the Seven Party Agreement contains illegal price-fixing provisions. Overall, the Board considers that the allegations are sufficient to describe a situation inconsistent with the antitrust laws which meets the requirements of Section 2.714 and satisfies the requirements of the *Wolf Creek I* case.

In addition, the Board has considered the nexus requirement and is satisfied that Cities has met that test in their petition. First, Cities contend that the

situation inconsistent with the antitrust laws is related to the Stanislaus activities since, under the current conditions as defined by the Statement of Commitments, the ownership participation would not be open to them. In view of this, the activities under the license would place PG&E in an even more favorable position than it now enjoys with regard to competition for large industrial customers and competition in the bulk power supply market, in addition to enhancing PG&E's control over transmission facilities. These allegations do establish that there is a connection between the alleged situation inconsistent and the activities under the Stanislaus license.

Also, Cities assert that the PG&E commitments would themselves prevent the Cities from entering into transactions for the purchase or sale of power with other utilities within the PG&E control area. Consequently, Cities would not be able to compete effectively with PG&E for purchase of power from smaller utilities within the PG&E service area because of the contract provisions giving PG&E the right of first-purchase of all such power.

Regarding relief, the petition requests participation in Stanislaus and access to PG&E's transmission system on reasonable terms. Cities claim that these are not provided for in the Statement of Commitments and therefore ask that the Stanislaus permit be conditioned to include such provisions. Further, Cities seeks that the California Power Pool be revised to provide for a true Statewide power pool in which all utilities, both public and private, may participate. In addition, Cities seek revision of the Seven Party Agreement and removal of its alleged illegal price-fixing provisions so that all California utilities may purchase power on an equal basis from the Northwest utilities. The Board finds that the Cities petition does adequately describe the relief requested.

3. Late Filing

The Board, however, cannot end its inquiry here with regard to the Cities petition, since it was not filed within the time limits prescribed in the notice of receipt of the Attorney General's advice. We have outlined above the pertinent principles in Section 2.714 with regard to untimely filed petitions, in addition to the consideration that the Board must take into account in light of the leading case on late intervention, *West Valley, supra*.

The Board has analyzed the alleged reason for the untimely filing and has not found that there is a substantial showing of good cause for Cities' failure to file on time. The Board finds no basis for the assertion that the usual practice is to extend dates for all parties when one party has requested an extension and discerns no justification in Cities' assuming that they will receive similar extensions without taking any affirmative action to protect their rights. Nor is the Board persuaded that it is a good excuse that the Cities desire to avoid burdening the record and avoid legal expenditures, which would be relatively minimal

considering the potential litigation involved. Further, the Cities desire to avoid antagonizing other entities does not appear to justify its failure to file on time or to request an appropriate extension. The Board, therefore, finds that Cities have failed to establish good cause for their untimely filing as required by Section 2.714(a).

Under the *West Valley* case, the matter of late filing does not end with the determination of good cause. In *West Valley* the Commission indicated that the other factors set out in Section 2.714(a) should be evaluated to determine whether the petition should be granted even in the absence of good cause. This gives the Board discretion to grant untimely petitions, depending on the circumstances of individual cases. The Commission did point out that late petitioners have a burden in justifying their tardiness and that the burden is considerably greater when a latecomer has no good excuse for his late filing. However, the Commission held that, should one or more of the other factors involved in Section 2.714(a) necessitate granting the petition, then the Board has the power to do so.

The four factors in Section 2.714(a) relate to an analysis of the petitioner's interest and participation, and are similar to the three factors set out in Section 2.714(d). We, therefore, focus on these factors insofar as they relate to the Cities petition.

The Cities interest relates to their ability to compete with PG&E. While Cities might have available other sources of bulk power supply, there is no guarantee that they will be able to secure such alternative bulk power supply nor is it ascertainable that they will be able to secure such alternate power as economically as if supplied from Stanislaus. In any event, the availability of other potential sources of bulk power does not in itself constitute an assurance that the petitioner's interest will be protected since the terms and conditions of such potential supply are not known at this time. The Board, therefore, considers this factor is favorable to Cities.

The second factor is the extent to which the petitioner's participation may reasonably be expected to help develop a sound record. On this point also, the Cities must be considered as having the more favorable position. They will be able to bring resources and witnesses to testify with regard to areas that the other Intervenors, NCPA and DWR, would not be expected to address, both with regard to the power supply market and to transmission arrangements. In the Board's views, therefore, Cities could well assist in developing a sound record for decision.

The third factor is whether the petitioner's interest will be represented by existing parties. Again, the Board considers that this must be resolved favorably to Cities. There is, of course, a possibility that the Staff may take the position that would protect the Cities interest but there is no assurance of this since the Staff has not as yet taken any position in this cause. Further, even if the Staff

were to assume such a position, it might well not cover all items that Cities consider necessary to protect their interests. Further, there does not appear to be any such identity of interest between the other Intervenor and Cities that would insure that NCPA and/or DWR would protect the Cities interest in this proceeding.

The fourth factor under Section 2.714(a) is the extent to which a petitioner will broaden the issues or delay the proceeding. The Board recognizes that indeed the participation by Cities may well enlarge the issues and delay the proceeding to a certain extent. Accordingly, this factor does weigh against Cities as potential Intervenor. However, this proceeding is in its initial stages with intervention having only been granted and with discovery just beginning. In light of this, this factor is not so great as to outweigh the other three factors which are favorable toward granting intervention.

Further, the Board has considered the items listed in Section 2.714(d). As set out above, the Cities have established a valid interest in the proceeding and have a right to participate under the Atomic Energy Act, as amended. Also, the Cities have asserted a direct financial interest in light of their competitive position, which allegedly will be adversely affected if Stanislaus is constructed and operated without any participation by Cities. Considering this, the Board has concluded that these factors also weigh in favor of granting Cities' intervention petition.

In summary, the Board has determined that, despite the lack of good cause for late filing and the possible detriment of some broadening of issues and delay in the proceeding, the other factors involved in assessment of a late petition swing the balance in favor of granting the Cities petition. In particular, Cities do not have any other means by which their interests will be protected, their participation may assist in developing a sound record and their interest will not be represented by the existing parties. Accordingly, the Board considers that, under *West Valley*, it should exercise its discretion and grant the intervention petition.

Therefore, the Board hereby grants the Cities petition to intervene and request for hearing.

VI. IMPLEMENTING ORDERS

The Board, in light of its rulings above, is making the following orders with regard to this proceeding:

- A. The Board has granted the petitions to intervene filed by NCPA, DWR and Cities,⁷ and these petitioners are ordered admitted as Intervenor in this proceeding.

⁷The Board also recently received a supplement to Cities' petition. It is, however, referring this supplement and any responses thereto to the Licensing Board appointed to conduct the hearing.

- B. The Board has granted the requests for hearing by NCPA, DWR and Cities, and therefore orders that a hearing be held pursuant to Section 105 of the Atomic Energy Act, as amended, to determine whether the activities under the proposed Stanislaus license will create or maintain a situation inconsistent with the antitrust laws.⁸
- C. The Applicant's motion for summary disposition is hereby referred to the Atomic Safety and Licensing Board appointed to conduct the hearing ordered by this Memorandum and Order.

FOR THE ATOMIC SAFETY
AND LICENSING BOARD

Daniel M. Head
Chairman

Issued at Bethesda, Maryland,
the 15th day of April 1977.

⁸The Board will issue a Notice of Antitrust Hearing to effectuate this Order.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Edward Luton, Chairman
David L. Hetrick
Frank F. Hooper

In the Matter of

Docket No. 50-389

FLORIDA POWER & LIGHT COMPANY

(St. Lucie Nuclear Power Project,
Unit No. 2)

April 19, 1977

Upon remand of partial initial decisions ordered by ALAB-335, 3 NRC 830, to reconsider the alternate site analysis, the Licensing Board finds that the NRC staff's prior site review was inadequate but that its new evaluation was satisfactory and that no site examined is superior to the proposed site. In addition, the Licensing Board issues its Initial Decision on radiological health and safety and other issues, making determinations of fact and law and authorizing issuance of a construction permit, subject to certain conditions.

NEPA: RULE OF REASON

The NEPA requirement to consider alternatives is subject to a "rule of reason." "What is required is information sufficient to permit a reasoned choice of alternatives so far as environmental effects are concerned." *Sierra Club v. Morton*, 510 F.2d 813 (5th Cir. 1975). The "rule of reason" approach includes the taking of such minimal steps as may be necessary to assure a real and practical factual knowledge of the matters to be evaluated.

TECHNICAL ISSUES DISCUSSED: Stalled hurricanes; projected occupational doses.

INITIAL DECISION

Appearances

Norman A. Coll, Esq., of Steel, Hector & Davis, and Harold

F. Reis, Esq., and Michael A. Bauser, Esq., of Lowenstein, Newman, Reis and Axelrad, on behalf of the Applicant, Florida Power and Light Company

Martin H. Hodder, Esq., *pro se*, and on behalf of Rowena E. Roberts, *et. al.*, Intervenors

Daniel Lamke, Esq., on behalf of the U.S. Federal Power Commission

Edward G. Ketchen, Esq., and William D. Patton, Esq., and James R. Tourtellotte, Esq., on behalf of the Nuclear Regulatory Commission

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I. INTRODUCTION

1. Much of the history of this proceeding is set forth in the Partial Initial Decision on environmental and site suitability matters issued by the Board on February 28, 1975, *Florida Power and Light Co.* (St. Lucie Unit No. 2), LBP-75-5, 1 NRC 101 (1975) and the Supplement to the Partial Initial Decision issued by the Board on April 25, 1975, *Florida Power and Light Co.* (St. Lucie

Unit No. 2), LBP-75-25, 1 NRC 463 (1975). By those decisions, the Board made the environmental and site suitability determinations specified in 10 CFR §50.10(e)(3).

2. The results of the Staff's radiological health and safety review are set forth in the Safety Evaluation Report (SER), issued in November 1974, Supplement No. 1 to the SER issued on March 3, 1976, and Supplement No. 2 to the SER issued on April 27, 1976.¹ Pursuant to this Board's "Order Following Prehearing Conference" of April 29, 1976, hearings were held on radiological health and safety matters on May 20, 21, 25, 26, 1976. Subsequently, proposed findings of fact and conclusions of law were submitted by the parties on all of these issues. Before an Initial Decision covering these issues could be prepared, however, ALAB-335 was issued by the Appeal Board on June 29, 1976. The Appeal Board held that the Licensing Board was in error in summarily disposing of the Intervenor's contention with respect to the evaluation of alternate sites. In light of disclosures made by the Staff in the course of the proceedings before the Appeal Board, that body held that the Intervenor had not been informed of the essential ingredients of the Staff's alternate sites analysis and, therefore, had been deprived of a fair opportunity to contest the validity of the approach taken by the Staff. Accordingly, the alternate sites contention was reinstated and the matter remanded to the Licensing Board. The Appeal Board directed the parties to brief, and this Board to decide, whether the Staff's evaluation technique satisfied the National Environmental Policy Act. *Id.* at 840-41.

3. The Appeal Board determined not to withdraw the Limited Work Authorization that had been issued pursuant to the Partial Initial Decision. However, in an order entered on October 21, 1976, the United States Court of Appeals for the District of Columbia Circuit directed that the Limited Work Authorization be stayed pending resolution of the alternate sites matter. *Hodder v. NRC* (D.C. Cir. No. 76-1709).

4. Subsequent to the May 1976 hearings, the Regulatory Staff received extensions of time to make further inquiries into whether the emergency core cooling system (ECCS) for the proposed unit complies with regulatory requirements. As set forth in greater detail below, the evaluation model for the ECCS was subsequently required to be modified by the Staff. Accordingly, by motion dated August 12, 1976, the Staff moved to reopen the record to receive additional evidence concerning the adequacy of the ECCS, and, by order dated August 12, 1976, that motion was granted. An order issued August 23, 1976, provided that evidence would be received on the ECCS issue and on any issues

¹ The SER was admitted as a Staff Exhibit (Tr. 3344). However, no exhibit number was assigned. SER Supplement No. 1 is Staff Exhibit S-4 and SER Supplement No. 2 is Staff Exhibit S-5 (Tr. 3600). To avoid confusion, the SER is hereafter cited as "SER, p. ____" and the supplements are cited as "SER Supp. No. ___, p. ____."

presented by Intervenor's July 28, 1976, "Motion to Reconsider Contention 1.3 Need for Power and Conservation of Energy," should that motion be granted. The Board later reopened the record for reconsideration of Contention 1.3 as that contention was restated in the Board's Order of October 28, 1976. On November 11, 1976, the NRC issued its Supplemental General Statement of Policy (41 *Fed. Reg.* 4998) relating to the environmental effects of the fuel cycle. Although the fuel cycle issued had been dealt with in the Partial Initial Decision (para. 120), the Supplemental General Statement of Policy required the receipt of further evidence with respect to that matter.

5. Hearings were held on December 1, 2, 3, 4, 15, 16, 17, 1976, on the alternate sites, ECCS and need for power issues, and on January 11, 1977, on the fuel cycle issue. This Initial Decision addresses all the outstanding issues in this proceeding.

II. EVALUATION OF ALTERNATE PLANT SITES

6. One of the contentions which the Licensing Board originally permitted the Intervenor to place in controversy was the following:

Whether the Staff's Final Environmental Statement has sufficiently considered alternatives to the proposed action including . . . alternate sites especially sparsely populated areas such as southwest Florida. Intervenor's Contention 1.6(b).

The Applicant moved for summary disposition of this contention, claiming that alternate sites were adequately considered in the FES. The Staff supported the motion, asserting that the FES reflects "consideration of alternative sites which include any in southwest Florida, although the FES does not so state." The FES treats the alternate sites question in the following manner:

A comparison of the St. Lucie site to another coastal site is presented in Table 9.1. This alternate site can be defined as a typical east coast site, although the specific example used was located within a 40-mile radius of West Palm Beach. (FES Section 9.1.2)

The Licensing Board summarily disposed of Intervenor's Contention 1.6(b) largely upon the above quoted representation that a specific alternate site had been compared to the St. Lucie site. It is now clear that, contrary to this representation, the Staff had evaluated no "specific" alternate site when it published its Final Environmental Statement. What the Staff had done, we are told, was to engage in a process of site evaluation which made comparisons of the St. Lucie site to any other specific alternate site quite unnecessary. The principal Staff witness on the subject now characterizes the use of the word "specific" in the quoted FES Section 9.1.2 as "unfortunate" (Tr. 5796).

7. Upon receiving a detailed description of the procedure followed by the Staff in its alternate sites evaluation the Appeal Board, by ALAB-335, June 29, 1976, reinstated Contention 1.6(b) and remanded the matter to the Licensing Board. The Appeal Board observed that:

The Staff may be justified in claiming that its method of alternative site evaluation comported with NEPA in principle, accurately assessed the facts in this case, and resulted in a valid conclusion. But the outpouring of facts and methodology in its postargument affidavits has not yet been tested. Nor have the several affiants been required to defend against possible challenges to their approach. We therefore find it inappropriate to pass upon the merits of the staff's alternative site evaluation. All we can decide at this juncture is that the intervenors had no fair opportunity to contest the matter.

Following the remand, in August 1976 the Regulatory Staff performed another alternate sites evaluation in this case. This second effort differed considerably in method from the first evaluation. Each of these evaluations is described and discussed below.

8. We begin with an examination of the alternate sites analysis performed by the Staff in the year 1973, prior to preparation of its FES. The methodology employed at that time is characterized by the Staff's principal witness on this aspect of the case as a "best characteristics" or "best regional" site evaluation methodology. Young affidavit, November 1976, p.5. The evaluation consisted of a kind of comparison between certain actual characteristics of the proposed St. Lucie Unit No. 2 site to what are claimed to be "the best possible characteristics" of other possible sites where the plant might be located. The conclusion reached was that none of the other possible sites possessed better characteristics for the siting of the plant than the proposed St. Lucie Unit No. 2 site on Hutchinson Island. None of this is to say, however, that the Staff evaluators actually visited, or even specifically defined, any possible alternate site. Instead, the evaluators viewed the entire State of Florida as having been divided into five so-called "general siting regions." They then quickly eliminated three of these "general siting regions" from further consideration because of what were determined to be higher economic costs, greater ecological impacts, lower transmission reliability, or greater nearby population concentrations—all as compared to the proposed St. Lucie Unit No. 2 site at Hutchinson Island. The two remaining regions were then divided into fourteen smaller regions, six of which were eliminated because of "excessive population" or "longer transmission distances." The same process of elimination was continued until but three possibilities were left: one specific site (the proposed St. Lucie Unit No. 2 site at Hutchinson Island), one generalized coastal region (somewhere on or around Jupiter Island), and one generalized inland region (somewhere near Lake Okeechobee). Young affidavit, November 10, 1976, p.6.

9. It is said that an "important principle" underlying this site evaluation methodology is that of "obvious conclusion"—meaning simply "that an alternative should be excluded if it has an obvious overwhelming disadvantage . . . or conversely, an alternative is the best if it has an overwhelming advantage . . . which cannot be offset by any conceivable combination of advantages for other alternatives." Young affidavit, December 19, 1975, p.2. Thus it was that certain specific characteristics of the proposed St. Lucie Unit No. 2 site were compared to what the evaluators deemed to be the best possible (not actual) characteristics of the two remaining regions. Absent any visit to a specific site within either of those two regions, or even an identification of any specific alternate site within either of those two regions, the judgment about the "best possible characteristics" of any specific site within those regions was derived upon the basis of a general familiarity with certain portions of the State of Florida. In this regard, the principal Staff witness on this subject testified as follows:

In preparation for this evaluation the environmental reports for both the St. Lucie 1 and 2 power plants, the FES for St. Lucie 1, and appropriate descriptive material for southern Florida were studied. In addition, the general characteristics of southern Florida were obtained by discussions with former residents employed by Battelle. Numerous power plant siting documents . . . were reviewed to assure familiarity with all siting requirements. I also had prior knowledge of the general characteristics of Florida from a one-week vacation trip in 1969 when I drove the full length of the east coast and much of the west coast. Young affidavit, November 1976, p. 4.

The proposed St. Lucie Unit No. 2 site was determined to be superior to all others, since that site had "equal or better characteristics than the characteristics for the best possible location in" either of the remaining two regions. Young affidavit, November 10, 1975, p. 7.

10. It is true, as both the Applicant and the Staff argue, that the National Environmental Policy Act is silent concerning the particular manner in which alternate sites are to be compared. As a result, the requirement to consider alternatives is indeed subject to a "rule of reason." Both Applicant and Staff place particular reliance upon *Sierra Club v. Morton*, 510 F.2d 813 (1975) ("What is required is information sufficient to permit a reasoned choice of alternatives so far as environmental effects are concerned"), and *Northern Indiana Public Service Company* (Bailly Generating Station, Nuclear Unit 1), ALAB-224,8 AEC 244 (August 29, 1974). In Bailly, *supra*, a number of potential sites were initially considered but only two, deemed to be the two best sites, were subjected to a detailed comparison. But the instance that we are presently considering is one in which no two specific sites received any such comparison. No party has cited to us any case holding that the NEPA requirement to compare alternate sites is satisfied without an actual comparison of two or more

real, specifically identified sites. Nor have we found such a case. The Applicant and Staff insist nevertheless that what was done in this case, as heretofore described, was "reasonable" and therefore, comported fully with the requirements of NEPA. We reject that conclusion. In our view, the alternate sites comparison performed by the Staff in preparation of its FES was, in the circumstances of this case, unreasonable and fell short of what NEPA requires.

11. The Applicant argues, at page 2 of its Reply Brief on the alternate sites question, that, "Under the rule of reason there is no requirement that individual sites be analyzed" and that, "In order to generate sufficient information, the responsible Federal agency need not compile mass studies for each alternative," citing *Cape Henry Bird Club v. Laird*, 359 F. Supp. 404, *aff'd* 484 F.2d 453. The Regulatory Staff makes the same points in its brief on this question.

12. The "rule of reason" does not *preclude* in any fashion analysis of specific alternate sites as part of a NEPA evaluation. No party makes any suggestion to the contrary. A comparison of specific sites seems to be the usual way in which the Staff makes its alternate sites evaluation in reactor licensing cases (Tr. 5580; 5760-61). Nor can it reasonably be denied that the "rule of reason" in a given case may, dependent upon the particular circumstances, demand that specific alternate sites in fact be analyzed. Additionally, the argument that NEPA does not require the compilation of "mass studies" for each alternative considered is of no real relevance on the question we are now considering. Indeed, if the measure of the sufficiency of the Staff's first alternate sites evaluation in this case is to be the "massiveness" of the studies made or the data produced, we would find it quite difficult to label that effort "inadequate." We think, however, that "mass" is not the proper measure.

13. A "reasonable" evaluation of alternate sites has to depend upon all of the circumstances in which that evaluation is made. In our view, the reasonableness of the evaluation, in terms of NEPA, does not depend upon the ultimate conclusion reached. We do not understand NEPA to require a particular result. We have no doubt, however, that NEPA's "rule of reason" contemplates the taking of such minimal steps as may be necessary to assure a real and practical factual knowledge of the matters to be evaluated. And these "minimal steps" consist of the evaluators doing *all* of that directed to those ends which, at least, can readily and easily be accomplished in the circumstances in which they work. We are not able to conclude that the elaborately constructed alternate sites evaluation "methodology" employed by the Staff met that standard. Actual inspection of particular alternate sites could readily and easily have been performed by the Staff and was called for in the circumstances of this case.

14. The opportunity to carefully and realistically assess possible alternate sites was available to the Staff. Indeed, the Staff started out seeking specific information about particular alternate sites as early as May 1973. Its reasons for not following through in that regard are trivial at best and inexcusable in the

circumstances. The evidence indicates that three requests were made upon the Applicant for the locations and other information about possible alternate sites between May and October 1973. Adequate responses were never forthcoming (Tr. 5780-84). The Staff had reason to believe at the time that Applicant's unwillingness to respond adequately was due to Applicant's "proprietary" concerns (Tr. 5743-44). In September 1973, Staff representatives actually visited the proposed site at Hutchinson Island, but visited no other one; as set out below, the Staff was at this time actually aware of at least two possible alternate sites. Still, and in the face of earlier inadequate responses to requests for additional site information, the Staff nevertheless declined to actually look at any alternate sites. In October 1973, the Staff made its last request to the Applicant for specific information concerning specific alternate sites. Then, also in October 1973, the Staff decided that, while descriptions of specific sites might be "useful" (Tr. 5785 *et seq.*), such was not really necessary because enough information was by then available to enable the performance of a "best regional characteristics" analysis (Tr. 5814), and because the principal Staff evaluator had a deadline to meet (Tr. 6629-30). Thus, the analysis was performed and the FES was issued in May 1974.

15. Employment of the evaluation "methodology" wholly failed to reveal significant facts which actual site visits would undoubtedly have revealed. Common experience overwhelmingly suggests that one cannot truly know the physical characteristics of a particular *site* without at least some study of that particular *site* (not a generalized "region" containing many sites). The point is forcefully made by what actually happened here. Two sites, Martin and South Dade, were identified by the Applicant in its Environmental Report and were thus known to the Regulatory Staff. The identification, in amendment No. 2 of the Environmental Report (November 6, 1973), was as follows:

Florida Power and Light Company is presently developing two inland sites in southern Florida that are suitable for either fossil or nuclear generation. These include the Martin site located in Martin County approximately 50 miles west of West Palm Beach and the South Dade site located in Dade County south of the Turkey Point plant. The Martin site is a cooling pond site and the South Dade site may be either cooling pond or cooling tower site. Two 800-850 Mwe oil fossil units are scheduled to be installed in the period 1977 and 1980 at each of these sites.

Earlier, in conversations with representatives of the Applicant in September 1973, during the Staff's visit to the proposed Hutchinson Island site, these sites were mentioned to the Staff evaluators. Nevertheless, the Staff's "regional analysis" of the region in which the Martin site is located wholly failed to disclose the fact that the Martin site was then being developed as a cooling pond site which will ultimately have a cooling pond reservoir of some 7000 acres. Thus, this

prospect was not taken into account as one of the best regional characteristics. Consequently, the region and, presumably, all potential sites within it, were found to have "questionable" cooling water availability, and "difficult" liquid waste disposal possibilities, when first compared to the proposed St. Lucie Unit No. 2 site on Hutchinson Island. Later analysis, including an actual visit by the Staff evaluators to the Martin site, revealed the availability of both "good" cooling water and "good" waste disposal facilities (Young, Supplemental Testimony, November 1976, following Tr. 5443, Table 2, p. 19).

16. The alternate sites evaluation methodology employed here is troublesome in other ways as well. The Staff argues that the "method of site evaluation [is] based on a standard alternative analysis technique, commonly used by decision makers . . ." However, with respect to this "commonly used" methodology, the principal Staff witness on this subject testified that in only two instances involving power plant siting has employment of this methodology resulted in the discarding of all possible alternate sites without the evaluators having had a particularized description of those sites or even knowing where they were. As it happens, those instances were (a) the evaluation of the St. Lucie Unit No. 1 site, and (b) the evaluation of the proposed St. Lucie Unit No. 2 site, both at Hutchinson Island, Florida (Tr. 5585 *et seq.*) The witness could only venture a guess about why St. Lucie and Hutchinson Island seem to be unique in this regard: he opined that other site evaluators examining potential sites at other places were probably not aware of this "commonly used" methodology, so they carried on their analyses (perhaps unnecessarily) to the point of comparing specific sites (Tr. 5586 *et seq.*). Then, despite the witness' own insistence that the technique employed is "standard," "normal," and in "common use," the witness expressed concern that where a conclusion is drawn without there having been a comparison of specific sites, the Staff "might have the type trouble we are having in this hearing here, that people have a little difficulty understanding the methodology if we don't go into the final steps of looking at specific sites even though it was really not necessary" (Tr. 5786); and, "if we wrote an environmental statement and we have never visited the site, I am sure the environmental statement would be challenged on the basis that we did not have sufficient knowledge of that site. But as a general rule, many of these site visits are almost window dressing" (Tr. 5613).

17. Finally with regard to this "standard," "commonly used" methodology, we are told that it has been developed over the centuries by "hundreds of people," and amounts to little more than "elaboration upon the obvious":

If I were buying an automobile and, let us assume I have seven members in my family, the sooner I discover that the Volkswagen Beetle will only hold five people, I look no further at the Volkswagen Beetle; it is the same type of reasoning. (Tr. 5792;5846)

We believe that NEPA demanded more. Upon consideration of all the evidence in this regard, we conclude that the alternate sites analysis performed by the Staff in the year 1973 and reflected in its FES did not, in the circumstances of this case, constitute reasonable compliance with the requirements of the National Environmental Policy Act.

18. As stated above, the Staff performed another site evaluation in this case in August 1976, a time subsequent to the Appeal Board's remand of the matter to the Licensing Board. This analysis was assertedly performed with the following objectives in view:

- (1) "to determine whether a better site could be identified due to any change in circumstances since the previous analysis conducted" by the Staff in preparation of the FES, and
- (2) "to determine whether the previous analysis was still valid and still shows that the Hutchinson Island site is still the best available alternative location of St. Lucie Unit No. 2," Young affidavit, November 1976, pp. 1-2.

This time, actual visits to several specific sites were made by the Staff evaluators. Particularly, the proposed site at Hutchinson Island, and sites known as DeSoto, South Dade, Martin, Salerno, and Juno Beach were inspected on August 17-18, 1976, by aerial survey, onsite examination, or both. The available technical literature concerning each of these places was reviewed and characteristics of each of the sites were discussed with the Applicant's personnel. A detailed comparison of the proposed St. Lucie No. 2 site to each of the other sites investigated is contained in Table 2, Testimony of J. R. Young, November 1976, pp. 19-21 (following Tr. 5443). Staff witnesses have given testimony about each of the sites as viewed from the witness' own field of expertise. This testimony covers terrestrial and aquatic ecology and hydrology (Testimony of Frank P. Hungate, Site Alternative Analysis Update; Testimony of NRC Regulatory Staff by Duane H. Fickheisen; Testimony of Robert G. Baca on Hydrological Aspects of Alternative Site Analysis Update; following Tr. 5443).

19. Intervenors have pressed the position that St. Lucie Unit No. 2 should not be constructed at the site on Hutchinson Island, but, rather, should be constructed at the Martin site. Intervenors' principal witness on alternative sites was Dr. Karl Z. Morgan (Testimony Recommending the Location of St. Lucie No. 2 at a More Suitable Site Than Hutchinson Island by Karl Z. Morgan, following Tr. 6192). Dr. Morgan testified that the site on Hutchinson Island has many undesirable features. He listed the following: (1) the density of the population and the prospect of a rather rapid increase in neighboring populations over the operating lifetime of the plant; (2) difficulties of egress and safe evacuation in time of emergency; (3) shipment of fuel to and from St. Lucie 2 by truck instead of rail; (4) the lack of holdup of cooling water before discharge and the

insufficient capacity to hold up intermediate high level liquid discharges; (5) the doubling of population exposures resulting from adding St. Lucie 2 to a site already containing one nuclear reactor; and (6) the likelihood of common mode failures where two units are operated by the same utility at a single site. Dr. Morgan concluded that there are other sites that avoid certain of these shortcomings, that the Martin County site would "score the highest" of these other sites, and that it would score better than the site on Hutchinson Island on each of the above enumerated features (Morgan, pp. 1-4, 6).

20. The evidence indicates that the population within a 50-mile radius of the Martin site is greater than that within a 50-mile radius of the proposed St. Lucie Unit No. 2 site (Young, November 19, 1976, p. 19). With respect to radiation doses, dose exposure in the year 2020 resulting from the operation of St. Lucie Unit No. 2—other than exposure to plant workers and an exposure due to transportation—is 4 person rem per year within a 50-mile radius assuming a population of 1,700,000 people (see testimony of Dr. Roger Linnemann, p. 2, following Tr. 4862). In individual terms, this amount to an average dose of .002 millirem per person/per year. *Id.* From a medical standpoint, both the cumulative and individual dose commitments are medically insignificant and would have no detectable impact. *Id.*

21. Applicant's witness Dr. Linnemann testified that even if the expected population surrounding St. Lucie 2 in the year 2020 lived at the fencepost of the reactor site, there would be no detectable medical impact resulting from the radiation dose (.5 millirem) expected to be received at that location (Tr. 6227-6228). There would not be an observable increase in the number of cancers around the St. Lucie plant or around a similar plant with a lesser population at any time during the lifetime of the plant (Tr. 4881). With respect to genetic effects in a larger population, Dr. Linnemann testified that 99% of the risk of genetic harm comes from exposure to workers in the plant and that he would not expect to observe any genetic harm as a result of the radiation exposure to these workers or to the public as a result of the plant (Tr. 4884-4886). In short, the environmental cost-benefit analysis is not materially affected by the differential in radiation dose exposure resulting from moving the plant (Linnemann, p. 3).

22. The evacuation requirements for St. Lucie 2 have previously been approved by this Board and by the Appeal Board (ALAB-335, 3 NRC at 834, Partial Initial Decision, paragraphs 63, 87). Dr. Morgan did not base his comparison of the Martin and St. Lucie sites on any specific calculations of the time required to evacuate at Martin. Rather, his conclusion was based on his general knowledge of the area and his experience in other situations (Tr. 6470-71). Witness Young disagreed with Dr. Morgan. In his view, evacuation problems at Martin would be at least as great as at Hutchinson Island (Tr. 6374-75). The evacuation cost-benefit comparison of alternatives to the proposed site is not a

significant factor in the overall cost-benefit determination in any event (Tr. 6372-73).

23. Shipment of spent fuel by truck instead of rail would result in a one-tenth reduction in dose exposure. The average dose exposure to an individual from transportation by truck is .006 millirem. By rail, it would drop to .0006 millirem (Tr. 6242). Dr. Linnemann testified that these dosages are medically insignificant (Tr. 4874, 6241). As a result, from a medical point of view, there can be no material cost-benefit differences in shipping by rail instead of by truck (Tr. 6241). The exposure from transportation of spent fuel is too small to be a factor in choosing any site (Tr. 4874).

24. With respect to liquid effluent discharges, there will be no "intermediate to high level liquid discharges" to the cooling water (Tr. 6378-79). But Dr. Morgan appeared to be concerned principally with the fact that effluents would be discharged into the ocean environment at St. Lucie whereas, presumably, at Martin, effluents would be discharged into the Applicant's cooling pond (Tr. 6475-6505-06). Staff witness Dr. Eckerman, called in rebuttal to Dr. Morgan, testified that the liquid effluent releases from St. Lucie 2 have been evaluated and found to be well within the design objectives of NRC regulations and there would be no undesirable concentrations of any liquid effluents in the environment (Tr. 6379).

25. It has already been determined that the location of St. Lucie 1 and 2 at the same place will meet the dose design requirements of 10 CFR Part 50, Appendix I (Tr. 6380). That dose would not figure significantly in the alternative site cost-benefit analysis. As for common mode failures for two-unit sites, we regard the Intervenor's testimony as being so lacking in detail as to cause us to be unable to discern its relevance to the alternate sites analysis.

26. The St. Lucie 1 reactor building and its appurtenant facilities cover nearly 300 acres of land (Pearson-Kent, pp. 2-3). The terrestrial impact of this complex cannot be disassociated from the construction of any other large power plant (*Id.*, p. 2). St. Lucie 2 would occupy only about 5 acres of this site (*Id.*). In addition, St. Lucie 2 would be able to share most or all of these appurtenant facilities with the existing St. Lucie Unit No. 1 (*Id.*, p. 3). These include access roads, laydown areas, warehouses, storage and administrative buildings, onsite electrical, water and waste disposal facilities, parking areas, a concrete batch plant, fuel storage facilities for construction equipment, and plant systems such as a cooling water intake system and an ultimate heat sink (*Id.*). Therefore, the environmental impact of St. Lucie 2 will necessarily be significantly less when compared to any other site (Hungate, pp. 2-3). Moreover, no additional commitments of land for transmission line corridors and no additional transmission line construction will be required for St. Lucie 2 at Hutchinson Island (Pearson-Kent, p. 3). While it is true there has been some environmental impact at Martin

due to the construction of two fossil units there, there are no facilities built other than access roads and some portion of a cooling pond reservoir (Tr. 5203).

27. There are also large economic advantages related to the cost of the shared facilities and cost of delay. To build St. Lucie 2 at any other site would require Applicant to construct, at a significant additional cost, facilities which St. Lucie 2 will be able to share because of the existence of St. Lucie 1 (Pearson-Kent, p. 4).

28. Moreover, it would add, at a minimum, four and one-half years to the 1983 construction completion date presently planned for St. Lucie 2 (*Id.*, pp. 4-6). No evidence has been presented indicating that further investigation is likely to disclose an alternate site so environmentally superior to Hutchinson Island to justify this delay. Indeed, the evidence shows that there is no reason to believe that there exists some better site, population and all other factors considered, than Hutchinson Island for St. Lucie 2 (Tr. 6000-6002).

29. In conclusion of this matter, we find that the alternate sites analysis performed by the Regulatory Staff in the year 1976 in this case, as described herein, gave adequate consideration to possible alternate sites. Pursuant to 10 CFR §51.52(b)(3), the Final Environmental Statement is modified to reflect our findings in this regard.

III. NEED FOR POWER

30. By a motion dated July 28, 1976, the Intervenor requested the Board to reopen the record to reconsider Contention 1.3, a contention which had already been decided in the Partial Initial Decision (Partial Initial Decision, para. 32-49). Original Contention 1.3 reads as follows:

Whether sufficient need for power will exist to justify the present construction of the facility, particularly whether:

- (a) the projected reserve margin without the facility would be adequate;
- (b) conservation measures by consumers due to changes in the rate structure designed to reduce the demand for electricity including peak pricing and higher overall prices will eliminate or postpone the need for the facility;
- (c) whether or not there shall occur in the future a slowed rate of economic growth in Florida, which would reduce the need for power;
- (d) whether there are power pools for Applicant to join; and if so, by joining such pools, whether its reserve needs would be diminished sufficiently to eliminate the need for the facility;
- (e) conservation of electricity by Applicant's customers due to increased rates presently occurring.

31. On October 8, 1976, Intervenor's filed "Intervenor's Second Supplement to the Motion to Reconsider Contention 1.3," and there stated the following:

The Intervenor's have never challenged the proposition that at some unspecified time in the future the additional base load generating capacity represented by St. Lucie Unit No. 2 would be needed. The question this Board must determine is, when is the earliest date that this plant must be built. That is the issue that must be addressed if fair consideration is to be given to utilization of possible alternative sites for St. Lucie Unit No. 2

Therefore, it was not the Intervenor's' purpose in seeking reconsideration to reopen all of Contention 1.3, nor to challenge the determination that at some future and specific time additional generating capacity would be required to meet demand. Rather, the question sought to be litigated was that of the time when power from the proposed facility will be needed, as that question may relate to the alternate sites matter that the Board was to consider upon remand.

32. Thus, by its Order dated October 28, 1976, the Board granted Intervenor's' motion with Contention 1.3 modified to read as follows:

Whether, in light of developments occurring since the issuance of the Partial Initial Decision in the case, sufficient need for power will exist to justify the construction schedule presently proposed by the Applicant; in particular, whether:

- (a) the projected reserve margin without the facility at the Hutchinson Island site would be adequate;
- (b) conservation measures by consumers due to higher overall prices will postpone the need for the facility; and
- (c) there shall occur in the future a slowed rate of economic growth in Florida, which would reduce the need for power.

33. The restated contention made it necessary for the Board to take into consideration the economic changes which have occurred since issuance of the Partial Initial Decision, and has thereby enabled us to decide the earliest date at which the plant will be needed. This finding, in turn, enables the Board to determine whether or not construction at an alternate site could be accomplished within this time constraint. The findings in this section, therefore, supplement and modify findings in the Partial Initial Decision with regard to the need for power and the Applicant's construction schedule.

34. St. Lucie Unit No. 2 was originally scheduled for service in 1980. Various delays extended the earliest possible inservice date to late 1982 (Bivans, testimony after Tr. 4896). The Applicant presently plans to bring St. Lucie Unit No. 2 into service by the summer of 1983 (Bivans, Exhibit 4, p. 2). Severe economic recession and high inflation in Florida caused the Applicant to revise its long-term peak load forecast (Sergel, pp. 2, 5; following Tr. 4894). In May

1974, June 1975, and December 1975, the Applicant successively revised downward its average long-term peak load forecast (Sergel, p. 5). In late 1976, the Applicant again revised its forecast utilizing the results of a more sophisticated economic model which combined the analysis of historical growth patterns with projections of several economic variables which could affect growth. These included an index of the economy, population growth, electricity prices, appliance saturation, and weather conditions (Sergel, p. 5). This latest peak load forecast predicted a range in annual growth from 4.4% to 6.1% for the 1975-85 period (Sergel, p. 10). This range approximates the range of growth rates being forecast for the nation as a whole (Sergel, p. 12). This forecast of growth rate in Florida was supported by the testimony of Staff Witness Uhler (Uhler, following Tr. 4997). His analysis concluded that considering the recession, inflation, and change in economic conditions in Florida which have occurred since 1975, the Applicant's projections of growth rate were reasonable and that a 1982-1983 in-service date for St. Lucie Unit No. 2 was both reasonable and prudent (Uhler, p. 11). The Board accepts the Applicant's range in average annual growth rate of 4.4% to 6.1% for the 1975-1985 period as being a reasonable projection which takes into account economic conditions and other important growth variables.

35. The Applicant calculated the system risk associated with the projected reserves using the "loss of load probability" technique utilized by most utilities and endorsed by the Federal Power Commission. From these calculations, it was concluded that the minimum acceptable reserve margin on its system is in the range of 15 to 20% (Bivans, pp. 19-20). Applicant's Witness Bivans gave schedules for construction of nuclear and coal-fired units under the above high and low projections of load growth (Bivans, pp. 18-21). Flexibility in construction schedule required to accommodate the high growth possibility will be made possible by accelerating the construction of the coal-fired units at the Martin site. Under high growth conditions, Martin Unit 1 could be brought on line in 1981 and Unit 2 in 1982; under low growth conditions, Unit 1 would be scheduled for 1982 and Unit 2 for 1984 (Bivans, p. 21).

36. In response to questions by the Board, Applicant's Witness Bivans testified that under the circumstances of low growth projections but with an accelerated construction schedule for Martin Units 1 and 2, the reserve margins in 1983 would be approximately 19%. This would be the last year that the utility could operate within the minimum acceptable reserve margins without St. Lucie Unit No. 2 (Tr. 5988-89). Cross-examination by the Intervenor revealed, however, that an additional 4% capacity would be available in 1983-85 if the utility retains old standby units presently scheduled for retirement (Tr. 4992). Adding this additional reserve to that projected for 1983, and considering that an accelerated schedule is feasible for the two Martin sites, the Board concludes that adequate reserves can be made available through 1983 without St. Lucie Unit No. 2; but, considering all information on available reserves and possible

construction schedules, the Board concludes that a base load plant approximately the size of St. Lucie Unit No. 2 must be constructed at the St. Lucie site or at an alternate site so as to be available in 1984.

37. Although the construction of a base load unit the size of St. Lucie Unit No. 2 could be delayed, it was clear from testimony of Witness Bivans that it was desirable to bring this unit on line as soon as possible (Tr. 4956) because of the economic advantage of nuclear plants vs. coal or oil-fired plants (Bivans, pp. 21-24). Staff Witness Gunderson concluded that St. Lucie Unit No. 2 should be completed as soon as possible because he considered the capacity from this unit as being essential for system reliability in 1983 (Gunderson, following Tr. 5003, p. 3).

38. The answers to questions addressed to Witness Bivans by the Board indicated that it might be possible to bring a nuclear unit on line at the Applicant's South Dade site by the end of 1985 (Tr. 4987). However, the Martin units cannot be considered substitutes for St. Lucie Unit No. 2 since all are needed additions to the system (Tr. 4954). Thus, considering the entire record on the need for power, the Board finds that the earliest projected date at which a unit the size of St. Lucie Unit No. 2 can be constructed at an alternate site is 1985. This would leave inadequate reserve margins even with low growth rate projections. The Board concludes that the Applicant's revised forecasts are reasonable and that the projected reserve margins without St. Lucie Unit No. 2 on Hutchinson Island would be inadequate. In addition the Board finds that the economic advantage of nuclear fuel, which is recognized in the Partial Initial Decision, (Partial Initial Decision, para. 49) is still valid (Bivans, pp. 21-24; Gunderson, pp. 4-5; Tr. 4946-4958; Tr. 4881, Tr. 4984-4985; Tr. 5043-5052).

IV. STALLED HURRICANES

39. In its Partial Initial Decision, the Board considered in some detail a hypothesized probable maximum hurricane (PMH) and the erosion it would create under high water conditions at maximum surge height (1 NRC at 122-124). However, the Board recognized that, although the maximum probable hurricane represented conditions of maximum hurricane intensity, the record was not clear as to the erosional damage in a situation of maximum hurricane durations at a maximum or relatively high level of intensity. The Board therefore directed the Applicant and Staff to submit evidence on the expected frequency of occurrence and the erosional damage to be expected from high intensity-long duration hurricanes (1 NRC at 466).

40. At the Staff's request, the Applicant: (1) reviewed historical hurricane data in the general region of the site and identified historical occurrences of hurricanes that had stalled, looped, or were slow moving, then (2) postulated storm conditions including surge and wave heights which could be associated

with a severe stalled or looping hurricane, and (3) evaluated the possible effects of such conditions at the plant site (SER supp. No. 1, p. 2-2).

41. From its analysis of the historical data on stalled hurricanes and looping hurricanes, the Staff concluded that hurricanes of this type did not intensify but that they deintensify gradually (Goodyear, Tr. 4428). Because deintensification is slow, because hurricanes of this type are a frequent occurrence in the area, and because the St. Lucie site was unprotected and erodible, the Staff concluded that stalled and looping hurricanes should be considered as a design-basis event for the St. Lucie site (SER Supp. No. 1, p. 2-5).

42. From its analysis the Staff postulated a stalled hurricane that would produce the worst possible combination of wave, water level, and erosion conditions at the site (Hullman, Tr. 4394). This hurricane was described as a maximum probable hurricane that stalls as it approaches the continental shelf, begins to deintensify, and drifts shoreward at a minimum translation speed of 1 knot (SER Supp. No. 1, p. 2-5).

43. Both the Applicant and the Staff postulated the parameters of this stalled hurricane (SER Supp. No. 1, Table 2-2). Very conservative assumptions were used by the Staff in its projection of these parameters. These were: (1) a 20% stall-induced reduction in pressure distribution, and (2) a translation speed of 1 knot during the hurricane's approach to the site (SER Supp. No. 1, p. 2-5). The Applicant presented calculations that showed a more realistic value for the reduction in pressure during deintensification is 60% (Applicant's Exhibit 26, pp. 6-7). The assumed translation speed of 1 knot was also conservative since it permits travel for a long period of time on a straight track towards the site, and thereby maximizes the erosional potential (Simpson, Tr. 4326-4327).

44. Although hurricanes that stall or slow down will normally deintensify (SER Supp. No. 1, pp. 2-4 to 2-5, Tr. 4264), Applicant's witness Simpson described meteorological circumstances under which a hurricane can slow down and intensify at the same time. This occurs when a hurricane is caught between the influence of the trade wind zone and westerly wind currents in such a way that there is a rapid increase in the rate of movement of air through the storm. This brings about a drop in central pressure intensification (Simpson, Tr. 4272-4276). This set of circumstances is not uncommon in the portion of the Atlantic near the site and could be expected to occur in this area once every 2 or 3 years (Tr. 4379). This combination of a hurricane stall and intensification, however, cannot persist for more than 24 hours. Thereafter such a storm would move either southeast or westward with increasing speed and/or would deintensify (Simpson, Tr. 4279; Tr. 4280). The postulated stalled hurricane analyzed by the Applicant and Staff would create the longest possible period of erosion at the site (Tr. 4382) and because of this characteristic would be more damaging than the hurricane described by Witness Simpson which stalls and intensifies for a short period of time (Simpson, Tr. 4334; Tr. 4335).

45. Although the stalled hurricane postulated by the Staff would produce the worst possible erosion conditions at the site (Tr. 4336), the storm surge water level would be lower than the moving PMH previously analyzed by the Staff and Applicant, and presented in the PSAR and FES. The design basis flood level therefore is not changed by the stalled hurricane analysis (Tr. 4395, 4431).

46. Staff Witness Hullman testified that the flood protection at doorways specified in the FES would no longer be needed because structures would be erected in front of the doors to deflect waves and divert water (Tr. 4430-31). The Board accepts these findings and accordingly cancels the requirement made in paragraph 126d of its Partial Initial Decision concerning this matter.

47. The Applicant's analysis of erosion from stalled hurricanes took into account both littoral drift and erosion from frontal wave attack and utilized conservative assumptions in regard to the angle of approaching waves in calculating drift (SER Supp. No. 1, pp. 2-9). Erosion from frontal wave attack was estimated from tank tests conducted by the U.S. Corps of Engineers Beach Erosion Board (Tr. 4223; Tr. 4255-56). This analysis assumed that the coastal dunes at the site were eroded away before erosion from the postulated hurricane begins (Tr. 4200). This analysis also paid attention to erosion taking place near the heat sink barrier and other vulnerable areas. It was estimated that the closest approach of erosion to any safety related structures would be 160 feet (SER Supp. No. 1, pp. 2-9 to 2-13) and would not affect the safety of the plant (Tr. 4184).

48. The Applicant analyzed possible current-induced erosion that would arise due to a breach of Hutchinson Island at Big Mud Creek (SER Supp. No. 1, p. 2-13; Tr. 4190-91, 4195-96, 4358-61). The erosional effects from these water movements were evaluated by the Applicant and were considered to be minimal (SER Supp. No. 1, p. 2-12). The Applicant considered erosion protection for the ultimate heat sink barrier dam at the northwest side of the nuclear island. A sheet steel bulkhead and two steel pile groins on the east side of the ultimate heat sink channel to Big Mud Creek and a sheet pile groin on the west side of the channel are needed to provide protection. This sheet pile will protect the barrier wall from the possible erosion from both the littoral drift and from frontal wave attack (SER Supp. No. 1, p. 2-11). The three groins will prevent intrusions of material into the emergency intake canal (Caldwell, Tr. 4237-4241). Accordingly, the Board requires the Applicant to install the additional protection described above as a condition of any license issued pursuant to this Decision. The Staff and the Applicant found that no adverse effects would result to the plant safety related facilities from erosion as a result of the postulated hurricanes if this additional protection is provided (SER Supp. No. 1, p. 2-11). The Board concurs.

49. Considering all of the evidence, the Board finds that there is reasonable assurance that the erosional effects at the site from a high intensity-long dura-

tion hurricane will not cause this site to be unsuitable. The Staff has concluded that the design of the St. Lucie Unit No. 2 is adequate to withstand the postulate stalled hurricane (SER Supp. No. 1, p. 2-13). The Board concurs in this opinion.

V. APPLICANT'S HEALTH PHYSICS PROGRAM

50. In the Partial Initial Decision (1 NRC at 111, para. 26), we noted that Witness Karl Z. Morgan questioned the Applicant's health physics program described in Section 12 of the Preliminary Safety Evaluation Report (PSAR) and summarized at page 12-5 in the Safety Evaluation Report (SER) issued by the Staff.

51. Dr. Morgan was concerned with the identification and qualifications of responsible health physics personnel to be employed at the St. Lucie Plant Unit No. 2 (Tr. 2880-2883, 3080-3092; Morgan, following Tr. 3052, p. 2). Dr. Morgan criticized the Applicant's health physics program in that it did not indicate that during operation of St. Lucie Unit No. 2 the Applicant would employ well educated, well trained, experienced, and competent personnel to implement good and sound health physics practices and procedures within the meaning of Regulatory Guides 8.8 and 8.10 to keep occupational exposures as low as is reasonably achievable (Tr. 2882-2883). Dr. Morgan was also concerned that a competent health physicist would not have a significant input in the plant design and facility layout at the early design stages from the point of view of designing the plant to keep occupational exposures as low as is reasonably achievable (Morgan, following Tr. 3052, p. 2).

52. Based on the concerns expressed by Dr. Morgan at the earlier hearing, the Board indicated its intent to inquire in greater detail into the Applicant's health physics program during the health and safety phase of this proceeding (1 NRC at 111, para. 26). The Board considered the Applicant's health physics program in detail at the health and safety hearings held on May 20-21, 1976, and May 25-28, 1976, pursuant to the Order following Prehearing Conference of April 29, 1976.

53. The Board finds that Applicant will employ a competent qualified health physicist meeting the requirements of Regulatory Guides 8.8 and 8.10; that Applicant's description of its health physics program to date is acceptable and meets regulatory requirements for the construction permit phase; and that Applicant's described health physics program meets the Commission's requirement that occupational dose exposures be kept as low as is reasonably achievable.

54. The Board specifically finds that Applicant has employed a competent and well trained health physicist and health physics staff meeting the requirements of Regulatory Guide 8.8 with respect to experience and training; that the

health physicist, including the Corporate Health Physicist, Harvey M. Story, will have a significant input into the plant design and facility layout at the early critical design phase of St. Lucie Unit No. 2; and, therefore, that there is reasonable assurance that exposure to plant personnel during operation will be as low as is reasonably achievable (SER §12.3; PSAR §12.3; Story, following Tr. 3879; Nehemias, Health Physics, following Tr. 4450; Whipple, following Tr. 3748, pp. 14-18; 20-21). We conclude, therefore, that the point raised by Dr. Morgan that a competent health physicist should be employed during the design of a nuclear power plant has been sufficiently addressed by the Applicant.

55. Our conclusions are based on the PSAR description of the Applicant's health physics program, including its description of the actions taken at the early critical design phase with respect to review of the design of the plant from an overall health physics and radiation protection perspective, and its operating procedures (SER §12; PSAR §12).

56. Applicant's Witness Story testified that a major aspect of the Applicant's program to keep occupational doses as low as is reasonably achievable (ALARA) is the proper design of the overall facility in order to limit radiation exposures to personnel during normal plant operations, maintenance, and inspection and other service modes (Story, following Tr. 3879). Through proper design, anticipated exposures to personnel will be minimized by shielding and segregation of radioactive equipment, isolation of such equipment from "cold" corridors and general access areas, and radiation protection design measures for maintenance, inspection and other servicing operations (*Ibid.* p. 7). The design of the St. Lucie Unit No. 2 plant is based upon operating experience in the general nuclear industry as well as design and operating experience at Turkey Point and St. Lucie Unit No. 1 (*Id.*). The approach adopted by the Florida Power and Light Company to implement ALARA involves the development of a program for the evaluation of plant design and facility layout, and the establishment of detailed health physics procedures (*Id.*). The design of St. Lucie Unit No. 2 was reviewed and evaluated by the Applicant's health physics staff. Mr. Harvey F. Story, the Corporate Health Physicist, testified that he was involved in the review and the design of St. Lucie Unit No. 2 (Tr. 3942). Examples of changes incorporated into the St. Lucie Unit No. 2 design as a result of Mr. Story's review, and the review by the Applicant's health physics staff include:

1. A rerouting of traffic patterns in the personnel change areas to limit the spread of contamination;
2. Use of increased shielding around waste gas decay tanks;
3. Increased control of personnel access to demineralizers by providing lockable gates around this equipment in order to minimize inadvertent exposures; and

4. Modification of shielding in the demineralizer valve area in order to decrease the required maintenance times (Story, following Tr. 2879, p. 10).

57. The Board has reviewed the evidence with respect to the design of the facilities and equipment, including the major features incorporated into the plant design to minimize in-plant radiation exposures (Story, following Tr. 3879; Nehemias, following Tr. 4450; PSAR § 12, SER § 12; SER Supp. No. 1, § 12). The Board concludes that the design meets the Commission's ALARA criteria.

58. Witness Nehemias testified that Applicant was required to have a competent health physicist review the design of the plant from a health physicist's perspective (Tr. 4482). Applicant's Witness Story testified that he was the health physicist responsible for reviewing the design of St. Lucie Unit No. 2 from a health physics perspective (Tr. 3942-3943). Witness Nehemias testified that at the time of application for construction permit, the Applicant is required to submit a PSAR containing information relevant to radiation protection (Nehemias, following Tr. 4450, p. 2). The Applicant is required to present information on ventilation, radiation source terms, and handling of radioactive wastes. The principal considerations at this preliminary stage of review are plant design layout, organization (including health physics review and responsibility at a level high enough to assure radiation protection input in plant operating and safety decisions) and a management commitment to maintain occupational radiation exposures as low as is reasonably achievable (Nehemias, following Tr. 4450, SER § 12).

59. In the earlier environmental and site suitability hearing, Intervenor's Witness Dr. Morgan stated that the Applicant:
did not have adequately trained manpower, knowledgeable people, experienced people to look after the health of the employees and to certify that the levels of contamination in the environment were at acceptable levels. (Tr. 2881)

60. Based on our review of the Applicant's health physics program, we find that the Applicant has adequate and competent health physics personnel in its employ, and that sufficient training from the health physics standpoint will be implemented at St. Lucie Unit No. 2. Further, we find that the Applicant's approach to the radiation protection aspects of design and construction of St. Lucie Unit No. 2 is acceptable, and, therefore, will result in reasonable assurance that personnel exposures will be as low as is reasonable achievable (Story, following Tr. 3879). Applicant's health physics program (including that program set out in the Applicant's Health Physics Manual) requires that all individuals responsible for recommending implementing the ALARA program have appropriate training, education or experience in the field of health physics (Story, following Tr. 3879). The Applicant's health physics manual requires that the Corporate Health Physicist have, as a minimum, a degree in radiological science

or engineering and at least six years of professional health physics experience. These qualifications are equivalent to those required for certification by the American Board of Health Physics. The qualifications of Mr. Story, the Corporate Health Physicist, meet the requirements of Applicant's health physics program and are consistent with those outlined in Regulatory Guide 8.8 (Story, Professional Qualifications, following Tr. 3879, p.15). Applicant requires that the health physics supervisor at the plant must have a degree in science or engineering and at least five years of applied radiation protection experience. This requirement also is consistent with those outlined in Regulatory Guide 8.8 (*Id.*). Health physics staff members initially receive an extensive review of their training experience. Personnel employed as plant health physics technicians are required to have at least two years of applied health physics experience. The required orientation and training program addressed such items as basic nuclear physics, the biological effects of radiation, radiation detection instruments, personnel monitoring, emergency procedures, and practicable application of health physics.

61. Besides this initial qualifying review program, a refresher course is given to the plant health physics staff members every two years (Story, following Tr. 3879). Detailed training is also required for personnel who require unescorted access into restricted areas. These training procedures meet the requirements of the regulations, specifically 10 CFR §19.12 (*Ibid.*). Therefore, there is reasonable assurance that occupational exposures will be as low as is reasonably achievable.

62. The Board examined the radiation protection aspects of the Applicant's design and construction program. The Board finds that there is reasonable assurance that implementation of the program described by the Applicant will result in exposures to employees as low as is reasonably achievable. Florida Power & Light Company has developed procedures designed to control activities carried out in high radiation areas. These procedures will enable the plant staff to maintain in-plant exposure ALARA by requiring (1) careful planning of preparation for maintenance, inspection, refueling, and nonroutine activities in all radiation zones; (2) multilevel review of all health physics procedures and operations; (3) review of plant operating experience to determine if procedural or design modifications need to be instituted (Story, following Tr. 3879).

63. One of the major aspects of Florida Power & Light planning procedures is the radiation work permit (RWP). The radiation work permit procedures authorize personnel to enter or perform work in areas where radiological conditions require special radiation protection measures. They insure that radiological conditions have been fully evaluated, that the job has been adequately preplanned, and that plant personnel are fully aware of the radiological conditions, the protective clothing necessary, and the special equipment requirements mandated by health physics personnel's review (*i.e.*, portable shielding and any spe-

cial health physics instruction developed for the specific work tasks requested) (Story, following Tr. 3879).

64. Applicant's operating procedures require routine surveys for radiation and airborne contamination on a regular basis. Procedures for use of protective clothing and equipment required when entering contaminated areas are also described by the Applicant (*Id.*).

65. In addition, the described radiation practices and procedures are subject to continuing reviews (*Id.*). The health physics supervisor at St. Lucie Unit No. 2 will have stop-work authority on particular jobs once the plant becomes operational. He has direct communications with higher levels of management, independent of normal in-plant administrative organizational structures, and procedures and requirements are established for daily communication between the Corporate Health Physicist and plant health physicist personnel. This will insure that there will be continuing attention to implementation of radiation protection by means of an adequate and sound health physics program (Story, following Tr. 3879).

66. We conclude that St. Lucie Unit No. 2 health physics program is acceptable and will result in exposures at St. Lucie Unit No. 2 as low as is reasonably achievable.

VI. PROJECTED OCCUPATIONAL DOSES

67. The Board finds that the establishment of a total annual occupational dose value as an operating limit for normal operating conditions' exclusive of unplanned-for maintenance, emergency operations, or nonroutine operations, would be inappropriate and is not supported by the weight of the evidence in this case. The programmatic approach followed by Applicant meets the approach recommended by the Staff in Regulatory Guide 8.8 for complying with the Commission's as low as reasonably achievable criteria. Accordingly, we find that the program developed by the Applicant for controlling occupational dose exposure complies with the Commission's criteria of keeping doses "as low as is reasonably achievable" (ALARA) (10 CFR §20.1(c)).

68. In its Partial Initial Decision (para. 126), the Licensing Board imposed a 75 man-rems/year condition as guideline dose for in-plant occupational exposure (1 NRC 101, 111-112, 157). Following consideration of the Applicant's Motion for Reconsideration, on April 25, 1976, the Licensing Board cancelled the imposition of the 75 man-rems/year guideline dose for in-plant occupational exposure. *Supplement to the Board's Partial Initial Decision—Re Applicant's Petition for Reconsideration, Florida Power and Light Company* (St. Lucie Nuclear Power Plant, Unit No. 2), LBP-75-23, 1 NRC 463, 464-465. However, the Board directed the Staff to offer further evidence on the matter at the health and safety hearing (1 NRC at 465). The Board's imposition of the 75 man-rems/year

limitation was based on its conclusions: (1) that the cost-benefit balance in the FES, which was based on consideration of the average operating exposure experience of 450 man-rems/year, can be further improved if occupational dose is reduced from 450 man-rems/year to 75 man-rems/year; (2) the possibility of reducing the in-plant exposure to operating personnel; (3) that the St. Lucie Unit No. 1 Licensing Board used the 75 man-rems/year in its NEPA cost-benefit balance; and (4) that a 75 man-rems/year guideline would give the Applicant further incentive to take reasonable steps to minimize exposures to plant personnel (1 NRC at 464). The Staff estimate of 450 man-rems/year per plant, used for NEPA cost-benefit balance purposes in the FES, was based on past experience from operating reactor plants (FES, 5-22, Staff Exhibit 1, following Tr. 362) (1 NRC at 111-112). The Staff estimated that the average collective dose to all onsite personnel at large operating nuclear reactor plants will be approximately 450 man-rems/year per plant (FES, 5-22), although the total dose experienced at a particular plant in a given year may be considerably above or below this value (1 NRC at 111-112) (Nehemias, Occupational Dose, following Tr. 4450, p. 2).

69. At the earlier environmental and site suitability hearing intervenors' Witness Morgan stated his opinion that 900 man-rems (450 man-rems/year per plant x two units at St. Lucie) is too high (Morgan, following Tr. 3052, p. 2; Tr. 2902, 3103, 3126), but Dr. Morgan wondered which estimate (75 or 450) is more realistic (Tr. 2902). In its Partial Initial Decision, the Board found it significant that witnesses for the Applicant, the Staff and Intervenors agreed that the expected radiological effects from occupational exposure did not affect the cost-benefit balance for St. Lucie Unit No. 2; and that Intervenors' expert witness Morgan believed that, even with the alleged risks, the expected benefits outweigh the expected costs (Tr. 3127, 3174) (1 NRC 101, 112).

70. At the hearings held on May 20-21, 25-28, 1976, the Applicant presented one witness, Dr. G. Hoyt Whipple, with respect to the proposed 75 man-rems/year limits on total in-plant occupational dose (Tr. 3748). The Staff presented one witness, Dr. John V. Nehemias (Tr. 4450). Witness Nehemias testified that the value of 450 man-rems/year is included by the NRC in environmental statements as an estimate of the average collective dose to all onsite personnel for a large modern operating nuclear power plant (Nehemias, following Tr. 4450). The value of 450 man-rems/year is an average value based on recent experience. It is not a projection of actual expected doses to personnel at particular plants and is not based on any plant specific considerations (*Id.*, pp. 1-2). The average value of 450 man-rems for one plant (900 man-rems for St. Lucie Unit No. 1 and Unit No. 2) is used for environmental assessment purposes, and, therefore, was never intended for use as an operating limit (*Id.*, p. 1). An operating limit of this kind has never been imposed on any operating light water

nuclear power reactor, nor proposed for any construction permit (*Id.*, p. 1). The figure of 450 man-rems/year, used by the Staff as an estimate of average occupational exposure, was compiled based on data gathered from operating nuclear power plants and is found in the NRC document, NUREG-75/032, "Occupational Radiation Exposure At Light Water Cooled Power Reactors," 1969-1974 (*Id.*, p. 2). Dr. Nehemias testified that the data compiled to date from large modern operating nuclear power plants indicate that for any given year and for any given plant the dose may be higher or lower depending on a number of factors (Nehemias, Occupational Exposures, following Tr. 4450, pp. 2, 7-8). Experience at any given operating reactor will vary widely year by year from this average value for total occupational dose (*Ibid.*). Higher doses may result from a higher incidence of required maintenance and repairs, or from higher dose rates encountered during inspection and refueling (*Id.*).

71. In most cases major maintenance, repairs, and inspections can be planned in advance, and are considered to be normal operating events (*Id.*). However, it is difficult to predict dose rates that may be encountered during completion of such tasks (Tr. 3818, 4462; Nehemias, Occupational Exposures, following Tr. 4450, p. 4; Whipple, following Tr. 3748, p. 22). In addition, man-rem dose experience is difficult to predict due to the unpredictable timing of mechanical failures requiring maintenance, repair, or replacement (Nehemias, Occupational Exposures, following Tr. 4450, p. 8). Thus, total occupational doses in man-rems/year, due to major maintenance, repairs, inspection, and refueling cannot be limited in advance, since actual dose rates cannot be predicted with any degree of confidence in advance of plant operating experience (Whipple, following Tr. 3748, p. 14; Tr. 4456; Nehemias following Tr. 4450, p. 2, Tr. 3818; 4462-4463). Thus, if a particular task involves work at high dose rates that could not be predicted in advance, more personnel may be required to complete any given task within the individual dose limits imposed by 10 CFR Part 20. This leads to exposure of a greater number of personnel to complete the task involved, with the consequence that the total occupational dose for in-plant personnel may be increased. Dr. Nehemias testified that significantly lower doses may result during an unusually trouble free year at an operating unit. The range of values for 1974 ranged from 18 man-rems for the lowest plant to the highest value of 1430 man-rems (Tr. 4446; Nehemias, following Tr. 4450, p. 2).

72. Occupational exposures at a substantial number of operating plants have greatly exceeded the annual average value of 450 man-rems/year during those years in which major maintenance or other operating events involving high dose rates were necessary to continued safe plant operation (*Id.*). Thus, values for man-rem exposure of as high as 5000 man-rems have occurred in prior years, (e.g., Indian Point), but are considered necessary for the type of maintenance and situation involved and are acceptable from the benefit-cost balance viewpoint (Tr. 4456).

73. Dr. Nehemias testified that the spread of the data indicates that application of an operating limit for occupational exposures of 450 man-rems/year for today's large, modern nuclear power plants would probably involve severe limitations on power availability due to the likelihood that, in a typical year, for a number of plants, the value of 450 man-rems would be exceeded (Nehemias, following Tr. 4450, p. 2). Dr. Whipple agreed that at the present time there is no responsible body of professional opinion nor sufficient experience and knowledge which would dictate the imposition of numerical guides for total in-plant occupational exposures similar to those recently adopted for individual doses outside restricted areas, *i.e.*, 10 CFR Part 50, Appendix I, to demonstrate compliance with the Commission's criteria of "as low as is reasonably achievable" (Whipple, following Tr. 3748, p. 22; Tr. 4540). The numerical guides for individual exposures was adopted by the Commission as a way of demonstrating compliance with Appendix I only after a number of years of consideration and a lengthy rulemaking hearing (Tr. 4540). On the other hand, we find that imposition of numerical operating limits might lead to situations where the Commission's standard of as low as is reasonably achievable is not met. Thus, Dr. Whipple testified that there might be a tendency of utilities in any given year to defer desirable, though not necessarily mandatory, preventive maintenance until a later year in which there might be a larger margin available before numerical limits are reached (Whipple, following Tr. 3748, p. 22). In some years, for example, during a refueling year, the total occupational dose might approach any preset numerical limitation (*Ibid.*). This could lead to a curtailment of operations of the plant or shutdown of the plant (*Id.*). Thus, as Dr. Whipple stated, it would be in the economic interest of the public for that particular year for a utility to defer desirable maintenance to a later year in which less total annual in-plant occupational exposure had been accumulated (*Id.*). In the long run, however, deferring desirable maintenance could lead to maintenance being performed under less favorable or more urgent conditions resulting in greater total annual occupational doses than would have occurred had the maintenance been done on a more routine, practical basis (Whipple, following Tr. 3748, p. 22).

74. Dr. Whipple testified that occupational dose would still be experienced during necessary inspections and maintenance, even if an occupational dose limit is set and if the plant is forced to curtail production of power or close down operations because it reached the limit. Nuclear plants in a shutdown condition still require attention which results in occupational dose exposure (Tr. 3829).

75. Both the Staff Witness Nehemias and the Applicant's Witness Whipple indicated that setting limits on routine or normal operations in low dose rate areas exclusive of major maintenance in high exposure areas, emergency maintenance, inspection, and refueling operations would not be expected to yield much with respect to saving man-rem dose (Tr. 4522-4523, 4562). This is be-

cause the major portion of the annual in-plant occupational dose comes from nonroutine or unexpected events requiring work in high dose rate areas, or from those events which are expected to occur on a regular basis and which contribute a major part of the occupational dose, although the dose rate and consequent doses are difficult to predict (Nehemias, Occupational Doses, following Tr. 4450; Tr. 4466, 4522-4523).

76. The Board asked the Applicant "to provide documented experience regarding occupational exposures at Turkey Point" (Tr. 3419). Both Applicant and Staff provided data with respect to these exposures (Story, following Tr. 3879; Nehemias, Turkey Point, following Tr. 4450). Both Staff's and Applicant's witnesses testified that the Turkey Point experience reflects the variability expected in the industry with respect to occupational dose exposure. We concur, and find that the experience at Turkey Point does not provide a basis for setting occupational dose guidelines or operating limits for St. Lucie Unit No. 2.

77. Based on consideration of the extensive record on this matter, the Board concludes that it is not feasible at this time to set an in-plant occupational guideline dose limit in man-rems/year as a condition of the construction permit for St. Lucie Unit No. 2 as an incentive to the Applicant to meet the Commission's criteria of keeping occupational doses as low as is reasonably achievable. The man-rem estimate is intended as a tool for comparison with other environmental impacts in the FES. Any particular value would not be specific to any plant or situation in any given year (Nehemias, Occupational Doses, following Tr. 4450, pp. 7-8). Actual man-rem dose experience at modern operating plants indicates wide variability due to the unpredictable timing of mechanical failures requiring major maintenance, repair, or replacement. This variability would make any preselected value unacceptable as an operating limit and would lead to an undesirable operating situation, especially if a plant had to cease or curtail operations in any particular year because of unusually high exposures from major maintenance, or if other operating events caused the plant to approach a preset occupational dose operating limit (Tr. 4554, 4561; Nehemias, Occupational Doses, following Tr. 4450, p. 8). However, the Board finds that the programmatic approach reflected in Regulatory Guide 8.8 can result in occupational doses to plant personnel being as low as is reasonably achievable as it is to be implemented by the Applicant at St. Lucie Unit No. 2 (Nehemias, Occupational Doses, following Tr. 4450, p. 5). By requiring the Applicant to commit to the ALARA principle, to follow the provisions of Regulatory Guide 8.8, or alternative approaches proposed that meet the requirements of Regulatory Guide 8.8, the Staff will assure that the Applicant's occupational doses during operation are ALARA. Regulatory Guide 8.8 spells out, in considerable detail, specific approaches to design detail and radiation protection.

78. Exposures must be maintained ALARA by proper design, shielding and layout. During the operating licensing review process, the Florida Power and

Light Company will be making changes in its proposed plants for the purpose of assuring that occupational radiation exposures will be ALARA. Such changes will be directed either to lowering radiation levels, lowering the probability of situations involving high radiation levels, or reducing the time necessary for operations involving high dose rates (Nehemias, Occupational Doses, following Tr. 4450, p. 6). We conclude that this approach is acceptable and will result in occupational doses being kept to ALARA levels.

VII. COMPLIANCE WITH APPENDIX I TO 10 CFR 50

79. Testimony in this proceeding demonstrated that the discharge of radioactive effluents from the St. Lucie plant will be "as low as practicable" (Partial Initial Decision, 1 NRC at 112). Subsequently, the Commission amended its regulations concerning the discharge of radioactive effluents (10 CFR Part 50, Appendix I). The new regulations establish numerical guidelines for such discharges from nuclear power reactors. In addition, the terminology is changed from "as low as practicable" to "as low as is reasonably achievable," but without substantive change in the concept (Testimony of Walton A. Rodger relating to Appendix I, pp. 1-5, following Tr. 3638).

80. Both the Applicant and the Staff presented evidence of compliance of St. Lucie Unit No. 2 with the new regulations (Testimony of Walton A. Rodger relating to Appendix I, following Tr. 3638; Supplemental Testimony of NRC Staff by Michael A. Parsont, following Tr. 4572; Supplemental Testimony of NRC Staff by Ronald R. Bellamy, following Tr. 4572). New calculational methods were developed by the NRC Staff in order to evaluate compliance with the numerical guidelines of Appendix I (Rodger, pp. 4-5). The calculations were performed using the new calculational methods but assuming that the design of St. Lucie Unit No. 2 remained the same (Rodger, p. 5).

81. Both the Applicant's and the Staff's calculations show that St. Lucie Unit No. 2, as presently designed, meets the Appendix I numerical guidelines by a wide margin (Rodger, pp. 6, 13; Parsont, pp. 6, 8; Tr. 4575). According to Applicant's calculations, individual doses are small percentages of the Appendix I numerical guidelines (Rodger, p. 6). While there are some differences in the results obtained by the Applicant and the Staff, the differences are explained by differences in calculational assumptions and are not significant (Tr. 3648-50).

82. In addition to compliance with the numerical guidelines discussed above, Appendix I requires an analysis to determine whether additional equipment can be added to reduce exposures to the population within 50 miles of the reactor, while maintaining a favorable cost-benefit ratio assuming that each man-rem or man-thyroid-rem of exposure is valued at \$1000 (10 CFR Part 50, Appendix I, Section II.D). On September 4, 1975, the Commission amended

Appendix I to allow certain Applicants, among them the Applicant in this case, to dispense with cost-benefit analysis required by Section II.D if their proposed rad-waste systems met the numerical guidelines proposed by the NRC Staff in the Appendix I rulemaking proceeding (Rodger, pp. 8-9; Bellamy, p. 2; Tr. 3630-31). Both the Applicant and the Staff found that Applicant's proposed system meets the requirements of the Staff's proposed guidelines (Rodger, pp. 9, 16; Parsont, pp. 5, 7; Bellamy, pp. 4-6). Accordingly, no cost-benefit analysis under Section II.D of Appendix I is necessary. Nevertheless, in previous testimony, Applicant had provided a cost-benefit analysis of its proposed rad-waste system. In order to bring that analysis up to date, a cost-benefit analysis in accordance with the requirements of Section II.D of Appendix I was provided by the Applicant (Tr. 3631). That analysis shows that the Applicant's proposed system goes beyond cost effectiveness in reducing population doses (Rodger, pp. 7-9, 14).

83. Using Regulatory Staff estimates of population within 50 miles of the plant in the year 2020, the Applicant calculated a slightly lower population dose than in its previous calculations (Rodger, p. 8). Although the record contains several population estimates for various distances from the plant, the Applicant's witness used the largest estimate for the 50-mile area (Rodger, p. 8; Tr. 3713-14, 3726-27). Moreover, a doubling of the Staff's population estimate would not change Dr. Rodger's conclusion (Tr. 3715-16). The Staff calculated an inconsequential increase in population dose (Supplemental Testimony of NRC Staff by Oliver D.T. Lynch, Jr., p. 3, following Tr. 4572).

84. The analysis described above was based on the Applicant's milk animal census which showed that the nearest milk cow was located 7.5 miles south-southwest of the plant (Tr. 4576). However, in a limited appearance statement, a member of the public mentioned that there might be a milk goat nearer the plant (Tr. 3494). Recognizing that there was no evidence of record that milk goats were actually kept there, both Applicant and the Staff calculated the thyroid dose to an infant drinking milk from a goat kept approximately two miles from the plant. Those calculations show that, assuming the existence of a milk goat there, the Applicant's compliance with Appendix I is unaffected (Tr. 3727-28, 4574-75, 4577). In any event, the Board has already required monitoring of the actual location of milk cows, and that condition shall be broadened to include the location of all milk animals (Partial Initial Decision, 1 NRC at 157).

85. At the previous hearings in 1974, Intervenor's witness, Dr. K. Z. Morgan, suggested that certain radionuclides, notably C-14, which should be considered in an analysis of the effects of radioactive effluents from St. Lucie Unit No. 2, were not considered. Additional radionuclides, including C-14, are now required to be included in Appendix I calculations, and were considered by Applicant and Staff (Tr. 3718, 4579-80). Some transuranic isotopes were considered for inclusion by the Applicant, but were not included in the analysis

because they were insignificant in amount and effect and would not change the outcome of the calculations (Tr. 3718-20).

86. Dr. Morgan also suggested that dose commitments, not simply current first year doses, should be calculated. The Board indicated in the Partial Initial Decision (paras. 24, 112, 1 NRC, pp. 110, 151) that it would hear further evidence concerning dose commitments. However, that request was withdrawn at the prehearing conference of April 9, 1976 (3440). Appendix I now requires the calculation of dose commitments (Rodger, p. 6; Tr. 3729-31). The concerns have been resolved.

87. Based on the Appendix I analysis described above, the Staff and the Applicant concluded that the environmental assessment of the proposed plant is unchanged (Testimony of Roger E. Linnemann, relating to Appendix I Dose Effects, p. 1, following Tr. 3641; Lynch, pp. 3-4; Tr. 4576). The doses expected from normal operations of St. Lucie Unit No. 2, even at Appendix I limits, are medically insignificant (Linnemann, p. 1, following Tr. 3720-24). Accordingly, based on all of the evidence discussed above, the Board finds that St. Lucie Unit No. 2 complies with 10 CFR Part 50, Appendix I.

VIII. FUEL DENSIFICATION

88. Intervenors' Contention 3.4, as admitted by the Board (Prehearing Conference Order #3, July 12, 1974), reads as follows:

Contention 3.4 Whether the Applicant in its proposed design and construction of St. Lucie Plant No. 2 has considered and adequately provided for any possible adverse affects of fuel densification.

Consideration of this contention was deferred until the health and safety phase of this proceeding which commenced on May 20, 1976. Intervenors subsequently withdrew Contention 3.4 insofar as it was a separate issue unrelated to emergency core cooling. The Board received evidence on its own initiative (Testimony of R.D. Hankel, following Tr. 4612; affidavit of Ralph O. Meyer, following Tr. 3625).

89. Fuel densification was first observed several years ago and was the subject of a detailed generic review by the AEC/NRC Regulatory Staff (Hankel, pp. 1-3; Meyer, pp. 1-2). The NRC Staff considers the matter resolved (Meyer, p. 7). For St. Lucie Unit No. 2, measures have been implemented to prevent fuel densification, including manufacturing controls during fuel pellet fabrication and internal pressurization of fuel rods (Hankel 3.4, pp. 3-5). The Staff's evaluation included the effects of fuel densification on gap conductance, linear heat generation rate, local power spiking, and potential cladding collapse and concluded that the matter was adequately treated by the Applicant (Meyer, pp. 7-9).

Accordingly, the Board concludes that fuel densification has been considered, and adequately provided for, in the design of St. Lucie Unit No. 2.

IX. EMERGENCY CORE COOLING SYSTEM (ECCS)

90. Intervenor's Contention 3.3, as admitted by the Board (Prehearing Conference Order #3, July 12, 1974), reads as follows:

Contention 3.3 Whether Applicant's proposed emergency core cooling system, or ECCS meets the requirements of AEC regulations.

Consideration of this contention was deferred until the health and safety phase of this proceeding which commenced on May 20, 1976.

91. Acceptance criteria for emergency core cooling systems for light water reactors are set forth in 10 CFR §50.46. The effectiveness of the ECCS must be evaluated for every plant in accordance with Appendix K of 10 CFR Part 50. At the time of publication of the SER (Safety Evaluation of the St. Lucie Unit No. 2, November 7, 1974), the Staff had not completed its evaluation.

92. Supplement No. 1 to the SER (March 3, 1976) contains an evaluation of the ECCS for St. Lucie Unit No. 2. It was concluded that the ECCS for St. Lucie Unit No. 2 would satisfy the criteria set forth in 10 CFR §50.46 provided the peak linear heat generation rate were restricted to a maximum of 12.4 kw/ft (SER Supp. No. 1, Sec. 6.3).

93. At the evidentiary hearing on May 28, 1976, Applicant's witnesses Dr. R. D. Hankel and Dr. W. A. Goodwin (Tr. 4607-97), and Staff witnesses G. N. Lauben and W. B. Hardin (Tr. 4701-42), discussed errors that had been discovered in the Combustion Engineering computational model during an internal audit of computer codes. Prepared testimony by Dr. Hankel relating to Contention 3.3 (Hankel 3.3, following Tr. 4612) was corrected (Tr. 4609) to reflect changes from computed results reported in Supplement No. 1 of the SER and in the prepared testimony (Hankel 3.3). In particular, the peak linear heat generation rate for compliance was reduced from 12.4 kw/ft to 11.6 kw/ft.

94. Other modifications to the Combustion Engineering ECCS computational model were described at the evidentiary hearing on December 1, 1974 (Applicant's witnesses Dr. J. M. Betacourt and Dr. W. A. Goodwin, following Tr. 4822; Staff witnesses L. E. Phillips, following Tr. 4837, and B. Hardin, following Tr. 4840). Modifications to the STRIKIN-II computer code described by Betacourt were used in the reanalysis discussed by Goodwin. Significantly, the peak linear generation rate for compliance remained at 11.6 kw/ft (Goodwin, following Tr. 4822). The Staff's evaluation (Phillips, following Tr. 4837; Hardin, following Tr. 4840) concludes that the ECCS performance for St. Lucie Unit No. 2 will conform to the criteria of 10 CFR §50.46.

95. The ECCS analysis considered a spectrum of possible breaks in the primary coolant piping. The worst break was determined to be a double-ended guillotine break with a discharge coefficient of 1.0 (Hankel, p. 2; Hardin, Sec. 3.0). The worst case assumes this pipe break together with a failure of one low pressure safety injection pump, a failure of control rods, and a loss of offsite power (Hankel, pp. 3-4; Tr. 4666-68, 4679, 4691-92).

96. The Combustion Engineering ECCS evaluation model conforms to the requirements of 10 CFR Part 50, Appendix K, and has been found acceptable to the Staff (Hankel, Goodwin, p. 1; Tr. 4737, 4837, 4846-47). Only one of the several modifications to the computer code had a significant effect on the analysis for St. Lucie Unit No. 2; this was the error in treating the guide tube for a control element assembly (Goodwin, p. 1; Betacourt, p. 2).

97. The Staff raised a question because the STRIKIN-II code originally allowed the possibility of a return to a pre-CHF regime (nucleate boiling) after CHF (critical heat flux) had been reached at some location (Betacourt, pp. 1, 4). Because of Staff concerns about literal compliance with paragraph I.C.4.e of Appendix K to 10 CFR Part 50, CE was required to "modify the STRIKIN-II code to preclude a return to nucleate boiling during blow-down after critical heat flux is predicted" (Betacourt, p. 5; Hardin, Sec. 2b).

98. The underlying heat transfer correlations used by the STRIKIN-II code for predicting CHF are flow dependent and were generated under steady state conditions for unidirectional flows. In going through flow reversal, a condition of zero flow exists at some point in time, thus leading the code to predict CHF. Since the initial prediction of CHF was artificially obtained, the surface temperature is not high enough to be in a post-CHF regime and the code allowed return to a pre-CHF regime as the flow picked up again (Betacourt, p. 4).

99. In accordance with requirements imposed by the Staff, the STRIKIN-II heat transfer logic has been modified to prevent a pre-CHF regime from recurring once CHF is first predicted to occur. The condition is enforced in the new version of the code, even if the calculated fluid and surface conditions would apparently justify the reestablishment of a pre-CHF regime. The constraint imposed by the NRC Staff was met in STRIKIN-II by extrapolating the film boiling post-CHF correlation to the pre-CHF regime (Betacourt, p. 5). This change in the code has been used to study blowdown and reflood with CE System 80 fuel, which is similar to that planned for St. Lucie Unit No. 2, with negligible effect on peak clad temperature (less than 2°F) and virtually no change in peak clad oxidation (Phillips, p. 19).

100. We conclude that, of the changes in the STRIKIN-II code brought forth in this proceeding, only one has significance for St. Lucie Unit No. 2: the error in treating the control assembly guide tube (Betacourt, p. 2) which was the main cause of the reduction in the maximum permissible linear heat rate from 12.4 kw/ft to 11.6 kw/ft (Tr. 4609). The significance is not great because the

additional constraint on linear heat rate is a slight constraint on reactor power distribution without affecting the total power (Tr. 4829).

101. Based on the 11.6 kw/ft. peak linear heat rate, the most severe pipe break for St. Lucie Unit No. 2 is calculated to result in a peak fuel clad temperature of 2120°F, a peak local clad oxidation percentage of 15.85%, and a highest corewide oxidation of less than 0.902% (Goodwin, pp. 2-3; Hardin, Sec. 3.0). These calculated values comply with the criteria stated in 10 CFR §50.46: namely, 2200°F, 17%, and 1.0% respectively. Furthermore, the calculations indicate that the ECCS design will maintain a coolable core geometry and provide long-term cooling as required by 10 CFR §50.46 (Goodwin, pp. 2-3; Hardin, Sec. 4.0).

102. Additional technical or design information as needed to complete the safety analysis will be supplied in the final safety analysis report, and research and development programs will be conducted as needed. This includes certain matters relevant to ECCS (Tr. 4706-10; 4731-32) which need not be further considered at this time.

103. The Staff has concluded that the ECCS performance for St. Lucie Unit No. 2 conforms to the Commission's regulations (Hardin, Sec. 4.0). Based on the foregoing, the Board concurs and concludes that Intervenors' Contention 3.3 has been resolved favorably to the Applicant.

X. QUALITY ASSURANCE

104. The Safety Evaluation Report (SER) for St. Lucie Plant, Unit No. 2, was issued by the Atomic Energy Commission in November 1974. The SER described the Quality Assurance Organization for Florida Power and Light, the Applicant, EBASCO Services, Inc. ("EBASCO"), the constructor, and Combustion Engineering, Inc., the NSSS supplier. The Staff concluded that each of the Quality Assurance (QA) organizations described in Section 17.1 of the PSAR for St. Lucie Unit No. 2 had sufficient independence and authority to establish and implement its QA program without undue influence of cost and schedule. In addition, the Staff concluded that the QA programs of the Applicant, EBASCO and CE contained the necessary provisions, requirements and controls which, if adequately implemented, would result in compliance with Appendix B of 10 CFR Part 50 for the design and construction of St. Lucie Unit No. 2.

105. In March 1976, the U. S. Nuclear Regulatory Commission issued Supplement No. 1 to the Safety Evaluation Report describing organizational and programmatic changes in the QA program since the issuance of the SER. The most significant change is that the Applicant will use its own personnel, instead of EBASCO to perform onsite inspection activities formerly delegated by the Applicant to EBASCO. Generally, the Applicant's organization with respect to Quality Assurance remains unchanged. The Staff again reviewed the Quality

Assurance organization for EBASCO and Combustion Engineering, Inc. The Staff's previous conclusions concerning Quality Assurance at St. Lucie Unit No. 2 remain unchanged.

106. At the prehearing conference on April 9, 1976, the Board directed the Applicant to address matters concerning Quality Assurance and Quality Control, particularly (1) organization, (2) communication within the organization, (3) lines of authority and responsibility, and (4) experience at St. Lucie Unit No. 1 (Tr. 3418-3419 and "Order Following Prehearing Conference" dated April 29, 1976).

107. Applicant introduced the testimony of J. E. Vessely, Manager of Quality Assurance for the Florida Power and Light Company (Tr. 3986). Mr. Vessely testified that the detailed Quality Assurance Program for construction for St. Lucie Unit No. 2 was set forth in Chapter 17 of the PSAR. He stated that the Quality Assurance Program was designed to meet the requirements of all 18 criteria of Appendix B to 10 CFR Part 50 and that the Quality Assurance Program followed the guidance of:

1. ANSI N45.2, "Quality Assurance Program Requirements for Nuclear Power Plants";
2. The NRC "Gray Book"—"Guidance on Quality Assurance Requirements During Design and Procurement Phase of Nuclear Power Plants" dated May 10, 1974;
3. The NRC "Green Book"—"Guidance on Quality Assurance Requirements During the Construction Phase of Nuclear Power Plants," dated May 10, 1974;
4. The NRC "Orange Book"—"Guidance on Quality Assurance Requirements During the Operations Phase of Nuclear Power Plants," dated October 26, 1973 (Vessely, p. 2).

108. Mr. Vessely testified that the Florida Power and Light Quality Assurance Manual dated February 1974 provides the details of the program elements, requirements, management plans, and implementation responsibilities and is kept current through revision (Vessely, p. 2).

109. The Applicant described its organization with respect to quality assurance and submitted with its testimony a detailed organizational chart which showed the relationship between the manager of Quality Assurance, the Vice President—Nuclear and General Engineering, the Quality Assurance Committee and the Company Nuclear Review Board. The testimony demonstrated that the Applicant is aware of its ultimate responsibility with respect to quality assurance. The Quality Assurance programs of the architect-engineer (EBASCO) and the NSSS supplier (Combustion Engineering) were accepted by the Applicant after thorough evaluation to assure that they complied with applicable require-

ments (Vessely, p. 4). Construction quality control within the plant construction department is responsible for conducting quality control inspection and support activities required to assure construction work and activities meet the requirements of the plans, specifications, codes and corporate standards established by the Quality Assurance department. These activities were formerly delegated to EBASCO, the architect-engineer but are now the responsibility of the Applicant. Mr. Vessely further testified that the freedom and independence of the onsite Quality Assurance (QA) organization from cost and scheduling matters is preserved by the administrative reporting relationship of the onsite project quality control supervisor to the offsite superintendent of construction quality control who has, in turn, no responsibility for cost and scheduling (Vessely, p. 6).

110. Mr. Vessely then discussed the lines of communication between the Applicant and its contractors which exist through Florida Power and Light Project General Management organization. The Quality Assurance organizations of EBASCO and Combustion Engineering communicate directly with the Manager of Quality Assurance through the Project Manager of each organization to the Florida Power and Light Project General Manager (Vessely, p. 7).

111. With respect to responsibility and authority, the Quality Assurance Committee, chaired by the Executive Vice President for Operations, and comprised of executive level management, is responsible for review and evaluation of the QA Program, and for initiating policy changes where necessary. This Committee is the final authority for resolution of contested quality policies, differences of opinion, and stop-work or other corrective action requests when agreement cannot be reached at lower levels. The head of each organization performing quality related activities is responsible for: identifying those activities within his organization which are quality related as defined by the QA program; establishing and clearly defining the duties and responsibilities of personnel within his organization who execute those quality related activities; and planning, selecting and training personnel to meet the requirements of the QA program (Vessely pages 6, 7 and 8).

112. Mr. Vessely also addressed quality assurance experience at St. Lucie Unit No. 1. Initially the quality assurance responsibility was delegated to EBASCO. The quality assurance staff at that time was relatively small and in 1972 qualified personnel were added to augment quality assurance efforts. By 1973 the quality assurance department consisted, as it does now, of a manager of quality assurance with five assistant managers (at the present time the Applicant's quality assurance department consists of 48 full-time professional or technical personnel). The Applicant indicated that through the eight-year construction period of St. Lucie Unit No. 1 there were only 115 construction related items identified by the AEC/NRC as requiring action and that all these items have been resolved (Vessely, p. 10).

113. At the evidentiary hearing on May 25, 1976, the Board interrogated

three Staff witnesses with respect to quality assurance (Tr. 4044 *et seq.*). Lawrence E. Foster was the principal reactor inspector for St. Lucie Unit No. 1 for approximately four years. Fred J. Liederbach, Senior Staff Member of the Quality Assurance Branch, Office of Nuclear Reactor Regulation, reviewed the quality assurance section of the Applicant's PSAR. Charles E. Murphy is the Chief of the Reactor Construction and Engineering Support Branch, Region II of the Office of Inspection and Enforcement, U. S. Nuclear Regulatory Commission. These Staff witnesses testified that they took no exception to the evidence presented to the Board by the Applicant and that they were satisfied that the Applicant's Quality Assurance Program is complete and acceptable (Tr. 4064).

114. This Board concurs that the Quality Assurance Organizations described have sufficient independence and authority to establish and implement those programs without undue influence of cost and schedule. In addition, we conclude that the QA programs of the Applicant, EBASCO, and Combustion Engineering contain the necessary provisions, requirements and controls which, if adequately implemented, will result in compliance with Appendix B of 10 CFR Part 50 for the design and construction of St. Lucie Unit No. 2.

XI. URANIUM FUEL CYCLE

115. On April 22, 1974, the Atomic Energy Commission published a new subsection 15 to Section A of Appendix D to 10 CFR Part 50 which contained Table S-3—Summary of Environmental Considerations for Uranium Fuel Cycle (39 *Fed. Reg.* 14188). The table reflects the contribution of the environmental effects of uranium mining and milling, the production of uranium hexafluoride, isotopic enrichment, fuel fabrication, reprocessing of irradiated fuel, transportation of radioactive materials and management of low level wastes and high level wastes related to uranium fuel cycle activities to the environmental cost of a nuclear power reactor.

116. Table S-3 was not presented in the AEC Final Environmental Statement for St. Lucie Unit No. 2, issued in May of 1974. In paragraph 120 of this Board's Partial Initial Decision—Environmental and Site Suitability, LBP-75-5, 1 NRC 101 (February 28, 1975), the Board stated that it had considered the Staff's cost-benefit analysis and had reviewed it in light of the evidence of record and had concluded that the benefits far outweighed the identifiable environmental costs. The Board further stated, in arriving at this conclusion, that it had independently considered the effects of the uranium fuel cycle activities as quantified and set forth in Table S-3 of Appendix D to 10 CFR Part 50 and had concluded that these effects would not materially change the results of the cost-benefit analysis.

117. Since the issuance of ALAB-335, *supra*, key portions of the Commission regulations with respect to fuel reprocessing and waste management have

been invalidated by a Court of Appeals (9 ERC 1149, D. C. Cir. 1976). Following the Court's decision, the Commission published a General Statement of Policy (Policy Statement) in the *Federal Register* on August 16, 1976 (41 *Fed. Reg.* 34707), which announced its intention to reopen the proceedings underlying the regulation overturned by the Court, and to reconsider the portions of Table S-3 pertaining to waste management and fuel reprocessing which were ruled invalid by the Court. The Policy Statement also announced that the Commission proposed to proceed in this area once again via rulemaking procedures. It stated that an interim regulation on the fuel reprocessing and waste management aspects of the fuel cycle might be promulgated as early as December 1976, but directed that no full power operating licenses, construction permits, or limited work authorizations should be issued in the meanwhile (41 *Fed. Reg.* 34707). With respect to contested Licensing Board proceedings, the Policy Statement directed that "reprocessing and waste management issues should be deferred pending completion of the interim rulemaking, unless the evidentiary record on those issues has already been completed and is adequate for decision" (*Ibid.*), and final action on issues subject to review by an appeal board should be deferred at least pending publication of a new Staff environmental survey of the subject (41 *Fed. Reg.* at 34709).

118. On October 8, 1976, the D. C. Court of Appeals stayed its mandate. The Court stated that the Commission "shall make any licenses granted between July 21, 1976, and such time when the mandate is issued subject to the outcome of the proceedings herein" (*NRDC v. NRC, supra*). On October 12, 1976, the Commission released a supplement to its environmental survey of the nuclear fuel cycle entitled "Environmental Survey of the Reprocessing and Waste Management Portions of the LWR Fuel Cycle," NUREG-0116 (Suppl. 1 to WASH-1248). The Commission also issued a notice of proposed rulemaking indicating its present belief that adoption of a final interim rule setting revised values for the contributions of the waste management and reprocessing portions of the LWR fuel cycle to the environmental impacts of an individual reactor could be possible within three months.

119. On November 5, 1976, the Commission announced that licensing could resume on a conditional basis using the existing Table S-3, if, but only if, the revised values set forth in NUREG-0116 are examined to determine whether, if those values were used, the result would tilt the cost-benefit balance against the issuance of the license (Supplemental General Statement of Policy, 41 *Fed. Reg.* 49898, November 11, 1976).

120. On December 28, 1976, the Applicant filed a motion for summary disposition of the fuel cycle issue prescribed in the Supplemental General Statement of Policy. On January 3, 1977, this Board denied the motion, and on January 11, 1977, received evidence on the issue that had been delineated by the Commission in its Supplemental General Statement of Policy issued on Novem-

ber 5, 1976. The issue was whether using the revised values set forth in NUREG-0116 would tilt the cost-benefit balance against the issuance of the license.

121. The Applicant's direct case consisted of the testimony of Dr. Joseph A. Lieberman, Consultant, Nuclear Safety Associates (Lieberman, following Tr. 6546). The NRC Staff presented a panel of witnesses consisting of F. J. Miraglia, O. D. T. Lynch, Jr., and John R. Young, in support of a document entitled NRC Staff Evaluation of the Impact of Revised Table S-3 Values on the Cost-Benefit Balance, which was received into the record (Tr. 6583). Mr. Miraglia was co-editor of NUREG-0116 (Tr. 6586) which was used by Mr. Lynch as a basic source document for the preparation of the Staff evaluation (Tr. 6584). Mr. Young, who has had cost-benefit responsibility in these proceedings (Tr. 6586), stated that he had reviewed the NRC evaluation prepared by Mr. Lynch and agreed with the conclusion stated therein that if one considered the values set forth in revised Table S-3 as environmental impacts that they would not adversely tip the cost-benefit balance (Tr. 6587).

122. Both the Applicant and the Staff set forth in their evaluation the added environmental impact that would be assumed from the use of the values set forth in Revised Table S-3. There are insignificant increases in the number of acres of land temporarily committed and in millions of gallons of water used. There are insignificant increases in nonradiological effluents and in radiological releases. The Board finds the Applicant's evidence to be consistent with the Staff's. Any increases in adverse environmental impacts that would result from using the values in Revised Table S-3 are not significant and clearly do not tilt the cost-benefit balance.

123. On March 7, 1977, the Commission announced the adoption of an Interim Fuel Cycle Rule (42 *Fed. Reg.* 13803, March 14, 1977). The Interim Rule as adopted provides that pending cases such as this, in which the evidentiary record on fuel cycle impact has been compiled, are to be decided on the basis of the existing record. Therefore, the preceding conclusions are unaffected by the adoption of the Interim Rule.

124. In accordance with the October 8, 1976, decision of the Court of Appeals (*NRDC v. NRC*) discussed above, any license granted between July 21, 1976, and such time when the mandate is issued will be subject to the outcome of the proceedings in *NRDC v. NRC*.

XII. FINANCIAL QUALIFICATIONS

125. The Staff's initial analysis of the Applicant's financial ability to design and construct the St. Lucie Unit No. 2 facility appeared in the Safety Evaluation Report. Additional analyses were presented in Supplement No. 1 of the Safety Evaluation Report and in the affidavit of Staff witness Jim C. Petersen, dated

May 10, 1976. Each of these analyses enabled the Staff to conclude that the Applicant is financially qualified to design and construct the proposed facility.

126. On or about January 6, 1977, the Staff was made aware of a substantial change in the Applicant's estimated cost of construction. Thus, a further analysis of the Applicant's financial ability was performed by the Staff and the results of that analysis have been made available to the Board and parties by a further affidavit of Staff witness Petersen, this one dated February 7, 1977.² The current estimate of the total costs of St. Lucie Unit No. 2 is as follows:

	(dollars in millions)
Nuclear production plant costs	\$850.0
Switchyard	0.8
Nuclear fuel inventory cost for first core	<u>61.0</u>
Total Estimated Cost	<u>\$911.8</u>

127. Florida Power & Light Company is an investor-owned utility supplying electricity to residential, commercial and other customers. It serves most of the territory along the east and lower west coasts of Florida, an area around Lake Okeechobee, and portions of central and north central Florida. Consolidated operating revenues for the 12 months ended November 30, 1976, were \$1,191.6 million and consolidated net income was \$127.8 million. Invested capital on November 30, 1976, amounted to \$3,246.5 million and consisted of 55.2 percent long-term debt, 10.4 percent preferred stock and 34.4 percent common equity. The Company's first mortgage bonds are rated A, upper medium grade, by both Moody's and Standard and Poor's. Florida Power & Light plans to finance the design and construction costs of St. Lucie Unit No. 2 through internally generated funds, external sales of debt and equity securities, and short-term borrowings. Available funds from these sources in 1975, after debt payments and retirements of \$179 million, totaled \$428 million. The internally generated funds of \$162 million represented 36 percent of 1975 construction expenditures.

128. On the basis of its most recent analysis of the Applicant's financial ability, the Staff adheres to its original conclusion that the Applicant is financially qualified to design and construct St. Lucie Nuclear Plant, Unit No. 2. That conclusion rests upon Staff's determination that the Applicant has reasonable assurance of obtaining the necessary funds. Based upon all the evidence of record, the Board agrees with this conclusion.

²The referenced affidavit is hereby received in evidence in this proceeding as Staff Exhibit S-11.

XIII. TECHNICAL QUALIFICATIONS

129. The PSAR describes the Applicant's training programs, organization, and personnel qualifications (Applicant's Exhibit 2-F, Section 13). Applicant has two nuclear units in operation at its Turkey Point site. The training programs for engineering and operating personnel at Turkey Point has been expanded and continued as required to train personnel for the St. Lucie plant (Applicant's Exhibit 1, p. 5; SER, p. 13-3).

130. The Staff has reviewed the organization and personnel qualifications proposed by the Applicant for the St. Lucie plant, including the operating staff for Unit No. 2, and has concluded that the Applicant is technically qualified to design and construct the plant (SER, pp. 13-3, 21-2; SER Supp. No. 1, p. 21-1). The Board agrees.

XIV. COMMON DEFENSE AND SECURITY

131. The activities to be conducted under the construction permit will be conducted within the jurisdiction of the United States (Applicant's Exhibit 1, p. 3). Applicant is an electric utility doing business in the State of Florida (Applicant's Exhibit 1, p. 1). It is not owned, controlled or dominated by an alien, a foreign corporation or a foreign government, and is not acting as an agent or representative of any other persons in making the application (Applicant's Exhibit 1, p. 2). Applicant has agreed not to disclose Restricted Data to any individual, unless the Commission has determined that such disclosure will not endanger the common defense and security (Applicant's Exhibit 1, p. 8).

XV. CONCLUSIONS OF LAW

132. The Board has reviewed the entire record of this proceeding. The application and the proceedings thereon comply with the requirements of the Atomic Energy Act of 1954, as amended, the National Environmental Policy Act of 1969, and the rules and regulations of the Commission. The Board finds that the Staff's NEPA review has been adequate and that NEPA, Section 401 of the Federal Water Pollution Control Act, and Appendix D to 10 CFR Part 50 have been complied with.

The Board concludes that:

- A. In accordance with the provision of 10 CFR Section 50.35(a);
 - 1. The Applicant has described the proposed design of the facility, including, but not limited to, the principal architectural and engineering criteria for the design, and has identified the major features or components incorporated therein for the protection of the health and safety of the public;

2. Such further technical or design information as may be required to complete the safety analysis, and which can reasonably be left for later consideration, will be supplied in the final safety analysis report;
 3. Safety features or components, which require research and development have been described by the Applicant; and the Applicant has identified, and there will be conducted, a research and development program reasonably designed to resolve any safety question associated with such features and components; and
 4. On the basis of the foregoing, there is reasonable assurance that (i) such safety questions will be satisfactorily resolved at or before the latest date stated in the application for completion of construction of the proposed facility, and (ii) taking into consideration the site criteria contained in 10 CFR Part 100, the proposed location without undue risk to the health and safety of the public.
- B. The Applicant is technically qualified to design and construct the proposed facility.
 - C. The Applicant is financially qualified to design and construct the proposed facility.
 - D. The issuance of permits for construction of the facility will not be inimical to the common defense and security or to the health and safety of the public.
 - E. The environmental review performed by the Staff (pursuant to the National Environmental Policy Act of 1969) and the Final Environmental Statement, as modified by this Initial Decision, are adequate.
 - F. Sections 102(2)(A), (C) and (D) of NEPA and Appendix D (10 CFR Part 50) have been complied with.
 - G. The Board has considered the final balance among conflicting environmental factors, and has weighed the various benefits against costs, taking account of the need for power, and the alternatives to the plant and its design features. The Board concludes that these considerations favor the issuance of a construction permit for the facility, conditioned as set out below.

XVI. ORDER

On the basis of the Board's findings and conclusions in its Partial Initial Decision, the Supplement to the Partial Initial Decision, and this Initial Decision, and pursuant to the Atomic Energy Act of 1954, as amended, and the Commission's rules and regulations, IT IS ORDERED that the Office of Nuclear Reactor Regulation is authorized to issue to Florida Power and Light Company a

permit to construct St. Lucie Nuclear Power Plant, Unit No. 2, consistent with the terms of this Initial Decision, the Partial Initial Decision and the Supplement to the Partial Initial Decision, and the following listed conditions:

1. The Applicant shall monitor the actual location of domesticated cows and goats during plant operation, at time intervals to be specified by the Staff, for the purpose of continuing appraisal of population doses (1 NRC 101, 157, para. 126(b)).
2. The Applicant shall provide erosion protection for the nose of the discharge canal, the design of which must be submitted to the Staff for review and approval prior to construction (SER 2.4.2; SER Supp. No. 1, §2.4.2.6, para. 4).
3. The Applicant shall provide erosion protection for the Ultimate Heat Sink barrier wall in the form of sheetpile bulkheads and groins (SER Supp. No. 1, §2.4.2.5(2)).
4. The Applicant will undertake the additional engineered safety features (ESF) required to reduce offsite doses to values below the guideline of 10 CFR Part 100 at a distance of one (1) mile, as specified in paragraph 83 of the Board's Partial Initial Decision (1 NRC 101, 137-38), dated February 28, 1975 (1 NRC 101, 157, para. 126(e)).
5. The Applicant shall improve the in situ soils as recommended by the Staff so that the canal barrier and the slopes between the canal barrier and the plant will not fail (1 NRC 101, 157, para. 126(f)).
6. The Applicant shall monitor actual fish entrapment in the intake canal and otherwise comply with the Staff recommendation as set forth at FES 4.5.2(2) (1 NRC 101, 157, para. 126(g)).
7. The Applicant shall comply with the Staff recommendation regarding the operation of discharge lines as set forth in paragraph 102 of the Board's Partial Initial Decision (1 NRC 101, 146), dated February 28, 1975 (1 NRC 101, 157, para. 126(h)).
8. The Applicant shall not draw more than four (4) million gallons of water per year from Big Mud Creek for routine testing (1 NRC 101, 157, para. 126(i)).
9. The Applicant shall monitor chlorine and chlorine residuals as recommended by the Staff and set forth at FES 5.2.3 (1 NRC 101, 157, para. 126(j)).
10. The Applicant shall monitor the thermal field after Unit No. 1 is operational as set forth in paragraph 110 of the Board's Partial Initial Decision, (1 NRC 101, 149) dated February 28, 1975 (1 NRC 101, 157, para. 126(k)).
11. The Applicant shall continue the turtle nest surveys and studies to determine any plant impact thereon. The Applicant shall deliver

such studies and survey data to the Staff and shall undertake to promptly publish the data and conclusions therefrom (1 NRC 101, 157, para. 126(l)).

12. The Applicant shall undertake the preoperational and operational monitoring program as approved with conditions and recommendations by the Staff (1 NRC 101, 157, para. 126(m)).

IT IS FURTHER ORDERED, in accordance with 10 CFR Sections 2.760, 2.762, 2.764, 2.785 and 2.786 that this Initial Decision shall become effective immediately and shall constitute, with respect to the matters covered therein, the final action of the Commission forty-five (45) days after the date of issuance hereof, subject to any review pursuant to the Commission's Rules of Practice. Exceptions to this Initial Decision may be filed by any party within seven (7) days after service of this Initial Decision. Within fifteen (15) days thereafter (twenty (20) in the case of the Staff) any party filing such exceptions shall file a brief in support thereof. Within fifteen (15) days of the filing of the brief of the Appellant (twenty (20) days in the case of the Staff), any other party may file a brief in support of, or in opposition to, the exceptions.

**THE ATOMIC SAFETY AND
LICENSING BOARD**

Edward Luton, Chairman

David L. Hetrick, Member

Frank F. Hooper, Member

Dated at Bethesda, Maryland
this 19th day of April 1977.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

John F. Wolf, Chairman
Dr. J. Venn Leeds, Jr.
Dr. Forrest J. Remick

In the Matter of

TENNESSEE VALLEY AUTHORITY

Docket Nos. STN 50-518
STN 50-519
STN 50-520
STN 50-521

(Hartsville Nuclear Plant,
Units 1A, 2A, 1 B and 2B)

April 28, 1977

The Licensing Board issues its Initial Decision on radiological health and safety and supplemental environmental matters, making findings of facts and conclusions of law and authorizing issuance of construction permits, subject to several conditions.

INITIAL DECISION
(Construction Permits)

Appearances

Alvin Gutterman, David Powell, Nicholas Della Volpe,
Walter LaRoche, James Burger and William L. Dunker,
Esquires, on behalf of Applicant, Tennessee Valley Au-
thority

Leroy J. Ellis and Robert B. Pyle, Esquires, on behalf of
William M. Young, Jr., et al.

William Paton and Bernard M. Bordenick, Esquires, on be-
half of Nuclear Regulatory Commission

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I. PRELIMINARY STATEMENT

1. The application of the Tennessee Valley Authority (TVA or Applicant) to construct four nuclear reactors designated as the Hartsville Nuclear Plants, Units 1A, 2A, 1B and 2B (plant), in Smith and Trousdale Counties, Tennessee, was docketed by the Atomic Energy Commission¹ on September 13, 1974, pursuant to Section 103 of the Atomic Energy Act of 1954, as amended.² The proposed plant was planned to employ four identical boiling water reactors (the plant or facility). Each of the four units was designed to produce a net electrical power output of approximately 1233 megawatts (MW) and a thermal power rating of 3579 megawatts thermal (MWt).

2. On October 25, 1974, the Commission issued a notice of hearing on TVA's application for construction permits.³ The notice included the conditions that had to be met under the provisions of the Atomic Energy Act of 1954, as amended,⁴ and the National Environmental Act of 1969, as amended⁵ (NEPA), prior to the issuance of construction permits.

3. The notice stated *inter alia* that any person whose interest might be affected by the proceeding could file a petition for leave to intervene in accordance with 10 CFR § 2.714. It also stated that interested persons could file requests for limited appearances pursuant to 10 CFR § 2.715.

4. Subsequently, nine petitions to intervene were filed and granted. One of the petitioners, the State of Tennessee, participated in the proceedings as an

¹ The regulatory activities of the Atomic Energy Commission were superseded by the Nuclear Regulatory Commission on January 19, 1975. The name Commission is used interchangeably for these agencies.

² 42 U.S.C. § 2133 (1970).

³ 39 FR 38013.

⁴ 42 U.S.C. § § 2011 *et seq.*

⁵ 42 U.S.C. § § 4321 *et seq.*

intervenor during the environmental and site suitability hearings after which it requested and was granted permission to participate pursuant to 10 CFR § 2.715(c) as an interested state. Seven of the other petitions were withdrawn without active participation in the evidentiary hearings. The remaining petition was filed by William M. Young, *et al.* (Young, *et al.* or Intervenor). Young, *et al.*, were represented by counsel and actively participated in all phases of the proceeding.

5. Limited appearances from interested members of the public were heard on October 21, 1975, in Hartsville⁶ and on October 23, 1975, February 23, 1977, and March 3, 1977, in Nashville.⁷ Eighty-eight interested persons expressed their views and their comments were incorporated in the record. Applicant and Staff responded to the statements.⁸ Both the statements and responses have been considered by this Board.

6. The notice of the Hearing on Application for Construction Permits sets forth the issues as follows:

A. Whether in accordance with the provisions of 10 CFR 50.35(a):

- (1) The Applicant has described the proposed design of the facilities including, but not limited to, the principal architectural and engineering criteria for the design and has identified the major features or components incorporated therein for the protection of the health and safety of the public;
- (2) Such further technical or design information as may be required to complete the safety analysis and which can reasonably be left for later consideration will be supplied in the final safety analysis report;
- (3) Safety features or components, if any, which require research and development have been described by the Applicant and the Applicant has identified, and there will be conducted a research and development program reasonably designed to resolve any safety questions associated with such features or components; and
- (4) On the basis of the foregoing, there is reasonable assurance that (i) such safety questions will be satisfactorily resolved at or before the latest date stated in the application for completion of construction of the proposed facilities, and (ii) taking into consideration the site criteria contained in 10 CFR Part 100, the proposed facilities can be constructed and operated at the proposed location without undue risk to the health and safety of the public.

B. Whether the Applicant is technically qualified to design and construct the proposed facilities;

⁶Tr. p. 629.

⁷Tr. pp. 1071, 5702.

⁸Tr. p. 2417.

- C. Whether the Applicant is financially qualified to design and construct the proposed facilities;
- D. Whether the issuance of permits for construction of the facilities will be inimical to the common defense and security or to the health and safety of the public; and
- E. Whether, in accordance with the requirements of 10 CFR Part 51, the construction permits should be issued as proposed.

The Board directed a number of questions to the parties and numerous Intervenor contentions were litigated.

7. The history of this case is set forth in prior decisions of this Board.⁹ On April 20, 1976, it issued a Partial Initial Decision in which it made findings supporting the position with respect to site suitability and environmental issues. On April 22, 1976, the Director of Nuclear Reactor Regulation issued a limited work authorization (LWA) to TVA.

8. On September 30, 1976, the Board issued a First Supplemental Partial Initial Decision—Limited Work Authorization II—Part I. It found that there were no unresolved safety issues relating to the activities proposed by the Applicant that would constitute good cause for withholding authorization to conduct such activities. Further, the Board found that the Applicant's proposed program of establishing quality assurance instructions and procedures was adequate to insure that the proposed drilling, grouting and placement of dental and fill concrete could be performed as required by Appendix B of 10 CFR Part 50. It also ordered that the LWA be modified to exclude permission to clear, grub and construct facility transmission lines.¹⁰ The Director of Nuclear Reactor Regulations issued an amended LWA on December 27, 1976.

9. On December 10, 1976, the Board issued a Second Supplemental Partial Initial Decision—Limited Work Authorization II—Part II. It found that the Applicant's quality assurance program was adequate for the design, procurement and construction of the plants and that there were no unresolved safety ques-

⁹*Tennessee Valley Authority* (Hartsville Nuclear Plant, Units 1A, 1B, 2A and 2B), 3 NRC 485 (1976).

Tennessee Valley Authority (Hartsville Nuclear Plant, Units 1A, 2A, 1B and 2B), LBP-76-35, NRCI-76/9 353 (September 30, 1976).

Tennessee Valley Authority (Hartsville Nuclear Plant, Units 1A, 2A, 1B and 2B), LBP-76-44, NRCI-76/12 637 (December 10, 1976).

Tennessee Valley Authority (Hartsville Nuclear Plant, Units 1A, 2A, 1B and 2B), LBP-76-45, NRCI-76/12 651 (December 15, 1976).

Memorandum and Order, *Tennessee Valley Authority* (Hartsville Nuclear Plant, Units 1A, 2A, 1B and 2B), dated March 31, 1977.

¹⁰The Appellate Board reversed the Licensing Board on the transmission line issue. 5 NRC 92 (1977).

tions relating to the LWA-II activities proposed by the Applicant that would constitute good cause for withholding authorization to conduct such activities. The Applicant's proposal was to construct the structural portions of the auxiliary building, fuel building and reactor building up to finished grade level. The Board concluded that Appendix B to 10 CFR Part 50 applied to the construction of the turbine building and that an unresolved safety issue existed with respect to the turbine building and some of the systems and components contained therein and that additional proceedings would be necessary to resolve the issue.

10. On December 15, 1976, the Board issued a Memorandum and Order granting Applicant's Motion for Summary Disposition with respect to the environmental effects of the uranium fuel cycle. This issue had been outstanding since August 16, 1976, when the Commission issued a General Statement of Policy¹¹ in which it concluded that no new full power operation license, construction permit or limited work authorization should be issued pending developments concerning the environmental effects of the uranium fuel cycle as discussed in the General Statement of Policy. On December 27, 1976, the Director of Nuclear Reactor Regulation issued an amended LWA authorizing all activities for which the Board had made appropriate findings in our three Partial Initial Decisions. In accordance with the Commission's Supplemental General Statement of Policy (November 11, 1976)¹² issuance of construction permits will be subject to the proceedings resulting from the *NRDC v. NRC* case.¹³

11. On January 26, 1977, the Board granted motions by TVA and the Staff for reconsideration of the December 10, 1976, decision, to the extent that it held that Appendix B to 10 CFR Part 50 applied to the construction of the turbine building. It ordered that the matter be heard at the evidentiary hearing that commenced on February 23, 1977.

12. Two matters involving questions initially raised by the Board which were heard at the February-March 1977 evidentiary hearings were: the application of Appendix B to 10 CFR Part 50 to the construction of the turbine building and some of the systems and components contained therein which the Board referred to in its December 10, 1976, decision. Both were addressed by all parties in proposed findings of fact and conclusions of law submitted.

13. On March 31, 1977, the Board issued a Memorandum and Order in which it found that Appendix B to 10 CFR Part 50 need not be applied to the design and construction of the turbine building and that the various sensors in the turbine building need not be seismically qualified.

¹¹ 41 FR 34707.

¹² 41 FR 49898.

¹³ *Natural Resources Defense Council v. U.S. Nuclear Regulatory Commission*, 547 F.2d 633 (D.C. Cir. 1976) cert. granted; 42 FR 13803.

14. The record in this case consists of all the material pleadings filed herein, the transcripts to date, and all exhibits admitted to date.¹⁴ A partial list of exhibits, other than those attached to the prepared testimony of individual witnesses, appears in Appendix I of this decision. The remainder of the exhibits were listed in attachments to the Board's prior decisions. For ease of reference, we will refer to the NRC Staff's Safety Evaluation Report with its two supplements¹⁵ as the SER; the Applicant's Environmental Report including its five amendments and three supplements¹⁶ as the ER; the Applicant's Preliminary Safety Analysis Report with its 27 amendments¹⁷ as the PSAR; and the General Electric Standard Safety Analysis Report (GESSAR-238 Nuclear Island) with its 46 amendments¹⁸ as GESSAR.

15. In making the findings of fact and conclusions of law in this Initial Decision, the Board reviewed and considered the entire record of the proceeding and all the proposed findings of fact and conclusions of law submitted by the parties. All of the proposed findings of fact and conclusions of law submitted by the parties which are not incorporated directly or inferentially in this Initial Decision are rejected as being unsupported in law or fact or as unnecessary to the rendering of this Initial Decision.

II. FINDINGS OF FACT ON UNCONTESTED RADIOLOGICAL HEALTH AND SAFETY MATTERS

A. Description and Safety Evaluation of the Proposed Facility

16. A Preliminary Safety Analysis Report (PSAR) was submitted with the TVA application. This report describes the site and the design of the plant. It incorporates by reference the General Electric Company Standard Safety Analysis Report. GESSAR describes the standard preliminary nuclear island design which incorporates a Mark III containment and a BWR-6 Class boiling water reactor. The Preliminary Design Approval (PDA-1) for GESSAR was issued December 22, 1975, subject to certain conditions noted in the Preliminary Design Approval.¹⁹

17. The proposed nuclear island design described in the GESSAR in-

¹⁴On April 21, 1977, following a telephone conference in which counsel for all the parties participated, the Board opened the record to admit a stipulation which revised Figure 6.2-3 at p. 6-21 of SER Appendix A.

¹⁵Staff Ex. 3-1.

¹⁶Applicant Ex. 2.

¹⁷Applicant Ex. 3-2 and 3-6.

¹⁸Applicant Ex. 3-1.

¹⁹SER, § 1.1.

incorporates a single-cycle, forced circulation BWR-6 Class boiling water reactor in a Mark III type of vapor suppression containment. The nuclear island scope of design includes the nuclear steam supply system, the engineered safety features, the reactor and auxiliary buildings, the control building, rad-waste building, fuel building, diesel-generator buildings, the offgas treatment system (housed in the turbine building), the onsite electrical power system and related systems and structures.²⁰

18. The reactor core for each of the four BWR-6 Class boiling water reactors will contain 732 fuel assemblies. Fuel will consist of slightly enriched uranium dioxide in the form of sintered ceramic pellets. Some of the fuel rods will contain gadolinium oxide and uranium dioxide, also in the form of sintered ceramic pellets. The gadolinium oxide is a "burnable poison" designed to flatten the power distribution and limit the core reactivity variation throughout the core lifetime. The fuel pellets will be enclosed in Zircaloy-2 tubes (cladding) which will be evacuated, backfilled with helium, and sealed by welding Zircaloy-2 end plugs at each end. A Zircaloy-4 fuel channel will enclose a bundle of 63 fuel rods in an 8 x 8 array.²¹

19. The reactor coolant pressure boundary includes the reactor pressure vessel, the recirculation lines, the main steam lines, feedwater lines, and branch lines to their outermost containment isolation valves. Water flowing through the core serves as both moderator and coolant. Water is pumped through the core by twenty jet pumps supplied by two recirculation pumps. Steam produced in the reactor core is separated from the water and dried in the upper region of the vessel. The steam passes through the four steam lines to the turbine generator where its energy is converted into electrical energy. The steam is exhausted to a condenser located beneath the turbine where the condensate is collected and returned through a clean-up system for recycling through the reactor.²²

20. Engineered safety features will contain fission products assumed to be released during a postulated design basis accident so that radioactive releases will be restricted to acceptable levels, remove heat for emergency short and long-term cooling, and condense steam within the primary containment.

21. The PSAR contains a description and safety assessment of the site and of the preliminary design of the facility, a description of the quality assurance program to be applied to the design fabrication, construction and testing of the facility, and a preliminary plan for the Applicant's plant organization, training of plant personnel, and conduct of operations at the plant. In its Second Supplemental Partial Initial Decision, the Board found the quality assurance program adequate.²³

²⁰SER, § 1.2.

²¹SER, § 1.2.1.

²²SER, § 1.2.2.

²³LBP-76-44, NRCI-76/12 637, p. 643 (December 10, 1976).

22. The Staff has performed a technical review and evaluation of the information and data submitted by the Applicant in the application and the PSAR and GESSAR and their subsequent amendments. As a result of this review and its own independent analysis, the Staff issued the SER and, subsequently, two SER Supplements.²⁴

23. The SER and two SER Supplements contain an analysis and evaluation of the characteristics of the site and its environs, including nearby population centers, geology, demography, meteorology, hydrology, and seismology; the design fabrication, construction, testing criteria, and anticipated performance characteristics of the facilities, structures, systems, and components important to safety; the response of the facility to various anticipated operating transients and to a broad spectrum of postulated accidents, including design basis accidents; the Applicant's engineering and construction organization and the plans for the conduct of operations including the technical qualifications of operating and technical support personnel (*e.g.*, reactor operators will be trained on a BWR-6 simulator);²⁵ the measures taken for industrial security; the planning for actions to be taken in the event of an accident that might affect the general public; the design of the several systems provided for control of radioactive effluents and management of radioactive wastes from the plant; the Applicant's quality assurance program; and the financial qualifications of the Applicant to design and construct the facility.

24. The Staff advised the Board on the first day of the health and safety hearing that a matter discussed in the SER had not been resolved.²⁶ In its second supplement to the SER, the Staff stated that the General Electric Company discovered certain calculational errors which might affect the performance evaluation of the GESSAR emergency core cooling system (ECCS).²⁷ The Staff subsequently presented to the Board additional evidence on this matter.²⁸

25. The errors uncovered in the General Electric ECCS performance evaluation lead to several changes to those evaluations.²⁹ The Staff reviewed each of the calculational errors and the revised analysis and found that certain of the conclusions originally expressed as a result of the uncorrected analysis are now altered. The revised results of the ECCS analysis for the GESSAR-238 nuclear island employed at the plant were found to be a peak cladding temperature of 2038° F; a peak local oxidation of less than 2 percent and a maximum core

²⁴ Staff Ex. 3-1.

²⁵ Testimony of Goodwin Williams, Jr., regarding TVA's qualifications to design and construct Hartsville Nuclear Plants (hereinafter Williams) following Tr. 5767 at 6; Tr. pp. 5829-30.

²⁶ Tr. p. 5708.

²⁷ SER Supp. 2, p. 1-1; SER Supp. 2, App. A, § 6.3.2.

²⁸ Testimony of James D. Thomas (hereinafter Thomas) following Tr. p. 7230.

²⁹ Thomas, pp. 1-2.

average hydrogen generation of less than 0.14 percent for the worst large break assuming a failure of the LPCI diesel. The break spectrum has the same general shape, with the largest break size yielding the highest peak clad temperature. The Staff reaffirmed its previous conclusion that the ECCS meets all of the criteria of 10 CFR §50.46 and Appendix K.³⁰ The Board finds that the ECCS meets the requirements of the Commission's regulations.

B. Technical Qualifications

26. The Applicant has had extensive experience in the design, construction, and operation of both fossil and nuclear generating facilities including the Browns Ferry Nuclear Plant, Sequoyah Nuclear Plant, Watts Bar Nuclear Plant and Bellefonte Nuclear Plant. Personnel within TVA's Office of Power and in both its Division of Engineering Design and Division of Construction have had extensive training and experience in large scale nuclear and conventional power production activities and are presently engaged in the design and/or construction of 14 nuclear units. These experienced and trained personnel will be utilized for the proposed Hartsville plant. TVA's system of managerial responsibility will help assure safe and reliable design and construction of the plant.³¹ The Staff concluded, based on its review of the Applicant's organizational structure, quality assurance program and past assessment of TVA's technical qualifications, that the Applicant is technically qualified to design and construct the proposed facility.³²

27. Applicant is responsible for construction and operation of the plant. General Electric is responsible for the design of the nuclear island. General Electric has subcontracted to the C. F. Braun & Co. to provide engineering services related to the design of the nuclear island structures.

28. The General Electric Company has been engaged in the design, development, construction and operation of boiling water, test and research reactors for 20 years. They have also gained experience by conducting nuclear research and development programs for the utility industry and government. At present, GE has about 20 reactors licensed to operate throughout the world and these reactors have many reactor years of operating experience.³³

29. C. F. Braun & Co. have been performing engineering and construction services throughout the world since 1909. They have provided these services to the chemical, mining, utility and nuclear industries.³⁴

³⁰ Thomas, p. 3.

³¹ Williams, pp. 1-5.

³² SER, § 2.1.

³³ SER, App. A, § 1.9; Testimony of Richard B. Johnson Concerning the Technical Qualifications of the General Electric Company following Tr. p. 5769-A.

³⁴ SER, App. A, § 1.9; Testimony of George R. Boddeker Concerning the Technical Qualifications of C. F. Braun & Co. following Tr. p. 5771.

30. The Board finds that the Applicant and its principal contractor are technically qualified to design and construct the proposed Hartsville plant.

C. Common Defense and Security

31. The Applicant, the Tennessee Valley Authority, is a corporate agency of the Federal government. TVA has responsibility for the advancement of the national defense and the physical, social and economic development of the area in which it conducts its operations.³⁵

32. The activities proposed to be conducted under the construction permits will be within the jurisdiction of the United States. All of the directors and principal officers of TVA are United States citizens. TVA is not owned, controlled, or dominated by an alien, a foreign corporation, or a foreign government.³⁶ The activities to be conducted do not involve any restricted data, but the Applicant has agreed to safeguard any such data that might become involved in accordance with the requirements of 10 CFR Part 50. The Applicant will rely on obtaining fuel as it is needed from sources of supply available for civilian purposes, so that no diversion of special nuclear material from military purposes is involved.³⁷ The Board finds that the issuance of construction permits for the facility will not be inimical to the common defense and security.

D. Research and Development Required

33. The research and development programs applicable to the plant, which are to be conducted by the General Electric Company (GE), have been described by the Applicant and Staff.³⁸ These programs are intended to verify and confirm the nuclear steam supply system and containment designs and confirm the design margins. The Staff has concluded that the test programs outlined in GESSAR will be performed on a timely schedule and, in the event the results of any of these programs are not successful, appropriate restrictions on operation can be imposed or a proven alternate design can be utilized to protect the health and safety of the public.³⁹

34. In addition to these test programs, GE is presently conducting a large scale test program to verify the performance characteristics of the Mark III containment.⁴⁰ The Staff considers the basic design and performance of the

³⁵ 16 U.S.C. § 831n - 4(h).

³⁶ Applicant's Ex. 3-3, pp. 1-2; SER, § 19.0.

³⁷ SER, § 19.0.

³⁸ GESSAR, § 1.5; SER, App. A, Table 1-2; SER Supp. No. 1, App. A, Table 1-2.

³⁹ SER, App. A, pp. 1-11 to 1-15.

⁴⁰ Tr. pp. 5823-24.

Mark III containment system to be well established. In its review the Staff gave additional consideration to suppression pool dynamic loads and concluded that these localized phenomena do not represent design governing conditions. It further concluded that the Mark III testing program is only confirmatory in nature.⁴¹ The phenomena affecting pool dynamic loads are related to pool response to the loss-of-coolant accident (LOCA) and pool response due to relief valve operation generally associated with plant transient conditions.⁴²

35. Following a LOCA, the drywell atmosphere will be compressed due to the blowdown mass and energy addition. Following vent clearing, an air/steam/water mixture will be forced from the drywell through the vent system and injected into the suppression pool approximately 7-10 feet below the surface. The steam component of the flow mixture will condense in the pool while the air will be released in the pool as high pressure bubbles. The continued addition and expansion of air causes the pool volume to swell resulting in an acceleration of the surface upward. Due to the effect of buoyancy, air bubbles will rise faster than the pool water mass and will eventually break through the swollen surface and relieve the driving force behind the pool. Because of the dynamics of vent clearing and vent flow and the vertical motion of the pool water, structures forming the suppression pool boundary, structures located within the pool, and structures located above the pool could be subject to hydrodynamic loads.⁴³

36. Pressure waves are generated within the suppression pool when, on first opening, relief valves discharge high pressure air and steam into the pool water. These relief valve vent clearing loads are imparted to pool retaining structures and structures located within the pool. These same structures can also be subject to loads which accompany extended relief valve discharge into the pool if the pool water is at a high temperature. This effect is known as steam quenching vibrations.⁴⁴

37. The Staff, therefore, set forth specific design criteria for LOCA and safety relief valve loads which it could find acceptable for the construction permit stage of review. The criteria include LOCA load profiles and associated time histories which the Staff found acceptable based on its review of the GE test program to date. The criteria also related to the dynamic loads generated during the clearing of the safety relief valve discharge lines. The General Electric Company has agreed to follow these criteria as interpreted by the Staff in the GESSAR design with two exceptions.⁴⁵

38. The first exception relates to the dynamic loads generated during the

⁴¹ SER, App. A, pp. 6-16 to 6-17.

⁴² SER, App. A § 6.2.1.9.

⁴³ *Ibid.*

⁴⁴ SER, App. A, p. 6-19.

⁴⁵ *Ibid.*, p. 6-20.

clearing of the safety relief valve discharge lines. The General Electric Company proposed, as an alternative design, a different type of safety relief valve discharge device, called a quencher design. The Staff reviewed GE's analysis of this alternative design and concluded that the loads proposed for the alternative design are acceptable.

39. Although believing that the design loads are conservative in comparison with the test data accumulated to date, the Staff is requiring that the loads be verified through in-plant testing on a plant with Mark III design.⁴⁶ The Board finds the Staff's resolution of this quencher load issue acceptable.

40. The second exception relates to hydrodynamic LOCA-induced loads on pipes at elevations between 17 and 19.5 feet above the suppression pool surface.⁴⁷ The Staff and GE have been unable to resolve their differences regarding the loads to be postulated in the design of these pipes. The Applicant, however, has agreed to accept the position of the Staff in the design of the Hartsville units. The Applicant has agreed that pipes located between 17 and 19.5 feet above the suppression pool surface will be designed to the load profile recommended by the Staff or will be relocated outside of the area in question.⁴⁸ The Board finds Applicant's commitment acceptable.

III. FINDINGS OF FACT ON CONTESTED ISSUES AND BOARD QUESTIONS

41. This portion of the hearing concerns six subjects: Applicant's financial qualifications; compliance with Appendix I to 10 CFR Part 50; endangered species; gas pipeline; seismic qualification of safety sensors in turbine building; and applicability of Appendix B, 10 CFR Part 50, to the turbine building.

A. Financial Qualifications – Contentions 8 and 9

42. The Intervenors asserted two contentions early in the proceedings regarding Applicant's financial qualifications:

Contention 8

Applicant is not financially qualified to construct the proposed plants in that it does not possess the funds necessary to cover estimated construction costs and related fuel cycle costs nor has the Applicant reasonable assurance of obtaining the necessary funds.

Contention 9

Applicant and Staff have failed to adequately describe Applicant's financial

⁴⁶SER, Supp. 1, App. A, § 6.2.1.9.

⁴⁷SER, App. A, § 6.2.1.9.

⁴⁸Stipulation dated April 21, 1977.

qualifications to construct the plants by failing to schedule capital outlays for all major projects prior to and during the construction of the plants.

43. During the course of the proceeding Intervenor indicated that they would not actively pursue the financial qualifications contentions. Nevertheless, in accordance with the Board's directions, the Applicant and Staff each presented witnesses on the subject raised by the contentions. Intervenor presented no witnesses on these issues, and no conflicts in the testimony were developed on cross-examination. Thus, the record on this subject is clear and uncontroverted.

44. The Tennessee Valley Authority is a corporate agency of the United States that was created by the Tennessee Valley Authority Act of 1933.⁴⁹ TVA's power program is not funded by Federal appropriations, but is self-supporting, with necessary construction and operational funds being derived from the sale of bonds and notes and from available revenues from the power program. To enable TVA to finance its power system operations, Congress has given the Agency specific authority to borrow funds, including bonds and notes, in the open market, from the U.S. Treasury and from the Federal Financing Bank. TVA is now authorized by the Act to have an outstanding indebtedness of \$15 billion. Its actual indebtedness is \$5.135 billion and, even including the probable financial requirements of all TVA power projects up to and including the Hartsville plant, TVA's indebtedness will not exceed its statutory limitation. TVA's power bonds are considered to be prime investment quality and all of its publicly sold bonds have received a "Triple A" rating, the highest rating by both Moody's Investors Service and Standard and Poor's, the two principal bond rating agencies in the United States.⁵⁰

45. The current estimated total cost of the proposed facility is 2.5 billion dollars. The nuclear fuel inventory cost for the first cores is estimated to be 432 million dollars.^{50a}

46. During the years in which the plant is being erected, about 36 percent of the funds required for the construction of power facilities will be provided by power revenues and 64 percent will be borrowed.⁵¹

47. Section 15d of the TVA Act requires the TVA Board of Directors to set rates at a level that produces sufficient revenues to provide for operation, main-

⁴⁹48 Stat. 58, as amended, 16 U.S.C. §§ 831-831dd (1970; Supp. V, 1975)(Act).

⁵⁰Testimony of Godwin Williams, Jr., following Tr. 5767 (Williams) at 7-8, 76 Power Ann. Rep.; SER Supp. 1 at 20-1; Testimony of Jim C. Petersen following Tr. 5838 (Petersen) at 1-2; Tr. 5839-45.

^{50a}Williams at 8; Errata to Testimony of Godwin Williams, Jr., following Tr. 6138; SER Supp. 1 at 20-1; Tr. 5840-40A.

⁵¹Williams at 8-9.

tenance and administration of its power system.⁵² Thus, as a matter of law, TVA is required to have sufficient funds to carry on its activities.⁵³

48. The information presented adequately describes the financial qualifications of the Applicant. Based on this record, the Board finds that the Applicant is qualified to finance the plant.

B. Compliance with Appendix I to 10 CFR Part 50

49. At the time of the environmental and site suitability hearings, the Staff had not completed its development of guides for implementation of Appendix I. Therefore, at the environmental hearings the Staff presented an upperbound case which concluded that the cost-benefit balance would not be significantly altered by applying Section II.D of Appendix I to the plant and that the Staff's final assessment would have an even smaller effect upon the cost-benefit balance.⁵⁴ At the radiological health and safety hearing, both the Applicant and the Staff presented testimony concerning detailed calculations of the potential dose from routine releases of radioactive materials from the plant.⁵⁵

50. Two aspects of Appendix I need to be considered: guides on design objectives⁵⁶ and cost-benefit analyses of additional augments.⁵⁷ Intervenor's contentions relating to both specific dose calculations and to the cost-benefit analysis of specific augments are discussed below. In addition to responding to Intervenor's contentions, both the Applicant and the Staff presented evidence addressed to whether the plant as presently designed complies with the as low as reasonably achievable requirements of 10 CFR §§20.1 and 50.34a as defined by Appendix I.

1. Design of Gaseous Effluent System—Contention 22

51. Intervenor's contention 22⁵⁸ indicates:

The design of the gaseous effluent system for the proposed plant is inadequate in that it does not incorporate sufficient "baseline-in-plant control measures" (e.g., carbon absorbers) into the building ventilation systems for the reactor building and the turbine building to reduce releases of gaseous and particulate radioiodine to levels as low as practicably achievable.

⁵² 16 U.S.C. 831n-4 (1970; Supp. V, 1975).

⁵³ Tr. pp. 5810-12.

⁵⁴ 3 NRC 485, pp. 552-55.

⁵⁵ Tr. pp. 6592-6814, 6888-6952.

⁵⁶ Appendix I to 10 CFR 50, § II.A, II.B, II.C.

⁵⁷ *Ibid.*, § II.D.

⁵⁸ Special Prehearing Conference Order #2, dated August 8, 1975.

52. This contention was asserted by the Intervenor before the adoption of Appendix I and was apparently based on a Staff position in Regulatory Guide 1.42, which stated that although doses due to normal plant operation would exceed the proposed design objectives, the plant could meet Appendix I if the plant incorporated "baseline-in-plant control measures."⁵⁹ This position has been incorporated into the Annex to Appendix I; however, as allowed, the Applicant elected to perform cost-benefit analyses of radioactive waste treatment system augments rather than utilize the Annex to Appendix I.⁶⁰ Although the contention does not state an issue within the context of Appendix I, both the Applicant and the Staff treated contention 22 as alleging that filtration of turbine building and reactor building ventilation should be required under Section II.D of Appendix I.⁶¹

53. In a letter dated August 20, 1976, the Applicant committed to providing charcoal (carbon) adsorbers in the reactor building ventilation exhaust system.⁶² The Staff considered these charcoal adsorbers to be a component of the reactor building's ventilation exhaust system design for the purposes of the Appendix I evaluation. In its evaluation, the Staff determined that there were no additional augments which could be added to the reactor building ventilation system that could reduce the dose to the population reasonably expected to be within 50 miles of the reactor for a favorable cost-benefit ratio of a \$1,000 or less per total body man-rem or \$1,000 or less per thyroid man-rem.⁶³

54. In its cost-benefit analysis of the installation of charcoal adsorbers on the turbine building ventilation exhaust system, the Staff calculated the benefit of annual reduction in thyroid dose to the expected population within a 50-mile radius to be 14 thyroid man-rem. The total annual cost of the charcoal adsorber augment was calculated to be \$260,000. Benefit and cost estimates were calculated on a per reactor basis.⁶⁴ Because the cost would outweigh the potential benefit evaluated at \$1,000 per thyroid man-rem, the augment is not required to be installed. The Staff further determined that no additional augments could be added to the turbine building ventilation exhaust system which could reduce the dose to the population reasonably expected to be within 50 miles of the reactor at a cost of less than \$1,000 per total body man-rem or \$1,000 per thyroid man-rem.⁶⁵

⁵⁹ Staff Ex. 1, pp. 3-15, 9-17; Tr. pp. 6614, 6617-18.

⁶⁰ PSAR App. C; SER Supp. 1, § 11.1; Testimony of James J. Ritts and Randall C. Weir Regarding Contention 22 (hereinafter Ritts-Weir) following Tr. p. 6501, p. 1.

⁶¹ Ritts-Weir, p. 2; Supplemental Affidavit of Phillip G. Stoddard in Response to Contention No. 22 (hereinafter Stoddard) following Tr. p. 6517, p. 2.

⁶² Ritts-Weir, p. 2; Stoddard, p. 2.

⁶³ Stoddard, p. 2.

⁶⁴ Tr. p. 6544.

⁶⁵ Stoddard, pp. 2, 3.

55. The Applicant likewise performed a cost-benefit analysis of potential augments to the radioactive waste treatment system for the turbine building. The cost of the proposed augments were found to exceed the benefits by a substantial margin.⁶⁶

56. The Staff's cost-benefit analysis was performed in accordance with the guidelines in Regulatory Guide 1.110, *Cost-Benefit Analysis for Rad-Waste Systems for Light-Water-Cooled Nuclear Power Reactors*.⁶⁷ Further, the calculation of population doses used in the cost-benefit analysis was performed in accordance with the guidelines in Regulatory Guide 1.109, *Calculation of Annual Doses to Man from Routine Releases of Reactor Effluents for the Purpose of Evaluating Compliance with 10 CFR Part 50, Appendix I*.⁶⁸

57. The Board finds that the design of the plant with respect to the treatment of gaseous effluents from the reactor building and turbine building ventilation exhaust systems is adequate and meets the criteria of Sections II.A, B, C, and D of Appendix I of 10 CFR Part 50 and that the Applicant has complied with the as low as is reasonably achievable requirements of 10 CFR §50.34a.

2. Radiological Doses – Contentions 6, 25, 27, 28, 29, 30 and 31

58. The Intervenor advanced seven contentions (numbered 6, 25, 27, 28, 29, 30 and 31) related to radiological doses resulting from the routine releases of radioactive materials.⁶⁹ However, at the radiological health and safety hearing, the Intervenor did not present evidence on three of the contentions (numbered 25, 30 and 31). The Applicant and the Staff presented evidence on all seven contentions.⁷⁰

59. Contention 25 alleges:

Petitioners contend that the Applicant has arbitrarily substituted its own calculational methods as compared to those used by the NRC Regulatory Staff relative to acceptable dosages of radioiodine releases for the cow-milk-thyroid dose pathway (Appendix I 2, Applicant's Environmental Report).

60. The Applicant's witnesses and the Staff's witness testified that Applicant's models of this pathway were similar to the Staff's.⁷¹ The Staff's witness

⁶⁶ Ritts-Weir, p. 2; Tr. p. 6502.

⁶⁷ Staff Ex. 3-5.

⁶⁸ Staff Ex. 3-4; Stoddard, p. 3.

⁶⁹ Special Prehearing Conference Order #2, dated August 8, 1975.

⁷⁰ Testimony of Ernest A. Belvin, Jr., James E. Watson, Jr., and William H. Wilkie regarding Contentions 6, 25, 27, 28, 29, 30 and 31 (hereinafter Belvin, *et al.*) following Tr. p. 6601 at pp. 3, 5-6; Affidavit of Wayne L. Britz in response to Contentions Nos. 6, 25, 27, 28, 29, 30 and 31 (hereinafter Britz) following Tr. p. 6892 at pp. 1-3.

⁷¹ Belvin, *et al.*, p. 3; Britz, p. 1.

testified that the dose model and the parameters used by the Applicant were reviewed and found acceptable by the Staff.⁷²

61. Further, one of the Applicant's witnesses testified that the outdated dose model which had been used by the Applicant and described in the ER prior to adoption of Appendix I was in many respects similar to the models later adopted by the Staff in Regulatory Guide 1.109.⁷³

62. The contention infers that the Applicant should use the Staff's model to perform its calculations. However, in adopting Appendix I, the Commission was clear in its direction that applicants are free to develop their own models.⁷⁴

63. The Board finds that the model used by the Applicant subsequent to the adoption of Appendix I is similar to the model described by the Staff. Therefore, the Board finds that the Applicant has not arbitrarily substituted its own calculational methods as compared to those used by the Staff.

64. Contention 30 alleges:

The Applicant's and NRC Staff's survey of dairy farming (PSAR, Section 2.1.4, *et seq.*) is inaccurate in that the number of dairy farmers and the number of cows and extent of milk production is underestimated, and therefore misleading as to the potential effect of radiological releases upon dairy farming both for the production of manufactured milk and milk for home use.

65. The testimony shows that the dairy farming data referenced in the contention was not used in the dose calculations. Instead the Applicant collected detailed agricultural data through a house-to-house survey, discussions with the county agricultural agent and from the U.S. Bureau of Census for Agriculture.⁷⁵ This information is presented in a portion of the PSAR not referenced by the contention.⁷⁶

66. The Board finds that the Applicant's and Staff's survey of dairy farming and milk production is adequate.

67. Contention 31 alleges:

The Applicant's and NRC Staff's survey of agricultural production (PSAR, Section 2.1.4.1) should not have been limited to a radius of only 5 miles from the proposed plant site, because the 5-mile radius is not sufficient to adequately assess the impact of radiological releases from the plants at the levels projected by the NRC upon agricultural production.

68. The evidence indicates that the survey of agricultural production prepared for this proceeding is not limited to a radius of 5 miles. The Staff's

⁷² Britz, p. 1.

⁷³ Tr. pp. 6615-16.

⁷⁴ Rulemaking Hearing, CLI-75-5, 1 NRC 277, pp. 332-45 (1975).

⁷⁵ Belvin, *et al.*, p. 5; Britz, p. 9.

⁷⁶ PSAR App. C, response C.3 and Table C.2; App. D, Tables 4 and 5.

Appendix I evaluation estimates the population dose within the 50-mile radius and includes agricultural production.⁷⁷ Data and methods used in the Staff's evaluation are contained in Regulatory Guides 1.109, 1.111, and 1.112⁷⁸ and agricultural data (meat, milk, and vegetation) was requested from and supplied by the Applicant in Amendment 15, January 26, 1976, to the PSAR. The Applicant's dose evaluation in Appendix D to the PSAR also considered agricultural production within the 50-mile radius of the plant.⁷⁹

69. The Board finds that the Applicant's and Staff's survey of agricultural production is not limited to a radius of 5 miles.

70. The Intervenors asserted the following four additional contentions which are related:

Contention 6

Applicant and Staff have underestimated the probable radiological dose on man caused by consumption of fish which will have accumulated radio-nuclides from plant effluents.

Contention 27

The Applicant and NRC Staff have failed to adequately assess the effect of radiological releases at the levels projected by the NRC on tobacco, vegetables and fruit grown in the vicinity of the proposed plants.

Contention 28

The Applicant and NRC Staff have failed to adequately assess the effect of radiological releases at the levels projected by the NRC upon the Cumberland River water used for drinking purposes.

Contention 29

The Applicant and NRC Staff have failed to adequately assess the accumulation of radioactive materials in the ground where food crops are grown. The Applicant has failed to consider the impact of such accumulations over successive years and the absorption of such radioactive materials in such food crops.

71. The Applicant's witnesses testified that each of the pathways of exposure to radioactive effluents mentioned in these contentions was modeled by Applicant in accordance with applicable NRC regulatory guides. The witnesses testified that in the case of each of these pathways the calculational models and data used were such that substantial underestimation is unlikely.⁸⁰

72. The Staff presented testimony that it has developed methods to calculate probable radiological doses to selected individuals near the reactor site and to

⁷⁷ SER Supp. 1, § 11.0.

⁷⁸ Staff Exs. 3-4, 3-6 and 3-7.

⁷⁹ Britz, p. 2; Belvin, *et al.*, p. 6.

⁸⁰ Belvin, *et al.*, pp. 2-5.

the population around the site. Regulatory Guides 1.109, 1.111, and 1.112⁸¹ provide a detailed discussion of factors which are used in determining radioactive releases, transport in the environment, and doses to man.⁸² The Staff found that its calculations were in general agreement with those of the Applicant.⁸³

73. Both the Applicant's and Staff's witnesses testified that their respective calculations indicated that the plant will comply with the limitations specified in Appendix I.⁸⁴

74. The Intervenor's called three witnesses on these four contentions. The primary assertion of these witnesses is that the radiological dose calculation models used by both the Applicant and the Staff ignored the exposure pathway resulting from gaseous effluents being deposited on the ground and transported by rainwater runoff into the Cumberland River and also the pathway resulting from gaseous effluents being deposited directly into waterways.⁸⁵ A secondary assertion was that the critical organ for exposure of individuals in the population is not the thyroid of an infant, as assumed by both the Applicant and Staff, but the thyroid of a fetus in the early phases of intrauterine development.⁸⁶

75. The written⁸⁷ and oral testimony offered by one of the Intervenor's three witnesses is of limited value because of its nonspecific discussion of the general hydrologic cycle. Although the testimony was generally directed toward deposition of gaseous effluents, the witness indicated that he had conducted no independent studies of the Cumberland River hydrology or meteorology nor of wet scrubbing from the atmosphere. He was not familiar with the terminology "source term," made his own assumptions about emissions to the atmosphere, and did not make any calculations on effluent depositions.⁸⁸

76. The testimony of another of the Intervenor's three witnesses is also of very limited value in resolving the issues in the contentions because of its nonspecific nature. The written⁸⁹ and oral testimony is generally directed to the effect of the deposition of gaseous effluents via the cow-milk-human pathway and via the runoff-stream-fish-human pathway. The testimony espouses well known facts, for example, that gaseous effluents will settle out in the environment and result in radiological doses to the public but provides no specific values nor data of what the witness considered harmful doses. The witness was not

⁸¹ Staff Exs. 3-4, 3-6, and 3-7.

⁸² Britz, pp. 3-4.

⁸³ Britz, pp. 1, 6-8.

⁸⁴ Belvin, *et al.*, Table 1, pp. 3-5; Britz, p. 5; PSAR App. D, Tables 19 and 20; SER Supp. 1, Table 11.4.

⁸⁵ Testimony Relating to the Adequacy of Population Dose Calculations by Dr. Ernest J. Sternglass (hereinafter Sternglass) following Tr. p. 6841.

⁸⁶ Sternglass, p. 18.

⁸⁷ Testimony of Zane Spiegel following Tr. p. 6990.

⁸⁸ Tr. pp. 6984-7028.

⁸⁹ Statement by Prof. Harold L. Rosenthal, following Tr. p. 7066.

generally familiar with the relationship between Appendix I dose design objectives and National Council on Radiation Protection recommended dose values. He showed no familiarity with the specific numerical values of radiological doses under which the plant will be designed, licensed and regulated.⁹⁰

77. The Intervenor's position relies principally on the testimony of its third witness. This witness's testimony⁹¹ primarily addresses contention 28 relating to the gaseous effluent-runoff-drinking water pathway.⁹²

78. The essence of the witness's testimony regarding the pathway of gaseous effluents to water bodies hinges on his use of a ratio technique utilizing releases in gaseous form and the releases in liquid form for particular radionuclides in the calculation of radiological doses. The radionuclide chosen as the basis for calculating this ratio was cesium-137, which is principally released in gaseous effluents. The ratio was thus quite large, in fact 9611.⁹³ Had the witness chosen other radionuclides as the basis for the ratio, he would have arrived at much lower ratios.⁹⁴ The witness asserted that cesium was selected because it is the largest contributor to the dose from the liquid pathway.⁹⁵ However, the Staff's witness indicated that cesium-137 is not the major contributor to the doses in the liquid pathway.

79. The weight of the evidence shows that the witness's ratio technique which formed the basis for his testimony is not adequate for determining potential doses. While the particular radionuclides selected by the witness are contributors to the potential doses from runoff, they are only minor contributors to the total dose from liquid effluents. Therefore, the ratio of the chosen radionuclide in the gaseous effluent to the amount in the liquid effluent is not the same as the ratio of the resulting doses because that chosen radionuclide is only a small contributor to the total dose from the liquid pathway.

80. The Intervenor did not perform a complete methodical radiological dose analysis for the gaseous effluent-runoff-water-human pathway. Such calculations were made by both the Applicant and the Staff.⁹⁶ The results of the Applicant's calculations⁹⁷ indicate that this pathway would contribute less than one-tenth

⁹⁰Tr. pp. 7055-7102.

⁹¹Sternglass.

⁹²Sternglass, p. 11.

⁹³Tr. pp. 6897-98.

⁹⁴Tr. p. 6844.

⁹⁵Tr. 6897, 6924.

⁹⁶Tr. pp. 6653-54, 6685-6693, 6900-03.

⁹⁷The Applicant performed several conservative dose calculations. Earlier in response to an interrogatory from the State, the Applicant calculated doses assuming that all of the gaseous effluents deposited within a 50-mile radius of the plant reached the Cumberland River with no radioactive decay. Later after Appendix I was promulgated and Regulatory Guide 1.111 was issued, the Applicant calculated doses assuming that 10% of the gaseous effluents deposited appeared as runoff at one point, *i.e.* at the plant.

of one percent to the total body population dose and four-tenths of one percent to the thyroid population dose due to gaseous effluents.⁹⁸

81. The Staff performed even more conservative calculations, assuming that 100 percent of the radioiodines and radioparticulates in the gaseous source term were placed directly into the discharge of the liquid stream at the plant. The resulting 50-mile population dose increased from 0.28 total body man-rem to 1.16 total body man-rem.⁹⁹

82. Both the Applicant and the Staff found that the additional dose contribution from this pathway contributed less than 10 percent of the total dose from all pathways. Therefore, in accordance with the criterion in Regulatory Guide 1.109, further consideration of this pathway is not required.¹⁰⁰

83. Intervenor's witness further contended that the dose to the bone due to strontium-90 via the milk ingestion pathway is 12.5 millirem per year to an individual and 597 man-rem to the population within 50 miles.¹⁰¹ Both the Applicant and the Staff sought to examine the calculations performed by Intervenor's witness.¹⁰² As a result, the Intervenor furnished its Exhibit 3-1, and the Staff inquired where the calculations for 12.5 millirem and 597 man-rem dose values appeared in the exhibit. The witness stated that he would furnish the calculations within a week after returning home.¹⁰³ Intervenor served an Addendum to Intervenor's Exhibit 3-1 on March 15, 1977, which the Board hereby admits into evidence.¹⁰⁴ However, the Board finds that the addendum does not contain the requested specific calculations which led to the witness's testimony of 12.5 mrem per year individual and 597 man-rem population bone doses, nor does it contain most of the calculations which served as the specific basis for his written testimony.

84. Intervenor's witness further contended that the calculations of doses were carried out for infants 0-1 year old and that "there is mounting evidence in the literature that the most critical members of the population are the developing infants in the early phases of intrauterine development and that their thyroids can receive as much as 10 times the dose calculated for the thyroid of the young child," citing as support for his position M. Eisenbud, *Pediatrics*, Vol. 41, No. 1, Pt. II, p. 183, January 1968.¹⁰⁵

⁹⁸ Tr. pp. 6686-90

⁹⁹ Tr. pp. 6900-01.

¹⁰⁰ Regulatory Guide 1.109, Footnote on p. 1.109-67.

¹⁰¹ Tr. pp. 6866-67.

¹⁰² Tr. pp. 6869-70.

¹⁰³ Tr. pp. 7035-54.

¹⁰⁴ Addendum to Calculations [Ex. 3-1], Hartsville Nuclear Plant, E. J. Sternglass, March 15, 1977.

¹⁰⁵ Sternglass, p. 18; the Eisenbud article referenced (hereinafter Eisenbud) was introduced as Intervenor's Ex. 3-5.

85. However, the Eisenbud article does not represent the most recent evidence in the literature. The Applicant's and Staff's rebuttal witnesses referenced several additional technical papers on the concentration of iodine in the fetal thyroid.¹⁰⁶ In surrebuttal Intervenor's witness asserted that one of the papers cited supported his testimony and another was based solely on calculations, rather than empirical data.¹⁰⁷ The parties agreed that the articles in question should be admitted as exhibits for later review by the Board.¹⁰⁸

86. Eisenbud in his article concluded on the page before the one referenced by the Intervenor's witness that, "However, Figure 7 does serve to emphasize that the child is the critical component of the population where the effects of iodine exposure are being considered." With respect to the single datum point cited as "mounting evidence in the literature," Eisenbud in the discussion of the same article on page 195 states that, "I appreciate the fact that this single datum is startling. Since this is all the data we have, I thought you should know of it."

87. Another of these articles published in the *Health Physics Journal* in December 1975 by Book and Goldman of the Radiobiology Laboratory at the University of California reviewed the data available to date, including Eisenbud's data and the various other articles introduced in this proceeding. The authors noted that Eisenbud's datum point appeared to fit the acute rather than the chronic case, probably as a result of anomalous circumstances.¹⁰⁹

88. The Board, upon careful consideration of the testimony and exhibits and giving due weight to the relative credibility of the witnesses, finds that the infant is the critical member of the population for thyroid dose from radioactive iodine. Therefore, the Applicant and Staff in performing their calculations of dose for purposes of checking compliance with 10 CFR Part 50, Appendix I, were appropriately conservative in selecting the child as the critical receptor for individual thyroid dose calculations.

89. Further, the Board finds that the Applicant and Staff have adequately assessed the effect of radiological releases from the plant and are not likely to have significantly underestimated the probable resulting radiological doses to the population within 50 miles of the plant. Therefore, the Board finds no probative evidence to support Intervenor's contentions 6, 27, 28 and 29.

3. Mechanical Vacuum Pump Augment

90. At the environmental and site suitability hearing, the Board asked the Applicant and the Staff about the possibility of reducing the population dose

¹⁰⁶ Tr. pp. 7119-21; 6905-06.

¹⁰⁷ Tr. pp. 7133-35, 7148-50.

¹⁰⁸ Applicant's Exs. 3-9, 3-10; Intervenor's Ex. 3-5; Staff Ex. 3-9.

¹⁰⁹ Staff Ex. 3-9.

due to operation of the main condenser mechanical vacuum pump.¹¹⁰ The Applicant and the Staff each presented additional evidence regarding the mechanical vacuum pump effluent at the radiological health and safety hearing.¹¹¹

91. An Applicant's panel of witnesses addressed the Board's question concerning whether the benefit of using a mechanical vacuum pump small enough to permit processing its effluent through the off-gas system would exceed its cost.¹¹² They indicated that they had considered an alternate system using two 125 CFM pumps which discharged into a catalytic recombiner and a second alternate using two 50 CFM pumps instead of the two 125 CFM pumps.¹¹³ The substance of their testimony was that if the plant employed small mechanical vacuum pumps, it could be expected that there would be a substantial amount of time each year in which the nuclear units could not operate because of the longer time it would take the smaller pumps to evacuate the condenser following certain outages. Based on a cost of \$125,000 per day for each day that replacement power must be supplied by higher cost generating facilities, the witnesses concluded that under Section II.D of Appendix I smaller mechanical vacuum pumps are not cost beneficial.¹¹⁴

92. The Staff considered a 2000 CFM capacity charcoal adsorber system designed to be compatible with the mechanical vacuum pump effluent rate. They considered this a system of reasonably demonstrated technology required to be evaluated as a potential augment under Appendix I.¹¹⁵ This augment consisted of high efficiency particulate air filters and four-inch deep charcoal bed adsorbers. The total annualized cost of this augment was \$8,200 which exceeded the dollar value of \$4,100 assigned to the benefit from reducing the 50-mile annual population dose.¹¹⁶

93. The Applicant witnesses also addressed other schemes to provide treatment of the mechanical vacuum pump effluent each of which would involve the addition of equipment or extensive piping systems. Each of these schemes was

¹¹⁰ Board Question 4 following Tr. p. 547; Tr. pp. 2826-74, 2901-09; Affidavit of William M. Hewitt in Response to Board Questions #4, #8 and #9 following Tr. p. 2885, pp. 1-5.

¹¹¹ Tr. pp. 6413-96.

¹¹² Testimony of Walter Zobel and Jerry L. Golden (hereinafter Zobel-Golden) following Tr. p. 6419.

¹¹³ *Ibid.*, pp. 2-3.

¹¹⁴ *Ibid.*, p. 4.

¹¹⁵ Supplemental Affidavit of Phillip G. Stoddard in Response to ASLB Question 4 (hereinafter Stoddard Question 4) following Tr. p. 6485.

¹¹⁶ 1.0 total body man-rem per year plus 3.1 thyroid man-rem multiplied by \$1,000 per total body or \$1,000 per thyroid man-rem.

found to be more costly than the benefit resulting from reducing the doses from the mechanical vacuum pump effluent.¹¹⁷

94. The Board asked the witnesses whether the use of a cost of replacement power is intended to be included as a cost of an augment under Appendix I.¹¹⁸ Regulatory Guide 1.110, *Cost-Benefit Analysis for Rad-Waste Systems for Light-Water-Cooled Nuclear Power Reactors*, provides guidance to applicants on the performance of the cost-benefit analysis required by Appendix I. The witnesses agreed that Regulatory Guide 1.110 does not explicitly provide for the consideration of replacement power costs in cost-benefit analyses of rad-waste augments. However, witnesses for both the Applicant and the Staff stated that replacement power costs are omitted from the regulatory guide because none of the augments considered by the guide would involve a loss of plant operability. They agreed with each other that replacement power should be considered in the cost-benefit analysis since it is an operating cost that directly results from implementing the augment.¹¹⁹ The Board concurs with this approach.

95. The Board finds that there are no augments of reasonably demonstrated technology applicable to the mechanical vacuum pump releases that can, for a favorable cost-benefit ratio, reduce the dose to the population reasonably expected to be within 50 miles of the plant.

4. Meeting Appendix I Design Objectives

96. Applicant's panel of witnesses testified concerning the Applicant's dose calculations and presented a comparison between the Appendix I guidelines on design objectives for light-water-cooled power reactors and the doses calculated for the plant.¹²⁰ This comparison showed that in the case of each design objective, the calculated dose is a small fraction of the respective guideline in the regulations.

97. The Staff's witness testified concerning the Staff's dose calculations.¹²¹ His testimony indicated that the Staff reviewed the Applicant's calculations¹²² and found the Applicant's calculations meet the guidelines of Appendix I to 10 CFR Part 50.¹²³ The Staff also compared the doses it calculated to the guidelines on design objectives of Appendix I.¹²⁴ Both comparisons showed that the calculated doses are well within the respective guideline for each design objective of Appendix I.

¹¹⁷ Tr. pp. 6420-22.

¹¹⁸ Tr. pp. 6440-47, 6495-96.

¹¹⁹ *Ibid.*

¹²⁰ Belvin, *et al.*, Table 1.

¹²¹ Tr. pp. 6888-6952.

¹²² Britz, p. 1; Tr. pp. 6893-94.

¹²³ Britz, pp. 1-2, 5.

¹²⁴ SER Supp. 1, Table 11.4.

98. The Board questioned both Applicant's and Staff's witnesses concerning whether the guides on design objectives of Appendix I, Section II.B, apply on a "per unit" or "per plant" basis. The witnesses agreed that the limits apply on a per unit basis.¹²⁵ The Board notes that this testimony is consistent with the Commission's rulemaking decision.¹²⁶ The Commission noted that the limits were set on a per reactor basis with the expectation that no more than five reactors would be located at a site in the near future.¹²⁷ The proposed plant includes four units.

99. Further, once it has been determined that the plant and site are adequate, technical specifications which will be part of any operating license will govern ultimate plant operation and insure that plant releases meet the guidelines. Actual operating data from radioactive effluents and radioactive environmental monitoring will be used to calculate doses to the public, and these running calculations of doses during the year will be used to assure compliance with Appendix I.¹²⁸

100. Based on the evidence introduced during the course of this proceeding, including the evidence introduced concerning Intervenor's contentions, as discussed above, the Board finds that the doses associated with the normal operation of the plant meet the design objectives of Section II.A, II.B, and II.C of Appendix I of 10 CFR Part 50, and that the expected aggregate doses meet the design objectives set forth by the Commission in the Rulemaking Hearing.

C. Endangered Species

101. On the first day of the evidentiary hearing, the Applicant and the Staff both informed the Board of a potential environmental impact involving an endangered species which had recently become known to the Applicant and the Staff.¹²⁹ During September 1976, the Applicant discovered that *Lampsilis orbiculata*, a mussel, was being taken commercially from the area near the proposed plant. A subsequent survey revealed a bed of *Lampsilis orbiculata* adjacent to the proposed plant site.¹³⁰ The *Lampsilis orbiculata* has been designated by the Department of Interior as an endangered species pursuant to Section 4 of the Endangered Species Act of 1973.¹³¹

102. The Applicant's witness testified that moving the discharge diffuser to either of two locations would not produce a significant environmental im-

¹²⁵ Tr. pp. 6808-10, 6945-51.

¹²⁶ Rulemaking Hearing, 1 NRC pp. 277, 281 (1975).

¹²⁷ *Ibid.*

¹²⁸ Tr. pp. 6907.

¹²⁹ Tr. p. 5709.

¹³⁰ Testimony of Billy G. Isom, following Tr. 6315 (hereinafter Isom), p. 2.

¹³¹ 41 FR 24062; Isom, p. 1.

pact.¹³² One location is below Cumberland River Mile (CRM) 284.1¹³³ (“the downstream location”). The other location is between the mussel bed and Dixon Island¹³⁴ (“the upstream location”). The Applicant’s preliminary estimates indicate that the cost of moving the discharge diffuser to either of these locations would not exceed \$2.5 million.¹³⁵

103. The downstream location is an alternative acceptable to the Department of Interior.¹³⁶ The Department of Interior’s letter discussed the downstream location and three other locations which Applicant subsequently abandoned, but did not discuss the upstream location.

104. The Staff testified that the downstream location would result in minimal environmental impact at an insignificant cost.¹³⁷ The Staff testified that they had not had sufficient opportunity to fully assess the upstream location.¹³⁸

105. During the course of the hearing Intervenor proposed and the Board admitted a new contention based on newly discovered evidence.¹³⁹

The routine releases of radioactivity from normal operation of the proposed plants will harm certain mussel species found in the area proposed for the plant diffuser, namely *Dromus dromas*, *Lampsilis orbiculata* and *Dysnomia sulcata*. Said releases have been underestimated by Applicant and NRC Staff. Said releases will harm said mussel species in the following manner: by injuring or killing mussels of said species; annoying said species to such an extent as to significantly disrupt essential behavioral patterns, including breeding; and by causing significant environmental modification or degradation, namely, the contamination of the sediment and waters of the Cumberland River.

106. The Intervenor called a panel of four witnesses on this issue to present oral testimony.¹⁴⁰ None is a malacologist and none has expertise in the effects

¹³² Isom, p. 3.

¹³³ *Ibid.*

¹³⁴ *Ibid.*

¹³⁵ *Ibid.*, p. 4.

¹³⁶ Letter from Department of Interior to Applicant dated February 4, 1977, Applicant’s Exhibit 3-A.

¹³⁷ Testimony of Charles W. Billups following Tr. 6562 (hereinafter Billups), pp. 1-3; Testimony of F. S. Echols following Tr. 6564a (hereafter Echols), pp. 1-2.

¹³⁸ Billups, p. 3.

¹³⁹ Tr. p. 6497.

¹⁴⁰ Biographical data for Zane Speigel following Tr. 6988; for Leslie Rosenthal following Tr. p. 7056; Ernest J. Sternglass following Tr. p. 6818; and Charles W. Huver following Tr. p. 7156.

of radiation on mussels. Cross-examination revealed that the witnesses lacked basic information concerning the facts in issue.^{140a}

107. Applicant called two as rebuttal witnesses—a radioecologist employed by the Oak Ridge National Laboratory and a health physicist employed by Applicant. The radioecologist has spent over 15 years doing primary research on the effects of radiation on aquatic organisms and has published numerous papers on this subject matter in various scientific journals.¹⁴¹ The health physicist holds a masters degree and has been employed by the Applicant as a health physicist for five years.¹⁴²

108. The Applicant's witness testified that he calculated potential doses to aquatic organisms that might result from the operation of the plant and that his calculation showed the maximum dose to a mussel from all sources to be 21 millirads per year.¹⁴³ The other Applicant's witness testified that such dose levels would not result in a significant adverse effect on mussels.¹⁴⁴

109. The Staff's witness presented evidence on the effects of radiation on the mussel population.¹⁴⁵ He testified that the Staff calculated the potential dose to mussels to be "on the order of a millirad per year"¹⁴⁶ and stated that at such dose levels there would be no effect on the mussels.¹⁴⁷

110. Having carefully considered all of the testimony on this issue, and having given appropriate weight to the evidence in accordance with the relevant expertise, the applicable facts and the relative credibility of the witnesses, the Board finds that the radiological releases from the plant will not produce significant adverse effect on the mussels in the Cumberland River.

111. The Board finds that the downstream location is an environmentally acceptable alternative. The record is not complete with respect to the upstream location because the Department of Interior has not approved the upstream location. If the Department of the Interior had approved the upstream location, the Board would have found it an acceptable location. Hence, the Board finds the upstream location is also acceptable provided that it is approved by the Department of the Interior.

112. The Board finds that the economic costs of moving the diffuser to either location will not upset the cost-benefit balance.

^{140a}Tr. 6986-87, 7002-13, 7099-7102, 7306-7307, 7309-16.

¹⁴¹Qualifications of B. G. Blaylock following Tr. 7327.

¹⁴²Qualifications of Harold J. Monroe, III, following Tr. 7325.

¹⁴³Tr. 7329-31.

¹⁴⁴Tr. 7331-40.

¹⁴⁵Tr. 6953-69.

¹⁴⁶Tr. 6962.

¹⁴⁷Tr. 6962.

D. Gas Pipeline

113. During its consideration of the suitability of the site, the Board questioned the parties about the potential hazards posed by a natural gas pipeline that crosses the site.¹⁴⁸ The Board's finding on site suitability was based on the assurance that if it were determined that the gas pipeline posed an unacceptable hazard, the pipeline could be relocated.¹⁴⁹

114. The closest point of approach of the natural gas pipeline to a safety related plant structure is approximately 2,650 feet (810 meters) in diameter and carried natural gas at a maximum pressure of 720 psig (4.9 mpa). A compressor station is located on the pipeline approximately 3,400 feet (1 km) northeast of the nearest plant structure.¹⁵⁰

115. The Board heard additional testimony on the potential gas pipeline hazard at the radiological health and safety portion of the hearing. The Applicant's witness supported the safety analysis contained in Section 2.2.3.4 of the PSAR which considers the composition of the gas, pipe break statistics, site meteorology, atmospheric dispersion, gas plume rise, air blast, heat transmission, missile generation, and gas concentration.¹⁵¹ The analysis indicated that the presence of the pipeline was an acceptably small risk. Applicant's analysis specifically showed that no dangerous gas concentrations would reach the plant air intakes, no plant structural heating hazards will occur due to gas cloud combustion, no dangerous missiles would reach the safety-related structures at the site, no air blast loads due to cloud deflagration would exceed the 2.4 psi blast pressure threshold for the safety-related structures at the site, and that the probability of an air blast due to cloud detonation (assuming for the sake of analysis that an unconfined gas cloud would detonate) exceeding the 2.4 psi peak reflected pressure blast threshold is not more than 1.6×10^{-8} per year.¹⁵²

116. At the site suitability hearing, the Board questioned the parties about the possibilities of future changes in the constituents of the gas transmitted in the pipeline.¹⁵³ In response to that inquiry, Applicant performed additional investigations and reported the results at the radiological health and safety hearing. Applicant's witness testified that, while historical gas company records indicate that the propane fraction of the gas has been less than 1 percent of the total

¹⁴⁸ Tr. pp. 742-45, 986-1016, 1027-38.

¹⁴⁹ 3 NRC at 537-38 (1976).

¹⁵⁰ Testimony of Jacques B. J. Read Relating to Safety Implications of the Natural Gas Pipeline which Passes the Hartsville Site (hereinafter Read) following Tr. p. 6300 at p. 1.

¹⁵¹ Testimony of Glenn E. German Regarding the Hazard Analysis of the Gas Pipeline (hereinafter German) following Tr. p. 6255.

¹⁵² German, p. 3; PSAR p. 2.2-2.

¹⁵³ Tr. pp. 993-98.

(generally around 0.2 percent)¹⁵⁴ and that the trend for propane content was downward,¹⁵⁵ the Applicant analyzed the potential hazard to the plant using the theoretical maximum propane content of 17 to 18 percent at the pipeline design pressure.¹⁵⁶ The Applicant's analysis also conservatively assumed, against the weight of scientific evidence, that an unconfined natural gas cloud would detonate,¹⁵⁷ that all pipe breaks would be double-ended guillotine breaks, and that the blast wave impingement upon the plant occurred at the worst possible angle of incidence.¹⁵⁸

117. The Staff's witness concluded that the risks associated with pipeline failure in the vicinity of the plant are acceptably low for situations involving gases with as much as 18 percent propane.¹⁵⁹ The Staff's analysis led to the conclusion that detonation of unconfined natural gas is not likely to occur.¹⁶⁰ Nevertheless, even assuming a detonation could occur, the Staff's witness indicated that the Applicant's analysis of resulting effects on the plant are conservative.¹⁶¹

118. Both the Staff's and the Applicant's witnesses testified that it is unlikely that the gas company will alter the use of the pipeline to carry more hazardous substances.¹⁶² Two commitments were made by the Applicant to resolve any plant safety implications should this contingency occur. At the LWA hearing, the Applicant committed to relocate the portion of the line nearest the plant should a change in the use of the line be proposed which would create an unacceptable hazard to the plant.¹⁶³ In order to assure adequate notice of possible changes in the use of the pipeline, the Applicant has further committed to collect and furnish the Staff annually with a report of the chemical contents of the line and significant changes in the transmission company's plans.¹⁶⁴

119. The Board finds the pipeline hazard analyses of the Staff and the Applicant acceptable, and further finds the Applicant's commitment regarding the contingency of a future significant change in pipeline use adequate.

E. Seismic Qualifications of Safety Sensors in the Turbine Building

120. In its Second Supplemental Partial Initial Decision, the Board found

¹⁵⁴ Tr. p. 6259; PSAR p. 2.2-4.

¹⁵⁵ Tr. p. 6269.

¹⁵⁶ PSAR, pp. 2.2-12 ab to 12 ac; Tr. pp. 6668, 6275-76.

¹⁵⁷ Tr. pp. 6256, 6274, 6277-79.

¹⁵⁸ German, p. 3.

¹⁵⁹ Read, p. 14.

¹⁶⁰ Read, p. 2.

¹⁶¹ Tr. p. 6307.

¹⁶² Tr. 6259-73, 6302-03.

¹⁶³ Tr. pp. 1027, 1033; 3 NRC 485, 537.

¹⁶⁴ Tr. p. 6296.

that an unresolved safety issue existed with respect to the construction of the turbine building and some of the components and systems installed therein which provide inputs into the reactor protection system. If these components and systems installed in the turbine building must function during a design basis accident such as during a safe shutdown earthquake (SSE) in order to limit the potential resulting offsite exposures, then the components and systems must be seismically qualified, including perhaps, the turbine building itself. However, if the exposures resulting from the accident are significantly less than the 10 CFR Part 100 guidelines without requiring the components and systems in the turbine building to remain functional, then they would not need to be seismically qualified.

121. The Board added the following issues to the health and safety phase of the hearing, *sua sponte*.¹⁶⁵

1. Should the turbine trips of the reactor protection system and the turbine bypass system be seismically qualified?
2. Should the turbine building be seismically qualified?
3. Should the reactor protection system receive shutdown signals from buildings outside the nuclear island?

122. The factual setting upon which this Board based its conclusions with respect to individual doses from accidental radiological releases resulting from failure of inputs to the reactor protection system has changed. On page 15-4 of the GESSAR, the Staff listed the expected individual doses resulting from the failure of certain inputs from the turbine building to the reactor protection system. The Staff concluded that the two-hour dose would not exceed 95 rem to the thyroid and 4.5 rem to the whole body and that the course-of-the-accident dose would not exceed 55 rem to the thyroid and 4.5 rem to the whole body. The Staff has reevaluated the calculation of the doses resulting from the accident. The two-hour dose is now 3.7 rem to the thyroid and 0.4 rem to the whole body; the course-of-event dose is 2.6 rem to the thyroid and 0.1 rem to the whole body.¹⁶⁶ The recalculated doses are still believed to be conservative.¹⁶⁷ The lower doses now reported by the Staff are small percentages of the dose guidelines in 10 CFR Part 100. The Board notes that the course-of-event whole body dose is not greater than the annual or weekly dose allowed for individuals in unrestricted areas.¹⁶⁸

123. Appendix A to 10 CFR Part 100 requires that in the event of a safe

¹⁶⁵ LBP-76-44, NRCI-76/12 637, 648 (December 10, 1976).

¹⁶⁶ Supplemental Testimony of NRC Staff in Response to Board Questions following Tr. 6200, p. 3.

¹⁶⁷ Tr. 6201-02.

¹⁶⁸ 10 CFR §20.105.

shutdown earthquake, certain structures, systems and components remain functional in order to assure:

1. The integrity of the reactor coolant pressure boundary;
2. The capability to shutdown the reactor and maintain it in a safe shutdown condition; or
3. The capability to prevent or mitigate the consequences of accidents which could result in the potential offsite exposures comparable to the guideline exposures of this part.

124. Structures, systems and components that need to meet these requirements must be seismically qualified. The turbine trip sensors meet all of the qualifications of Class IE equipment (IEEE-279, etc), the same standards as other inputs to the reactor protection system, and meet all of the criteria contained in 10 CFR Part 50, Appendix A, with the exception that they are housed in a building that is not seismically qualified.¹⁶⁹

125. Based on the additional evidence provided, the Board finds that the various sensors in the turbine building which provide signals to the reactor protection system need not remain functional during the safe shutdown earthquake. Therefore, the Board finds that these sensors need not be seismically qualified.

F. Applicability of Appendix B 10 CFR Part 50 to the Turbine Building

126. In the September 1976 hearing, the Staff and Applicant both presented testimony that the turbine building was being designed to withstand the safe shutdown earthquake (SSE) and tornado wind loads to preclude the possibility that the design basis earthquake or tornado could cause the turbine building to collapse and affect adversely the Auxiliary Building, a Seismic Category 1 structure.¹⁷⁰ The testimony was brief and neither party advanced what the Board considered a cogent rationale for their conclusion that the building need not be built to Appendix B standards.

127. The Staff consistently does not apply Appendix B to structures which are not required to remain functional during extreme events such as the SSE or the design basis tornado.¹⁷¹ The Staff explained that Appendix B is applied to structures, systems, and components that are required to perform "every function required under the most extraordinary conditions"¹⁷² but that the turbine building has no such requirement.¹⁷³ The only requirement for the turbine

¹⁶⁹ Testimony following Tr. 6146, p. 3.

¹⁷⁰ Tr. 5398-5458.

¹⁷¹ Tr. 6109-10, 6121.

¹⁷² Affidavit of James P. Knight following Tr. 6102 (Knight) at 1; Tr. 6118.

¹⁷³ Tr. 6119, 6122-25; *see also* Tr. 6072.

building related to safety is that the building should not suffer a gross collapse due to an SSE or tornado winds.¹⁷⁴

128. The Applicant's witness testified that Appendix B should not apply to the turbine building because the turbine building, built without application of Appendix B, would not pose an unacceptable hazard to structures that have a direct safety function.¹⁷⁵ A number of unlikely events must be postulated to occur in sequence and the probability that failure or gross collapse of the turbine building would interrupt a safety function is extremely small.¹⁷⁶ The Staff witness agreed.¹⁷⁷

129. The Staff witness stated that Applicant has demonstrated the ability to build the turbine building so that it will be capable of withstanding the SSE and tornado wind loads although Appendix B is not applied.¹⁷⁸ They mentioned the extensive quality assurance practices of the Applicant¹⁷⁹ and Applicant's long history of successful construction of major structures.¹⁸⁰ Both stated that it is well within the competence of the construction industry to design and construct structures that will not collapse when subjected to earthquake conditions.¹⁸¹ The witnesses stated that structures designed according to applicable ACI and AISC Codes engineered to withstand earthquakes have a history of success, even in situations in which the earthquake intensity has substantially exceeded the design criteria.¹⁸² The Staff has imposed additional dynamic seismic and tornado wind design requirements on the structure.¹⁸³

130. The testimony described above, not presented to the Board at the September hearing, supports the position of both parties that Appendix B should not apply to the turbine building.

131. The Board finds that the turbine building will be adequately designed and constructed, utilizing applicable ACI and AISC Codes supplemented by the additional dynamic seismic and tornado wind requirements imposed by the Staff, to withstand suffering gross failure or collapse during a safe shutdown earthquake or design basis tornado. Therefore, the Board finds that the require-

¹⁷⁴ Testimony of Ronald G. Domer following Tr. 6041 (Domer) p. 3; Tr. 6103, 6122, 6130.

¹⁷⁵ Domer, pp. 13-14; Tr. 6045, 6052.

¹⁷⁶ Domer, p. 14; Tr. 6045, 6055-56, 6061, 6069-70, 6072-73.

¹⁷⁷ Tr. 6123, 6130-31.

¹⁷⁸ Knight, p. 9; Tr. 6062-63.

¹⁷⁹ Domer, pp. 9-11; Tr. 6062-63; Knight at 3-5; see also PSAR Response to Question 130.24.

¹⁸⁰ Domer, p. 6; Knight at 9; Tr. 6119.

¹⁸¹ Domer, p. 6; Knight at 5; Tr. 6043, 6130-31.

¹⁸² Domer, pp. 6-9; Knight at 5; Tr. 6123, 6132-33.

¹⁸³ Domer, pp. 3-5; Knight, p. 6.

ments of Appendix B to 10 CFR 50 need not be applied to the design and construction of the turbine building.

G. Independent Reviews of the Advisory Committee on Reactor Safeguards

132. The Advisory Committee on Reactor Safeguards (ACRS) in a letter to the Commission dated March 14, 1975, discussed the General Electric Standard Analysis Report.¹⁸⁴ In a letter to the Commission dated April 16, 1976, the ACRS discussed the status of generic items relating to light-water reactors,¹⁸⁵ some of which are relevant to the Hartsville application. Then in a letter to the Commission dated May 13, 1976, the ACRS reported on the application for the Hartsville Nuclear Plant.¹⁸⁶ The Staff discussed the ACRS letters in the SER and at the hearing in response to Board question.¹⁸⁷

133. In its Hartsville letter, the ACRS indicated that certain generic items should have a specific plan and implementation schedule established prior to issuing a construction permit for the plant. These generic items related to fire protection features, anticipated transients without scram, stress corrosion cracking, assessment of occupational exposures and instrumentation to follow the course of accidents. The Board inquired about the existence of a plan and schedule for these five generic items¹⁸⁸ and the Staff provided additional information.¹⁸⁹ The Board finds that a plan and a schedule do exist for each item.

134. In addition to a letter to the ACRS dated January 31, 1977,¹⁹⁰ the Staff reported on the present status of each of the unresolved items noted in the ACRS generic matters letter. The Board did not find any item in these various letters which caused the Board to raise a safety issue *sua sponte*.

135. The Board is unanimous in its agreement on the above paragraphs relating to the ACRS review in this matter. Further, the Board is unanimous in its agreement that a construction permit for the plant may be issued at this time.

136. However, beyond this there are differences of opinion amongst the Board members as to whether the Board should make additional remarks about the clarity of the ACRS letters with respect to schedules required to resolve certain matters; whether an additional condition should be added to the construction permit relative to these schedules; or whether the letters should be returned to the ACRS for further clarification of the schedules.¹⁹¹

¹⁸⁴ SER, App. A, App. F (hereinafter GESSAR letter).

¹⁸⁵ Staff Exh. 3-11 (hereinafter generic matters letter).

¹⁸⁶ SER, Supp. 1, App. A, App. C (Hartsville letter).

¹⁸⁷ SER, Supp. 1, § 18; SER, App. A, § 18; Tr. pp. 5710-14, 5852-61, 5934-44, 6249-53, 7260-7303.

¹⁸⁸ Tr. pp. 5710-14.

¹⁸⁹ Tr. pp. 5853-55, 5935-44, 5978-89, 6141-43, 7263-7303.

¹⁹⁰ Letter following Tr. p. 7287.

¹⁹¹ See Added Remarks of Board members F. J. Remick and J. V. Leeds and Separate Opinion of J. V. Leeds, ¶ 159 *et seq.*

IV. SUPPLEMENTAL ENVIRONMENTAL MATTERS

A. Uranium Fuel Cycle

137. In a Memorandum and Order dated December 15, 1976, followed by a Supplement dated December 21, 1976, the Board granted the motion of Applicant for summary disposition and found that, if adopted, the proposed revisions to Table S-3 of 10 CFR §51.20 would not tilt the cost-benefit balance against licensing the plant.¹⁹² The Commission adopted an interim rule effective March 14, 1977, which revised values for Table S-3.¹⁹³ The Board has reviewed the values contained in the interim rule and finds that the values do not tilt the cost-benefit balance against licensing the plant.

B. Intake Design

138. In its Partial Initial Decision the Board found that any limited work authorization or construction permit should be conditioned upon the installation of a structure to prevent the involuntary entrainment of a person by the facility intake structure.¹⁹⁴ The Appeal Board reversed that finding and stated "we think it is the Staff's duty to investigate this problem further by obtaining the advice of both someone who knows what activities take place at that part of the river and someone who is an expert on scuba diving."¹⁹⁵ In response, the Staff presented a witness who is an expert in scuba diving.¹⁹⁶

C. Restatement of Environmental Conditions to be Placed on the Construction Permit

139. This Board in its Partial Initial Decision of April 20, 1976, conditioned the issuance of the limited work authorization as well as any construction permit that might be issued as follows:¹⁹⁷

No construction activity shall be undertaken prior to the issuance of EPA NPDES Permit which would preclude the subsequent construction of treatment facilities which would be required to meet the State's effluent limitation on suspended solids. This condition will be lifted when time for appeal of this decision or of any administrative appeal of the NPDES Permit has expired.

¹⁹² LBP-76-45, NRCI-76/12 651, 653 (December 15, 1976).

¹⁹³ 42 FR 13803 (1977).

¹⁹⁴ 3 NRC 485, 556 (1976).

¹⁹⁵ ALAB-367, 5 NRC 92 at 123 (January 25, 1977).

¹⁹⁶ Testimony of Jeremiah D. Jackson following Tr. 6458.

¹⁹⁷ 3 NRC 485, 516.

140. As the NPDES has not been issued by the EPA, this condition remains in effect.

141. The Board imposed conditions on the construction permit(s): to include all of the socioeconomic mitigating action planned by the Applicant¹⁹⁸ including two additional Staff recommendations, as amended; and to include the Staff's conditions in the FES, as modified on mitigating action in the construction of the transmission lines.¹⁹⁹ These conditions also remain in effect.

D. Review of Environmental Conclusions

142. In making the cost-benefit analysis presented in its Partial Initial Decision, the Board made assumptions which overestimated the cost of the facility: the plant would have to be hardened to withstand the impact of a large airplane; the gas pipeline must be relocated. The Board has now found that the plant need not be hardened²⁰⁰ and the gas pipeline need not be relocated at this time.²⁰¹

143. The Board has now completed its findings on radiological impacts of plant operation and of the fuel cycle.

144. Based on the entire record in this proceeding, the Board has now reviewed the cost-benefit balance for the plant and finds the benefit of constructing and operating the Plant still exceeds the environmental and economic costs.

V. CONCLUSIONS OF LAW

145. The Board concludes that the application and the record of the proceeding contain sufficient information and that the review of the application by the Staff has been adequate to support the findings of fact and conclusions of law contained herein.

146. In accordance with the provisions of 10 CFR § 50.35(a), the Board concludes that:

147. The Applicant has described the proposed design of the facility, including, but not limited to the principal architectural and engineering criteria for the design, and has identified the major features or components incorporated therein for the protection of the health and safety of the public;

148. Such further technical or design information as may be required to complete the safety analysis, and which can reasonably be left for later consideration, will be supplied in the final safety analysis report;

¹⁹⁸ *Ibid*, p. 529.

¹⁹⁹ *Ibid*, p. 530.

²⁰⁰ LBP-76-44, NRCI-76/12 637, 642 (December 10, 1976).

²⁰¹ ¶ 119 above.

149. Safety features or components which require research and development have been described by the Applicant; and the Applicant has identified, and there will be conducted, a research and development program reasonably designed to resolve any safety question associated with such features and components; and

150. On the basis of the foregoing there is reasonable assurance that (a) such safety questions will be satisfactorily resolved at or before the latest date stated in the application for completion of construction of the proposed facility, and (b) taking into consideration the site criteria contained in 10 CFR Part 100 (1977), the proposed facility can be constructed and operated at the proposed location without undue risk to the health and safety of the public.

151. The Applicant is technically qualified to design and construct the proposed facility.

152. The Applicant is financially qualified to design and construct the proposed facility.

153. The issuance of permits for construction of the facility will not be inimical to the common defense and security or to the health and safety of the public.

154. The requirements of Section 102(2)(A), (C), (D) of NEPA and of 10 CFR Part 51 have been complied with in this proceeding.

155. Appendix B of 10 CFR Part 50 does not apply to the turbine building.

156. Independently considering the final balance among conflicting factors contained in the record of the proceeding, and after weighing the environmental, economic and other benefits against environmental, economic and other costs in considering available alternatives, the appropriate action to be taken is the issuance of construction permits, with appropriate conditions, as set forth herein, for protection of environmental values.

VI. ORDER

157. On the basis of the Board's findings and conclusions in its Partial Initial Decisions and this Initial Decision, and pursuant to the Atomic Energy Act of 1954, as amended, and the Commission's rules and regulations, IT IS ORDERED that the Director of Nuclear Reactor Regulation is authorized to issue permits to the Tennessee Valley Authority to construct the Hartsville Nuclear Plant consistent with the terms of the Partial Initial Decisions and this Initial Decision.

158. IT IS FURTHER ORDERED, in accordance with 10 CFR §§ 2.760, 2.762, 2.764, 2.785 and 2.786 that this Initial Decision shall become effective immediately and shall constitute, with respect to the matters covered therein, the final action of the Commission forty-five (45) days after the date of issuance hereof, subject to any review pursuant to the Commission's Rules of Practice.

Exceptions to this Initial Decision may be filed by any party within seven (7) days after service of this Initial Decision. Within fifteen (15) days thereafter [twenty (20) days in the case of the Staff] any party filing such exceptions shall file a brief in support thereof. Within fifteen (15) days of the filing of the brief of the Appellant [twenty (20) days in the case of the Staff], any other party may file a brief in support of, or in opposition to, the exceptions.

IT IS SO ORDERED.

THE ATOMIC SAFETY AND
LICENSING BOARD

Forrest J. Remick, Member

John F. Wolf, Chairman

Dated at Bethesda, Maryland,
this 28th day of April 1977.

[Appendices I and II have been omitted from this publication but are available at the NRC Public Document Room, 1717 H Street, N.W., Washington, D.C.]

VII. ADDED REMARKS OF BOARD MEMBERS
F. J. REMICK AND J. V. LEEDS

159. The ACRS Hartsville letter ends with these two paragraphs:
Generic problems relating to large water reactors are discussed in the Committee's April 16, 1976, Status Report, No. 4. These problems should be dealt with in a *timely* fashion by the NRC Staff and the Applicant.

The Advisory Committee on Reactor Safeguards believes that the *items mentioned above can be resolved during construction and that, if due consideration is given to the foregoing*, the Hartsville Nuclear Plants, Units A-1, A-2, B-1, and B-2, can be constructed with reasonable assurance that they can be operated without undue risk to the health and safety of the public. (Emphasis added)

160. The Hartsville letter appears to advise the Commission that all generic items (including the five specific items discussed above) "can be resolved during construction if dealt with in a timely fashion by the NRC Staff and the Applicant." However, the letter does not indicate whether any or all of the items applicable to Hartsville must or ought to be resolved prior to operation of the plant.

161. In order to discover the Staff's understanding of the ACRS letter, the Board questioned the Staff about the meaning of the word "timely" and the phrase "if due consideration is given to the foregoing."

162. The original Staff response was that the items would be resolved prior to the operating stage.²⁰² The response given later in the hearing was that the items did not have to be resolved prior to the operating stage and a license could be issued without resolving the generic items. The Staff stated that the items in the generic matters letter did not require resolution prior to operation.²⁰³

163. Putting aside the Staff's inconsistent testimony, we are reluctant to assume that the Staff's interpretation of the generic matters letter is the intended meaning. However, the ACRS will review the operating license application and could correct the Staff's interpretation at that distant point in the future, if required. Yet at that point, the ACRS might have to advise withholding an operating license or modifying a plant that could result in delay if the Staff's interpretation of the ACRS letter is wrong.

164. Boards are instructed to rely on the ACRS review unless an ACRS item is contested.²⁰⁴ No ACRS item is contested in this proceeding. The ACRS in the Hartsville letter expressed the belief that the applicable generic items in the generic matters letter, in the GESSAR letter and in the rest of the Hartsville letter "can be resolved during construction." We have no problem in relying on ACRS's belief that these items can be resolved during construction.

165. At the same time the ACRS letters leave something to be desired. We believe that the letters should clearly advise whether specific unresolved items must be resolved prior to the issuance of a construction permit or an operating license. We find the statements that "the problems should be dealt with in a timely fashion," that "the items can be resolved during construction" and that "if consideration is given to the foregoing" do not provide sufficient information to fully understand ACRS intent. We believe that future ACRS letters with more specific indications of intent would improve the licensing process and, as the court said in *Aeschliman*,²⁰⁵ would perform the other equally important task "which Congress gave ACRS: informing the public of the hazards."

VIII. SEPARATE OPINION OF J. V. LEEDS—CONCURRING IN PART AND DISSENTING IN PART

166. First, I join my colleagues in their opinion in all particulars except two. I believe that the ACRS letters should be returned for clarification and that the

²⁰²Tr. p. 5995.

²⁰³Tr. pp. 7268-72.

²⁰⁴10 CFR Part 2, Appendix A, V(f)(1)-(2).

²⁰⁵*Aeschliman, et al. v.NRC*, 547 F.2d 622, 631 (D.C. Cir. 1976), cert. granted, 35 U.S.L.W. 3570 (1977).

construction permit should be issued with the condition discussed below concerning the ACRS matter. I specifically incorporate the added remarks of Board Members F. J. Remick and J. V. Leeds²⁰⁶ in this Separate Opinion.

167. The Court in *Aeschliman* said that the Board should have returned the ACRS letter for clarification because “[the letter] fell short of performing the other equally important task which Congress gave ACRS: informing the public of hazards.”²⁰⁷ The letters in this case not only fail to inform the public but also the Staff and this Board of the urgency of resolution of the items. The Hartsville letter is better than the Midland letter discussed in *Aeschliman* because it lists specific items and gives clear references to the other letters but it still is not up to the standards of *Aeschliman* which require that the letter allow a “concerned citizen” to discover “what other difficulties might be lurking in the proposed reactor design.”²⁰⁸ From these letters no one can determine what items the ACRS believes must be resolved prior to issuing an operating license.

168. Hence, I conclude that the ACRS letters on their face do not comply with the requirements of the *Aeschliman* decision nor the statute²⁰⁹ and should be returned to the ACRS so that the ACRS can indicate what items in each letter must be resolved prior to issuing an operating license.

169. Further, to ensure that any items identified by the ACRS as items which must be resolved prior to plant operation are resolved, I would require the Applicant and the Staff to ascertain those items from the ACRS and resolve them prior to plant operation.

170. Such a condition would not be burdensome on the ACRS, the Applicant or the Staff. The ACRS has already identified the items and must know which items must be resolved prior to plant operation. No delay in plant construction should occur because the ACRS states that the items can be resolved during construction. Identifying these items now will prevent unplanned future delays in plant operation.

J. Venn Leeds, Jr., Member

²⁰⁶ ¶¶ 159-165 above.

²⁰⁷ *Aeschliman, et al. v. NRC*, 547 F.2d 622, 631 (D.C. Cir. 1976), cert. granted, 35 U.S.L.W. 3570 (1977).

²⁰⁸ *Aeschliman, et al.*, at 631.

²⁰⁹ 42 U.S.C. §§ 2011 et seq.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

John M. Frysiak, Chairman
Frank F. Hooper
Gustave A. Linenberger

In the Matter of

Docket Nos. 50-440
50-441

DUQUESNE LIGHT COMPANY
OHIO EDISON COMPANY
THE CLEVELAND ELECTRIC
ILLUMINATING COMPANY
PENNSYLVANIA POWER COMPANY
THE TOLEDO EDISON COMPANY

(Perry Nuclear Power Plant
Units 1 and 2)

April 29, 1977

The Licensing Board issues its final supplemental initial decision, making several determinations of fact and law and authorizing issuance of construction permits, subject to certain conditions.

FINAL SUPPLEMENTAL INITIAL DECISION

(Remaining Construction Permit Issues)

Appearances

Gerald Charnoff, Esq., Ernest L. Blake, Jr., Esq., for the Applicants

Mrs. Evelyn Stebbins, Chairman, for the Intervenor Coalition for Safe Electric Power

Ellen B. Silberstein, Esq., Edwin J. Reis, Esq., for the U.S. Nuclear Regulatory Commission Staff

I. INTRODUCTION

With this seventh Partial Initial Decision¹ the Atomic Safety and Licensing Board (Board) completes its review of the Application by Duquesne Light Company, Ohio Edison Company, Pennsylvania Power Company, The Cleveland Electric Illuminating Company, and The Toledo Edison Company (Applicants) dated March 28, 1973, and since amended for permits to construct Units 1 and 2 of the Perry Nuclear Power Plant.

In this Partial Initial Decision we address primarily the radiological health and safety issues not considered in our prior Decisions, including a contention raised by the Coalition for Safe Electric Power (Coalition or Intervenor) that the exclusion area, low population zone, and population center proposed by the Applicants and the Staff do not meet the siting requirements of 10 CFR Part 100. We also address the Commission's Interim Rule on the environmental effects of the uranium fuel cycle (41 *Fed. Reg.* 13803, March 14, 1977) as it relates to the Perry facility.

The Notice of Hearing on Application for Construction Permits in this proceeding (38 *Fed. Reg.* 18481, July 11, 1973) sets forth the issues to be decided in this proceeding, to wit:

1. Whether in accordance with the provisions of 10 CFR §50.35(a):
 - (a) The Applicants have described the proposed design of the facilities including, but not limited to, the principal architectural and engineering criteria for the design, and have identified the major features or components incorporated therein for the protection of the health and safety of the public;
 - (b) Such further technical or design information as may be required to complete the safety analysis and which can reasonably be left for later consideration, will be supplied in the Final Safety Analysis Report;
 - (c) Safety features or components, if any, which require research and development have been described by the Applicants and the Applicants have identified, and there will be conducted a research and development program reasonably designed to resolve any safety questions associated with such features or components; and
 - (d) On the basis of the foregoing, there is reasonable assurance that (i) such safety questions will be satisfactorily resolved at or before the latest date stated in the application for completion of construction of the

¹ The prior Decisions in this case are: LBP-76-33, NRCI-76/9 339 (September 10, 1976); LBP-76-17, 3 NRC 621 (May 10, 1976); LBP-75-73, 2 NRC 946 (December 31, 1975); LBP-75-53, 2 NRC 478 (September 9, 1975), *vacated in part*, see ALAB-298, 2 NRC 730 (November 6, 1975); LBP-74-75, 8 AEC 701 (October 20, 1974); LBP-74-69, 8 AEC 538 (September 16, 1974).

proposed facilities, and (ii) taking into consideration the site criteria contained in 10 CFR Part 100, the proposed facility can be constructed and operated at the proposed location without undue risk to the health and safety of the public.

2. Whether the Applicants are technically qualified to design and construct the proposed facilities;
3. Whether the Applicants are financially qualified to design and construct the proposed facilities;
4. Whether the issuance of permits for construction of the facilities will be inimical to the common defense and security or to the health and safety of the public; and
5. Whether, in accordance with the requirements of Appendix D of 10 CFR Part 50, the construction permits should be issued as proposed.

Pursuant to Notices of Hearing, dated February 18, 1977, and February 28, 1977, (42 *Fed. Reg.* 13361) an evidentiary hearing open to the public was held on March 16-17, 1977, at the U.S. Courthouse in Cleveland, Ohio, to consider the remaining radiological health and safety matters in this proceeding. A special hearing session was held during the evening hours of March 16, 1977, at the Perry Middle School in Perry Township, Ohio, to allow limited appearances by individuals and groups (pursuant to 10 CFR §2.715) who had expressed a desire to make an appearance but would have been unable to do so during the daylight hours.

The concerns raised in the individual limited appearances² were addressed by Applicants in a filing dated April 13, 1977, and by Staff in two filings dated April 15, 1977, and April 19, 1977, respectively.³

The parties who participated in the evidentiary hearing sessions that were held on March 16-17, 1977, were Applicants, NRC Staff, and The Coalition for Safe Electric Power. The remaining party, The Ohio Power Siting Commission, did not appear. The following prepared testimony and exhibits were received into evidence:

Testimony of Sherman D. Goodman on Coalition's Contention Related to TID 14844, dated December 10, 1976, *incorporated into the transcript following Tr. 3168* (hereinafter cited as "Goodman Testimony").

Testimony of M. David Lynch, dated December 30, 1976, *incorporated into the transcript following Tr. 3264* (hereinafter cited as "Lynch Testimony").

²James C. Schwab, Genevieve Cook, Randall Gloege, Dr. David Gritland, Dr. Owen Davies, Diane Friedman, Connie Kline, J. Paul Cotton, Russell M. Bimber, Sandra Nichols, Marinel Speros, Sheila Walker, and Evelyn Stebbins.

³Pursuant to Board's instructions Applicants' and Staff's responses were also distributed to the individuals who made the limited appearances.

Affidavit of Robert A. Gilbert Regarding the NRC Staff Evaluation of The Impact of Revised Table S-3 Values On The Perry Nuclear Power Plant, Units 1 and 2, Cost-Benefit Balance, dated February 25, 1977, *incorporated into the transcript following Tr. 3138* (hereinafter cited as "Gilbert Affidavit").

The Cleveland Electric Illuminating Company, *et al.*, Application and Preliminary Safety Analysis Report, Volumes 1-12, dated March 28, 1973, as amended, *introduced into evidence at Tr. 3155* (hereinafter cited as "PSAR")—March 1977 Exhibit I.

Supplement Nos. 4 and 5 to the Safety Evaluation By The Division of Project Management, Office of Nuclear Reactor Regulation, USNRC, In the Matter of The Cleveland Electric Illuminating Company, *et al.*, Perry Nuclear Power Plant, Units 1 and 2, Docket Nos. 50-440 and 50-441, dated January 1977, and February 1977, *introduced into evidence at Tr. 3267.*⁴

II. FINDINGS OF FACT – RADIOLOGICAL HEALTH AND SAFETY

A. Contested Issues

1. There remained only one contested issue to be decided by the Licensing Board at the beginning of the March 16, 1977, hearing. This issue derived from the admitted contention of Intervenor Coalition for Safe Electric Power, that states:

The proposed exclusion area, low population zone and population center distance for the Perry Nuclear Power Plant are grossly inadequate and must be determined on the basis of TID 14844 guidelines without compensating credit for engineered safeguard systems, because reactor is unproven as a prototype, uncertainties exist in the design of the core and fuel, and the experimental data is lacking to support conclusion that engineered safeguard systems will operate as designed.

The acceptance of the location suggested for the proposed Perry Nuclear Power Plant, Units 1 and 2, would be a flagrant violation of the general criteria used to approve or disapprove proposed reactor sites, a violation of

⁴General References and citations to the Staff Safety Evaluation Report and its five supplements are to a chapter or section and refer to the basic SER as amended by the supplements, unless specified otherwise. The SER and Supplements 1, 2, and 3 were introduced into the record earlier in this proceeding; Supplements 4 and 5, during this hearing session as indicated above.

10 CFR Part 100, and represents a serious breach of the Atomic Energy Commission's own guidelines (TID 14844) on the siting of large nuclear reactors. Table VII on page 31 of TID 14844 sets forth calculated radii for water-cooled reactors of various power levels up to a power level of 1500 MWt. The proposed power level for the two Perry Units is well beyond the guidance chart, 3758 MWt for each unit, or a total of 7516 MWt. However, when log-log plots are made for the data of Table VII of TID 14844, straight line sections are obtained which can be extrapolated to the proposed power level for the proposed Perry Plant. These plots indicate that the following values should have been selected for Perry:

- an exclusion area distance of 2.5 miles
- a low population zone distance of 40 miles
- a population center distance of at least 51 miles.

In view of facts stated [above] . . . and Applicant's proposed exclusionary boundary of 3,000 feet, low population zone of 4 miles, and population center distance of 6.3 miles, operation of the Perry Nuclear Power Plant at a level exceeding 340 MWt would violate 10 CFR Part 100.⁵

2. The Applicants and the Staff controvert the manner in which the Coalition applied the guidance of TID 14844 to the Perry site. Applicants' witness, Mr. Goodman, testified that the two Perry units are independent, with no sharing of facilities that would cause an accident in one unit to initiate an accident in the other. Therefore, under 10 CFR §100.11(b)(1), the power level used in determining distances, even if Intervenor's proposed extrapolative approach were used, should be 3579 MWt, or half that used by Intervenors.⁶ Secondly, as pointed out by Mr. Lynch,⁷ the Staff uses conservative, site-specific, meteorology to assess dispersion of releases rather than the non-site-specific values assumed in TID 14844. Finally, and most importantly, as discussed by both Mr. Goodman and Mr. Lynch, although TID 14844 recognized engineered safeguards, the table from which Intervenor extrapolated Perry distances only took account of a simple containment; whereas credit may be taken for use of engi-

⁵The Coalition's contention, as originally stated, referred to Applicants' proposed low population zone of 5 miles and population center distance of 10 miles (based on Mentor, Ohio). After the Coalition drafted its contention, the Applicants revised their proposed low population zone to 4 miles and population center distance to 6.3 miles (based on Painesville, Ohio). See SER Supplement No. 1, §2.1.1 and §2.1.2. The Coalition changed its contention to reflect the Applicants' revised low population zone and population center distance. Tr. 3172-73.

⁶Goodman Testimony, pp. 6-7.

⁷Lynch Testimony, p. 16.

neered safeguards in addition to containment in the determination of compliance with Part 100 criteria. In the Perry units, these engineered safeguard systems additionally include containment heat removal systems, a containment isolation system, a combustible gas control system, a shield building surrounding the primary containment (thereby providing secondary containment) and an annulus exhaust gas treatment system.⁸

3. The Coalition contends that compliance with Part 100 should be determined using TID 14844 without compensating credit for engineered safeguards, because the Perry reactor is an unproven prototype; because uncertainties exist in the design of the core and fuel; and because experimental data is lacking to support a determination that the engineered safeguard systems will operate as designed. The Perry Plant consists of two units, each using a single cycle, boiling water reactor. This is not a new concept: it was first demonstrated by the Dresden-1 facility which began commercial operation in July 1960. Subsequently, this reactor concept has been incorporated into, and proven in, a total of 24 reactor units that have been licensed by the NRC and that have achieved commercial operation. These 24 boiling water reactor nuclear power plants have operated safely within applicable Commission regulations.⁹ The proposed Perry facility is neither unproven in principle nor is it a prototype. Rather, it is an extension of a reactor concept that has been well proven and has operated in a safe manner.¹⁰

4. As to Intervenor's concern about uncertainties in the core or fuel, the reactor core physics characteristics and the heat and mass transfer characteristics of the proposed Perry reactor core have been conservatively evaluated using well established analytical models. These have been verified both in operating boiling water reactors and in extensive test programs conducted by GE. Additionally, the design of the fuel elements, the control rods, the core monitoring instrumentation, and the core support elements have been demonstrated to perform in a safe and acceptable manner in operating reactors. The 8 x 8 fuel design proposed for the Perry facility has been inserted into a number of operating boiling water reactors and has functioned in a safe manner. The Staff, in its testimony by Mr. Lynch, concluded that there are no uncertainties in the proposed core design of the Perry facility that could adversely affect public health and safety.¹¹ The appropriateness of the fission product leakage rate for fuel of the Perry design has been resolved previously through testimony presented to the Board.

5. The final basis for Intervenor's position that compliance with Part 100

⁸ Lynch Testimony, p. 8; Goodman Testimony, p. 8.

⁹ Lynch Testimony, p. 8; Tr. 3253-54; 3256-57.

¹⁰ Lynch Testimony, p. 6; Goodman Testimony, p. 8.

¹¹ Lynch Testimony, p. 7.

should be determined as the Coalition's contention suggests is that the engineered safeguards will not operate as designed. The principal engineered safeguard that is relied upon in the proposed Perry facility to protect the public health and safety in the event of a major accident is the double-walled reactor containment system and the annulus exhaust gas treatment system.¹² The concept of collecting containment leakage in an annulus from which it is exhausted through filters is not new at Perry: it is used on most BWR plants and several PWR plants.¹³ The NRC Staff, as reported in its SER and Supplements 1 and 4, thereto, has made a favorable evaluation of the Perry containment associated design.¹⁴ Moreover, the Board notes that these systems will be tested prior to plant operation to confirm their capability.¹⁵ The design of the other principal engineering safeguard, ECCS, has been reviewed by the NRC Staff and determined to comply with the requirements of 10 CFR § 50.46 and Appendix K of Part 50.¹⁶ Despite this approval, for purposes of determining compliance with 10 CFR Part 100, the ECCS is not assumed to operate and future ruptures are assumed to occur as a result of a LOCA. The source term used is a postulated, non-mechanistic-caused release of 100% of the fission product noble gases available in the core inventory, and 25% of the radioiodine in the fuel inventory (*i.e.*, TID 14844 assumptions).¹⁷ In addition, the following assumptions are used: (1) 0.2% containment leakage into the annulus; (2) 4% leakage from the annulus to the atmosphere and 96% evacuation from the annulus to the atmosphere through 99% efficient charcoal filters; and (3) conservative site-specific meteorology.¹⁸ This approach, although it does take into account the use of engineered safeguards, is a very conservative approach, particularly in that it ignores the proper operation of the ECCS, which would avoid fuel clad failures; it ignores the fact that a large fraction of the radioiodines would be retained in the suppression pool; it ignores the significant reduction from operation of containment sprays on iodine; it ignores dilution and recirculation effects in the annulus; and it assumes an efficiency of charcoal filters that is an order of magnitude less than realistically expected.¹⁹

6. The Licensing Board, in prior Partial Initial Decisions concerned with site suitability, has considered the Perry site's exclusion area, low population zone and population center distances.²⁰ Subsequent to those Decisions, the Appli-

¹² Goodman Testimony, p. 9.

¹³ Goodman Testimony, p. 9.

¹⁴ Lynch Testimony, p. 8.

¹⁵ Goodman Testimony, p. 9.

¹⁶ Lynch Testimony, p. 8; SER Supplements Nos. 4 and 5, Section 6.3. See also Tr. 3192-94.

¹⁷ Tr. 3199-3200.

¹⁸ Goodman Testimony, p. 8; Lynch Testimony, pp. 11-12; Tr. 3171.

¹⁹ Tr. 3200-07, 3326-27.

²⁰ See LBP-74-69, 8 AEC 538, 571-75; LBP-74-76, 8 AEC 701, 705-710.

cants have reduced the Perry low population zone from five to four miles.²¹ They now calculate that the doses at the 3,000-foot exclusion area boundary following a LOCA are 5.97 rem to the whole body and 45.6 rem to the thyroid.²² The Staff's calculated doses of the exclusion area boundary are 16 rem whole body and 104 rem to the thyroid. At the edge of the low population zone, the Applicants calculate the doses due to the postulated releases would be 1.04 rem whole body and 28.5 rem thyroid.²³ Both the Applicants' and the NRC Staff's calculated doses at the exclusion area boundary and the low population zone boundary are well below the Part 100 criteria of 25 rem to the whole body and 300 rem to the thyroid at those distances.²⁴ In fact, the doses at these distances are considerably below the Part 100 values (less than one-half in the case of the thyroid doses) that the NRC Staff requires of Applicants at the construction permit stage, in order to allow for uncertainties in the final design details and in the meteorology, or to allow for new data and calculational techniques that might influence the final design of engineered safeguard features and their associated dose reduction factors that might be permitted.²⁵ In other words, because the calculated doses are well below the required values at these distances, the exclusion area and low population zone distances that the Applicants have chosen could be lowered and still meet the Commission's requirements.²⁶ Finally, the population center distance is now taken as 6.3 miles, based on the City of Painesville, which distance is greater than 1-1/3 times the low population zone distance required by Part 100.²⁷

7. With due consideration of the foregoing and of all of the evidence of record, the Board finds as follows with respect to this contested issue:

- (a) There is no evidence in the record to support the Coalition's contention;
- (b) There are no uncertainties in the proposed core design for the Perry reactors that would compromise the safety of the facility or adversely affect the health and safety of the public;
- (c) The exclusion area, low population zone, and population center distances determined for the Perry facility meet the Commission's site criteria and have been determined appropriately, using the methodology of TID 14844 as guidance, with each unit operating at design power; and

²¹ See Section 2.0 of Supplement 1 to Staff Safety Evaluation introduced earlier into record of this proceeding at Tr. 2769.

²² Goodman Testimony, pp. 5-6.

²³ Lynch Testimony, p. 11; Tr. 3207.

²⁴ Goodman Testimony, pp. 5-6; Lynch Testimony, pp. 11-12.

²⁵ Lynch Testimony, pp. 15-16; Tr. 3207-3210.

²⁶ Tr. 3209-10.

²⁷ Goodman Testimony, p. 6; Lynch Testimony, p. 12; Tr. 3327-30.

- (d) The potential radiological consequences of a major accident at the Perry site were properly evaluated using conservative and appropriate guidelines, the site criteria of 10 CFR Part 100 can be met, and the facility can be constructed and operated at the proposed site without undue risk to the health and safety of the public.

B. Uncontested Issues

(a) Site Description and Facility Design

8. The Applicants submitted a Preliminary Safety Analysis Report (PSAR) with their application for the Perry Nuclear Power Plant.²⁸ The PSAR, as amended, contains a description and safety assessment of the site and of the preliminary design of the facility. The proposed facility is to be located in northeastern Lake County, about 35 miles northeast of Cleveland, Ohio, on an 1,100-acre site fronting on Lake Erie.²⁹ The Board has made detailed findings of fact describing this site in its prior Partial Initial Decisions.³⁰

9. The nuclear steam supply system for the two Perry units will consist of a General Electric boiling water reactor designated BWR-6 which generates steam for direct use in the steam-driven turbine-generator. The nuclear fuel will consist of slightly enriched uranium dioxide pellets contained in sealed zirconium alloy fuel rods. These fuel rods will be assembled in an 8 x 8 array.³¹ A General Electric Mark III vapor suppression containment system will be used in both units. The design of the proposed facility includes a number of engineered safety features whose purpose it is to assure that the public will be protected from excessive exposure to radioactive materials, should a major accident occur in the plant.³² These engineered safety features are designed to be capable of performing their function of assuring safe shutdown of the reactor under the adverse conditions of various design basis accidents. The major engineered safety features include the emergency core cooling system, the primary and secondary containments, and the annulus exhaust gas treatment system.³³ The Board finds the preliminary treatment of these matters by the Applicants to be comprehensive and adequate.

²⁸ The PSAR (with 25 amendments) was introduced into evidence at Tr. 3155 as March 1977, Exhibit 1.

²⁹ PSAR, Sec. 2 with Appendices.

³⁰ See n. 1, *supra*.

³¹ PSAR, Sec. 4 with Appendices.

³² PSAR, Sec. 6.0, 6.2.

³³ PSAR, Sec. 6, *in toto*.

(b) Review of the Application by the NRC Staff and the Advisory Committee on Reactor Safeguards

10. The Staff has conducted an extensive review of the application for construction of the Perry facility and its supporting documentation, including the information contained in the Preliminary Safety Analysis Report. The results of the Staff's evaluation with respect to radiological health and safety are summarized in the Safety Evaluation Report (SER) and its five supplements.³⁴ Among the topics covered in the SER are the characteristics of the site and its environs, including geography, demography, meteorology, hydrology, geology, and seismology. Also discussed and evaluated are the design of the facility and its components (including engineered safety features and the radioactive waste management system), plant operations (including preliminary plans for training programs, emergency planning and industrial security), the testing program, accident analysis, quality assurance, the common defense and security, and financial qualifications of the Applicants. The Staff concluded in the SER that the Applicants have satisfied the requirements for issuance of construction permits specified in Section 50.35(a) of 10 CFR Part 50 and Section 2.104(b). Supplements No. 4 and No. 5 report favorable evaluations of outstanding safety-related issues identified in the SER and its first three supplements. The Board has considered the application and its supporting documentation, and the SER and its supplements, and finds that the Staff's technical review and safety evaluation are adequate and comprehensive. The Board further finds that deferral of the ultimate resolution of certain items (deferred with Staff's concurrence) until the operating license review does not constitute a safety-related barrier to the issuance of a construction permit. However, as noted in item (d), below, there appears to be a legal technicality concerning full conformity with 10 CFR Section 50.35(a)(3).

11. The Advisory Committee on Reactor Safeguards (ACRS) has also reviewed the application to construct the Perry facility. In two letters dated December 12, 1974, and May 12, 1975, the ACRS concluded that if due consideration is given to certain safety issues raised in their letters which can be resolved during construction, the Perry Nuclear Power Plant, Units 1 and 2, can be constructed with reasonable assurance that they can be operated without undue risk to the health and safety of the public.³⁵ The Applicants and the Staff have considered the comments and recommendations of the ACRS, and conclude that the specific safety issues raised in the letters have been satisfactori-

³⁴SER plus Suppl. 1, 2 received into evidence at Tr. 2769, June 24, 1975; SER Suppl. 3 received into evidence by order of this Board dated December 31, 1975; SER Suppl. 4, 5 received into evidence at Tr. 3266, 3267, March 17, 1977.

³⁵The two letters are reproduced in SER Supplement No. 4, Appendix B.

ly resolved.³⁶ The Board's own review of the supportive evidence confirms this conclusion.

(c) Radioactive Waste Management Systems

12. The radioactive waste management systems for the Perry facility are designed to provide for the control, handling, and treatment of radioactive liquid, gaseous and solid wastes. The NRC Staff reported its favorable evaluation of the radioactive waste systems for the Perry facility in its Safety Evaluation Report.³⁷ Based on the evidence in this proceeding, the Board finds that the waste management systems for the Perry facility are acceptable and meet the requirements of the Commission's regulations, including 10 CFR Part 20, and that the liquid and gaseous rad-waste treatment systems will reduce radioactive materials in effluents to levels which are as low as is reasonably achievable in accordance with the requirements of 10 CFR Section 50.34a and Appendix I to 10 CFR Part 50.

(d) Research and Development

13. The Applicants' Preliminary Safety Analysis Report and the Staff's Safety Evaluation Report describe certain areas that require research and development. These areas include anticipated transients without scram, the development by General Electric of new instrumentation and control designs in certain areas for the BWR-6 class of reactors,³⁸ a loose parts monitoring system,³⁹ and confirmation of the Mark III containment system design criteria.⁴⁰ Based on the evidence provided by the Staff and the Applicants, the Board finds that the Applicants' research and development programs meet the Commission's requirements specified in 10 CFR Section 50.35(a)(3), with one exception: the Applicants so far have not described a research and development program to evaluate the adequacy of a prompt relief trip system actuation associated with turbine trip-out. The Staff's Safety Evaluation Report identifies a number of possible alternatives to the use of a prompt relief trip system.⁴¹ Nevertheless, the Board is obligated to condition the authorization of the construction permit issuance to correct this existing nonconformity with the NRC regulations.

Accordingly, authorization of the construction permit is hereby conditioned

³⁶ See SER Supplement No. 4, especially Section 18, and Supplement No. 5.

³⁷ SER and Supplement No. 4, Section 11.

³⁸ SER Supplement No. 4, Section 15.5 and Section 7.8.

³⁹ SER Supplement Nos. 4 and 5, Section 3.11.

⁴⁰ SER Supplement No. 4, Section 6.2.1.4.

⁴¹ SER Supplement No. 4, Section 15.2.

upon Applicants submitting to the Director of Project Management a method of demonstrating the operational adequacy of a prompt relief trip system.

(e) Applicants' Technical and Quality Assurance Qualifications

14. There are five Applicant companies involved in this proceeding. Only one of these, Cleveland Electric Illuminating Company (CEI), is and will continue to be responsible for the design, construction, and operational functions for Perry. The Applicants' contractors and their qualifications are described in the PSAR, Section 1.4; the CEI project organization and its approach to major safety-related functional responsibilities are presented in the PSAR, Section 13. The NRC Staff's review of these matters is reported in the SER, Section 1.5, Section 1.6, and Section 13. Their reviews resulted in favorable findings with respect to organization and technical qualifications.

15. The quality assurance (QA) program developed by CEI, GE, Gilbert Associates, and Kaiser Engineers for Perry is described in the PSAR, Section 17, and Amendment 18, thereto. The Staff has found that the QA program provides assurance that the design, construction, and preoperational testing of the plant conform with applicable quality assurance requirements including Regulatory Guide 1.58 "Qualification of Nuclear Power Plant Inspection, Examination and Testing Personnel," and with the design bases specified in the license application. Applicants' QA program is applicable to all safety-related structures, systems, and components and complies with Appendix B of 10 CFR Part 50. The QA program will be in force throughout design, construction, and preoperational testing of the plant.⁴²

16. Applicants and the NRC Staff, at an earlier hearing session in this proceeding, presented testimony describing Applicants' quality assurance program and responded to Board inquiries into numerous aspects of the QA program. The Board noted that NRC's Office of Inspection and Enforcement has conducted inspections of Applicants' QA program development and implementation and that the Staff concluded that Applicants' QA program and organization are acceptable based on the favorable reports of the Office of Inspection and Enforcement field inspections.⁴³

17. Based upon the foregoing and upon all of the relevant evidence of record, the Board finds that the Applicants and their principal contractors are technically qualified to design and construct the proposed facility. The Board further finds that the quality assurance program for the construction phase of the Perry facility meets the requirements of the Commission's regulations.

⁴²SER, Section 17; SER Suppl. No. 1, Section 17.

⁴³2 NRC 478 at 492 (September 9, 1975).

(f) Emergency Planning

18. The Applicants have described their preliminary plans for coping with emergencies, including provisions to be made for emergency treatment, and the training program for persons whose services may be required in an emergency situation. The Applicants have also identified local and state agencies and organizations whose assistance may be required should an emergency occur at the Perry site.⁴⁴ The Staff has concluded,⁴⁵ and the Board finds, that the Applicants' preliminary plans for coping with emergencies meet the requirements of 10 CFR Part 50, Appendix E, and are acceptable.

(g) Financial Qualifications

19. The Applicants provided with their application, and amendments thereto, financial data and information required by the Commission's regulations in 10 CFR §50.33(f) and Appendix C to 10 CFR Part 50. In the July 1974 SER, the NRC Staff reported that it had reviewed the information supplied by Applicants and concluded that the Applicants were financially qualified to design and construct the Perry plant (SER, Section 20.0). In October 1976, the NRC Staff requested that the Applicants update their information on financial qualifications in view of construction schedule delays and associated higher costs of the plant. In response, the Applicants submitted financial projections and financing plans. The NRC Staff reported in Supplement 4 to the SER, Section 20, that the Applicants financing plans and projections are in accord with generally acceptable electric utility practices and that the underlying assumptions, although not susceptible to precise measurement against absolute criteria, are consistent with conditions postulated. The Staff found that the Applicants' financing plans and projections are reasonable and thus concluded that the standards of reasonable assurance set forth in Section 50.33(f) and Appendix C to 10 CFR Part 50 have been satisfied and that the Applicants are financially qualified to design and construct the proposed facility. From its own review of the application, Amendment 25 and the SER, Supplement 4, Section 20, the Board finds that the Applicants are financially qualified to design and construct the Perry plant.

(h) Common Defense and Security

20. The activities to be conducted under the construction permits will be within the jurisdiction of the United States. All of Applicants' directors and principal officers are United States citizens and the Applicants are not owned,

⁴⁴PSAR, Section 13.3.

⁴⁵SER, Section 13.3.

dominated, or controlled by an alien, a foreign corporation, or a foreign government. The activities to be conducted do not involve any Restricted Data, but Applicants have agreed to safeguard any such data that might become involved, in accordance with the requirements of 10 CFR Part 50. Applicants will rely on obtaining fuel from sources of supply commercially available for civilian purposes so that no diversion of special nuclear material from the military needs of the United States is involved.⁴⁶ For these reasons, and in the absence of any information to the contrary, this Board finds that the activities to be performed will not be inimical to the common defense and security or to the health and safety of the public.

III. FINDINGS OF FACT – ENVIRONMENTAL EFFECTS OF THE URANIUM FUEL CYCLE

21. Prior to the March 16, 1977, hearing, the subject of environmental impacts associated with the uranium fuel cycle had not been addressed in this proceeding. The Applicants' Environmental Report and the NRC Staff's Final Environmental Statement were considered by the Licensing Board in the environmental hearing sessions in June 1974. Table S-3, Summary of Environmental Considerations for Uranium Fuel Cycle, was promulgated by the Commission in April 1974⁴⁷ to be effective in June 1974, for incorporation into the environmental reports in certain proceedings and NRC Staff environmental statements that postdate the Perry documents. The Atomic Safety and Licensing Appeal Board has stated that Table S-3 should be taken into consideration in ongoing licensing proceedings, even though prior environmental reports and statements need not be redone to include this consideration.⁴⁸ Table S-3 as initially promulgated by the Commission has been the subject of an appeal to, and subsequent decision by, the U.S. Court of Appeals for the District of Columbia Circuit.⁴⁹ This has resulted most recently in the publication by the Commission of an "Interim Rule" on this subject which is to be employed in these licensing proceedings.⁵⁰ In the light of the Appeal Board's directive in Douglas Point,⁵¹ and in accordance with the directives of the Commission in its Interim Rule, the Licensing Board has considered the impact of the Interim Rule (specifically Table S-3) on the Board's prior NEPA determinations in this proceeding.

⁴⁶SER, Section 19.0.

⁴⁷39 Fed. Reg. 14188.

⁴⁸See *Potomac Electric Power Company* (Douglas Point Nuclear Generating Station, Units 1 and 2), ALAB-218, 8 AEC 79, 88 (July 1974).

⁴⁹*NRDC v. NRC*, 547 F.2d 633 (D.C. Cir. July 21, 1976).

⁵⁰See 42 Fed. Reg. 13803 (March 14, 1977).

⁵¹ALAB-218, *supra*.

22. In an affidavit distributed to the Licensing Board and the other parties in advance of the March 16 hearing, Dr. Robert A. Gilbert of the NRC Staff presented an analysis of the environmental effects of the fuel cycle resulting from the operation of the Perry plant.⁵² First, using the original Table S-3 values, he determined that the operation of Perry would result in the following annual fuel cycle impacts: a land use commitment of 170 acres; at 80% capacity factor, a total water usage and thermal output of 23,000 million gallons and 180,000 billion BTU's; a consumption of about 790,000 MW-hours of electrical energy; some dilute concentrations of liquid chemical effluents; insignificant quantities of solid wastes; a dose commitment to the U.S. population of approximately 1,000 man-rem; and, about the same dose commitment, *i.e.*, 1,000 man-rem, from occupational exposures. By contrasting these assessments with impacts associated with other forms of electrical energy generation and, in the case of dose commitments, with natural background radiation exposure levels, Dr. Gilbert concluded that the effects associated with the Perry fuel cycle are sufficiently small so that when they are superimposed upon the other environmental impacts associated with Perry, the overall assessment of environmental impacts is not appreciably changed, and that the overall cost-benefit balance supports issuance of construction permits.⁵³ Dr. Gilbert then went on in his affidavit to compare the Table S-3 values with the modified values given by the Commission in its Proposed Rulemaking Notice of October 18, 1976, and presented in the Staff's reassessment of uranium fuel cycle effects, NUREG-0116, of October 1976. He pointed out that the reassessment reflected a slightly larger land use commitment, the inclusion of hydrogen chloride gaseous chemical effluents impacts, higher estimates of carbon-14, iodine and tritium release rates, and higher dose commitment values from transportation and occupational exposures. However, the effect of these changes was not significant and therefore, the use of the revised values would not tilt the cost-benefit balance against issuance of construction permits for the Perry units.⁵⁴

23. On March 14, 1977, the Commission published in the *Federal Register* (42 *Fed. Reg.* 13803) an Interim Rule on the effects of the uranium fuel cycle, having received comments on its October 1976 rulemaking notice and NUREG-0116, and having factored these comments into the Table S-3 values.⁵⁵ At the hearing, Dr. Gilbert compared the values in the Commission's Interim Rule with the values he had evaluated in his affidavit, by revising his table to reflect the Interim Rule values. There were no significant differences between the values in the Interim Rule and those Dr. Gilbert had evaluated in his affidavit. Hence, the

⁵² Affidavit, following Tr. 3138.

⁵³ *Id.*, pp. 3-6.

⁵⁴ Gilbert Affidavit, pp. 7-9.

⁵⁵ 42 *Fed. Reg.* 13803.

Staff found that the environmental impacts had not changed sufficiently to tip the otherwise favorable cost-benefit balance for Perry.⁵⁶

24. The Staff's evaluations and testimony regarding the impacts of the uranium fuel cycle environmental effects on the overall environmental assessment and on the cost-benefit balance which supports issuance of construction permits for the Perry units were uncontroverted. The Board raised questions as to what assurance there was that inclusion of the impacts associated with the uranium fuel cycle would not tilt the cost-benefit balance. In response, the Staff and the Applicants pointed out that the previous cost-benefit balance for Perry showed that the benefits far outweighed the costs; and since only small percentage increases of those costs resulted from this reanalysis, these would not affect the favorable cost-benefit balance for Perry.⁵⁷ The Board finds no basis to alter the favorable result of the previous cost-benefit balance.

IV. INTERVENOR'S PROPOSED FINDINGS OF FACT AND CONCLUSIONS OF LAW

25. Intervenor Coalition's findings in support of their admitted contention comprise one introductory finding that, in reality, paraphrases a portion of the contention, followed by fourteen findings that allegedly support the contention through various quotations from the record. Finally, there is a sixteenth finding that addresses the effect of cooling tower induced added wind loads upon nearby safety-related structures, through a quotation from the SER; its relevance to the admitted issue is not obvious.

26. As noted in Finding 13 above, the Applicants have as yet not identified a method of demonstrating the operational adequacy of a prompt relief trip system for which they take credit in their turbine trip analyses. The Coalition has appropriately identified this deficiency in their Finding 11. The Board will require remedial action in this matter.

27. The Board has carefully reviewed the remaining findings and finds that they fall into two categories: those for which a more nearly complete quotation of Staff testimony or evidence shows that the problem has been resolved already; and those for which resolution prior to the operating license review phase is adequate. The Coalition offers no basis for finding otherwise. Hence, except for Finding 11 as noted, the Board rejects all other findings of the Coalition.

V. CONCLUSIONS OF LAW

28. The Board has reviewed and given careful consideration to the entire

⁵⁶Tr. 3142-43, 3145, 3230-33.

⁵⁷Tr. 3233-38, 3244-46.

record of this proceeding. In accordance with the Atomic Energy Act of 1954, as amended, the National Environmental Policy Act of 1969, and the Commission's regulations, and on the basis of the entire record of this proceeding, including particularly the evidentiary hearings of March 16-17, 1977, the foregoing discussion and findings, and the discussion and findings found in the Partial Initial Decisions in this proceeding, the Board concludes and determines that:

A. In accordance with the provision of 10 CFR §50.35(a):

1. Applicants have described the proposed design of the facilities including, but not limited to, the principal architectural and engineering criteria for the design, and have identified the major features or components incorporated therein for the protection of the health and safety of the public;
2. Such further technical or design information as may be required to complete the safety analysis, and which can reasonably be left for later consideration, will be supplied in the Final Safety Analysis Report;
3. Safety features or components, if any, which require research and development have been described by Applicants and Applicants have identified, and there will be conducted, a research and development program reasonably designed to resolve any safety questions associated with such features or components; and
4. On the basis of the foregoing, there is reasonable assurance that (i) such safety questions will be satisfactorily resolved at or before the latest date stated in the application for completion of construction of the proposed facilities, and (ii) taking into consideration the site criteria contained in 10 CFR Part 100, the proposed facilities can be constructed and operated at the proposed location without undue risk to the health and safety of the public.

B. Applicants are technically qualified to design and construct the proposed facilities;

C. Applicants are financially qualified to design and construct the proposed facilities;

D. The issuance of permits for construction of the facilities will not be inimical to the common defense and security or to the health and safety of the public;

E. The requirements of Section 102(2)(A), (C), and (D) of the National Environmental Policy Act and 10 CFR Part 51 (formerly Appendix D to 10 CFR Part 50) of the Commission's regulations have been complied with in this proceeding.

F. After weighing the environmental, economic, technical, and other

benefits against environmental costs and considering available alternatives, the Appropriate action to be taken is the issuance of a construction permit for the facility, with appropriate conditions, as set forth below,⁵⁸ for protection of environmental values.

VI. ORDER

29. On the basis of the Board's findings and conclusions in its Partial Initial Decisions and this Initial Decision, and pursuant to the Atomic Energy Act of 1954, as amended, and the Commission's rules and regulations, IT IS ORDERED that the Director of Project Management subject to the requirements of Finding 13 (pp. 1131-1132) herein is authorized to issue Duquesne Light Company, Ohio Edison Company, Pennsylvania Power Company, The Cleveland Electric Illuminating Company, and The Toledo Edison Company permits in appropriate form to construct the Perry Nuclear Power Plant, Units 1 and 2. That such permits shall contain the following conditions for the protection of the environment:

- (1) The Applicants will qualify the active pumping components to be placed within the manholes of the underdrain system, to operate in the presence of volatile air/fuel mixtures, including methane. In addition, the Applicants will develop and implement operating procedures which will require that all manholes and the gravity discharge pipes of the underdrain system: (a) be monitored for the presence of methane, prior to entry by operating personnel; and (b) be ventilated by portable equipment if the monitoring program cited above indicates this to be necessary.
- (2) The Applicants will establish a long-term monitoring program to document, interpret and report the performance of the shale foundations. This program will include the provision of settlement monuments on all plant facilities whose settlement or differential settlement could present a hazard to either the safe operation or safe shutdown of the plant.
- (3) The Applicants will complete the geologic mapping and photographing of the Chagrin shale under each safety-related building or structure to be founded on shale, prior to placement of any concrete (or other permanent cover) over the founding bedrock. These maps and photographs will be formally submitted to the NRC Staff.
- (4) The Applicants will install two valves in series, designed to seismic Category I criteria, in the piping system that provides makeup water to both of the cooling tower basins.
- (5) As additional protection, in order to detect effects of the operation of

⁵⁸We set out conditions in the Limited Work Authorizations October 21, 1974, and December 31, 1975.

the underdrain system on groundwater levels in excess of those expected, the Applicants will install piezometer arrays to check the draw-down of the water table at distances up to 1000 feet (where possible) in four different directions from the perimeter of the plant.

- (6) The Applicants will install a public address system to warn people on the lake within the exclusion area in the event that such a warning were necessary.
- (7) An energy dissipater for the major stream sediment control dam (Site No. 1) will be installed below the spillway outlet. This energy dissipater will consist of a riprap lined stilling basin. The bottom of the stilling basin will extend the full width of the spillway. A riprapped apron will be constructed on three sides of the basin. For the minor stream diversion sediment control dam (Site No. 3) and the northeast storm drainage sediment control dam (Site No. 2), a riprapped spillway and metal baffle will be installed. Gravel filter blankets will be provided under all riprap slope protection at these three sediment control dams.
- (8) Applicants must improve the analysis of milk samples to obtain a sensitivity of 0.5 pCi/per liter for iodine-131 and shall develop a program to establish the iodine-131 baseline data to take into account the air-goat-milk pathway.
- (9) Applicants shall take all necessary actions, including those summarized in Section 4.5 of the Final Environmental Statement, to avoid unnecessary adverse environmental impacts during construction of the station and associated transmission lines.
- (10) Before engaging in a construction activity that may result in a significant adverse environmental impact that was not evaluated or that is significantly greater than evaluated in the Final Environmental Statement, Applicants shall provide written notification to the Director of Nuclear Reactor Regulation.
- (11) If unexpected harmful effects or evidence of irreversible damage are detected during facility construction, Applicants shall provide to the Staff an acceptable analysis of the problem and a plan of action to eliminate or significantly reduce the harmful effects or damage.

30. IT IS FURTHER ORDERED, in accordance with 10 CFR §§2.760, 2.762, 2.764, 2.785, and 2.786 that this Initial Decision shall become effective immediately and shall constitute, with respect to the matters covered therein, the final action of the Commission thirty (30) days after the date of issuance hereof, subject to any review pursuant to the Commission's Rules of Practice. Exceptions to this Initial Decision may be filed by any party within seven (7) days after service of this Initial Decision. Within fifteen (15) days thereafter [twenty (20) in the case of the Staff] any party filing such exceptions shall file a

brief in support thereof. Within fifteen (15) days of the filing of the brief of the Appellant [twenty (20) days in the case of the Staff], any other party may file a brief in support of, or in opposition to, the exceptions.

IT IS SO ORDERED.

ATOMIC SAFETY AND
LICENSING BOARD

Frank F. Hooper, Member
Gustave A. Linenberger, Member
John M. Frysiak, Chairman

Dated this 29th day of April 1977
At Bethesda, Maryland

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Michael C. Farrar, Chairman
Richard S. Salzman
Dr. W. Reed Johnson*

In the Matter of

Docket Nos. 50-329
50-330

CONSUMERS POWER COMPANY

(Midland Plant, Units 1 and 2)

May 4, 1977

The Appeal Board directs the Licensing Board to consider the uranium fuel cycle issue, in light of the Commission's promulgation of the interim fuel cycle rule (42 FR 13803, March 14, 1977).

MEMORANDUM AND ORDER

After the Commission promulgated an interim fuel cycle rule (42 FR 13803, March 14, 1977), it instructed us to superintend the application of that rule in designated licensing cases as well as in "any other proceeding in which the issue of the environmental impacts of the uranium fuel cycle" is before us. CLI-77-10, 5 NRC 717 (April 1, 1977). Accordingly, we published a memorandum and order which set forth the framework for our consideration of the issue in connection with some twenty-seven nuclear units; at the same time, we provided the parties the opportunity to be heard on the merits. ALAB-392, 5 NRC 759 (April 21, 1977). Our opinion noted that "because of its unusual procedural posture," the *Midland* proceeding was not being dealt with at that

*Dr. Johnson was appointed to replace Dr. Quarles on this Board on May 2, 1977. See ALAB-395, 5 NRC 772, 787 (April 29, 1977) (separate statement of Dr. Quarles).

time and instead would be the subject of a separate order. ALAB-392, *supra*, 5 NRC at 764, fn. 6.¹

In the other fuel cycle cases, we may decide to pass upon the merits ourselves rather than call upon licensing boards to do so. Regardless of how those cases are handled, however, here the fuel cycle issue should be addressed by the Board below. That Board is presently active and has squarely before it the task of restriking the cost-benefit balance for the facility in connection with its consideration of certain other issues. That being the case, we will follow the sensible as well as practical course and add consideration of the fuel cycle matter to that Board's assignment.² In carrying out its duties, the Licensing Board should take into account (1) the terms of the interim rule; (2) the Commission's counsel in CLI-77-10; and (3) our comments in ALAB-392. Before it completes its task, we may be able to offer additional guidance in the form of further opinions in the other fuel cycle cases.

Accordingly, the Licensing Board is directed to consider the interim fuel cycle rule in conjunction with the other issues pending before it.

It is so ORDERED.

FOR THE ATOMIC SAFETY AND
LICENSING APPEAL BOARD

Margaret E. Du Flo
Secretary to the Appeal Board

¹ See also ALAB-395 (*supra*, fn. *), 5 NRC at 787, fn 49. *Midland* was not one of the proceedings expressly designated in the Commission's April 1 decision. And the fuel cycle issue not being directly before us in *Midland*, this case was perhaps not covered by that decision's instructions at all. But there is another reason why it is appropriate for us to act here. Owing to the absence of a quorum able to act on substantive issues, we have been told by the Commission to rule upon any matters which would otherwise be properly addressed by it in this proceeding. CLI-77-7, 5 NRC 501 (March 18, 1977), and CLI-77-12, 5 NRC 725 (April 5, 1977); see also ALAB-395, *supra*, 5 NRC at 759-763, fns. 1-3 and accompanying text. And this is a matter which calls for Commission resolution, for until it acts (or we act for it), fuel cycle matters here would be controlled by its most recent order on the subject, *i.e.*, CLI-76-19, NRCI-76/11 474 (November 5, 1976) (see fn. 2, *infra*).

² The fuel cycle matter was put before the Board at an earlier stage, but the Commission ordered its consideration deferred following the October 8, 1976, stay of mandate in *NRDC v. NRC*, 547 F.2d 633 (D.C. Cir. 1976), *certiorari granted*, 45 U.S.L.W. 3570 (February 22, 1977). See CLI-76-19, NRCI-76/11 474 (November 5, 1976). Regardless of how it would have been treated earlier, the issue is now to be considered in terms of the interim fuel cycle rule.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Alan S. Rosenthal, Chairman
Dr. W. Reed Johnson
Jerome E. Sharfman

In the Matter of

Docket Nos. STN 50-556
STN 50-557

PUBLIC SERVICE COMPANY
OF OKLAHOMA
ASSOCIATED ELECTRIC COOPERATIVE, INC.
WESTERN FARMERS ELECTRIC
COOPERATIVE, INC.

(Black Fox Station,
Units 1 and 2)

May 9, 1977

Upon appeal by applicants from LBP-77-17, 5 NRC 657, which admitted certain intervenors, the Appeal Board affirms the Licensing Board result as to one intervenor and reverses as to two others.

RULES OF PRACTICE: STANDING TO INTERVENE

Intervention as a matter of right in NRC domestic licensing proceedings is governed by contemporaneous judicial concepts of standing. A petitioner must allege both (1) "some injury that has occurred or will probably result from the action involved" to the person asserting it and (2) an interest "arguably within the zone of interests" to be protected or regulated by the statute. *Portland General Electric Co.* (Pebble Springs, Units 1 and 2), CLI-76-27, NRCI-76/12 610, 613-14 (1976).

RULES OF PRACTICE: STANDING TO INTERVENE

Where judicial standing is lacking, adjudicatory boards considering whether to grant intervention as a matter of discretion should apply the factors specified in 10 CFR §2.714(a) and (d). Foremost among those factors as applied to that

situation is whether intervention would likely produce a valuable contribution to NRC's decision-making process.

RULES OF PRACTICE: STANDING TO INTERVENE

Adjudicatory boards considering whether to grant intervention as a matter of discretion should permit intervention more readily "where petitioners show significant ability to contribute on substantial issues of law or fact which will not otherwise be properly raised or presented, set forth these matters with suitable specificity to allow evaluation, and demonstrate their importance and immediacy, justifying the time necessary to consider them." *Portland General Electric Co.* (Pebble Springs, Units 1 and 2), CLI-76-27, NRCI-76/12 610, 616-17 (1976).

RULES OF PRACTICE: STANDING TO INTERVENE

Status as a ratepayer of an applicant does not bring one within the "zone of interests" protected by the Atomic Energy Act. *Portland General Electric Co.* (Pebble Springs, Units 1 and 2), CLI-76-27, NRCI-76/12 610, 614 (1976).

Messrs. John W. Rowe and Paul M. Murphy, Chicago Illinois, for the applicants, Public Service Company of Oklahoma, *et al.*

Mr. Andrew T. Dalton, Jr., Tulsa, Oklahoma, for Lawrence Burrell, Citizens Action for Safe Energy and Ilene Younghein.

Mr. L. Dow Davis for the Nuclear Regulatory Commission staff.

DECISION

Under the Atomic Energy Act¹ and our Rules of Practice,² one seeking to intervene as a matter of right in an NRC licensing proceeding must assert an "interest [which] may be affected by" that proceeding. It is now settled that, in determining whether such an interest has been sufficiently alleged, the adjudicatory boards are to apply contemporaneous judicial concepts of standing. More specifically, the petitioner for intervention must allege both (1) "some injury that has occurred or will probably result from the action involved" and (2) an

¹ Section 189a., 42 U.S.C. 2239(a).

² Section 2.714(a), 10 CFR § 2.714(a).

interest "arguably within the zone of interests" to be protected or regulated by the statute sought to be invoked. *Portland General Electric Co.* (Pebble Springs Nuclear Plant, Units 1 and 2), CLI-76-27, NRCI-76/12 610, 613-14 (December 23, 1976).

In *Pebble Springs*, the Commission went on to consider whether, in circumstances where judicial standing is lacking and thus no right to intervene exists, an adjudicatory board may nonetheless allow intervention as a matter of discretion. Answering this question affirmatively, the Commission established guidelines for the exercise of the discretion. Specific reference was made to, *inter alia*, the four factors set forth in 10 CFR §2.714(a) which must be applied in determining whether there is "good cause" for granting a tardy intervention petition filed by one who does possess standing.³ As we have previously observed,⁴ foremost among those factors as applied to allowing participation on the part of one lacking standing to intervene as a matter of right is whether such participation would likely produce "a valuable contribution . . . to our decision-making process." In the words of the Commission in *Pebble Springs*,

[p]ermission to intervene should prove more readily available where petitioners show significant ability to contribute on substantial issues of law or fact which will not otherwise be properly raised or presented, set forth these matters with suitable specificity to allow evaluation, and demonstrate their importance and immediacy, justifying the time necessary to consider them.

NRCI-76/12 at 614-17.⁵

What is now before us is a Licensing Board order which invoked the discretionary intervention doctrine enunciated in *Pebble Springs* for the purpose of

³ Those four factors are:

- (1) The availability of other means whereby the petitioner's interest will be protected.
- (2) The extent to which the petitioner's participation may reasonably be expected to assist in developing a sound record.
- (3) The extent to which petitioner's interest will be represented by existing parties.
- (4) The extent to which the petitioner's participation will broaden the issues or delay the proceeding.

The Commission also made reference to three additional factors, set forth in 10 CFR §2.714(d), which govern intervention generally:

- (1) The nature of the petitioner's right under the Act to be made a party to the proceeding.
- (2) The nature and extent of the petitioner's property, financial, or other interest in the proceeding.
- (3) The possible effect of any order which may be entered in the proceeding on the petitioner's interest.

⁴ *Virginia Electric and Power Co.* (North Anna Power Station, Units 1 and 2), ALAB-363, NRCI-76/12 631, 633 (December 30, 1976).

⁵ This consideration prompted our discretionary grant of an intervention petition in ALAB-363, fn. 4, *supra*.

granting leave to five individuals to participate in this construction permit proceeding on some but not all of the issues raised in their intervention petitions. LBP-77-17, 5 NRC 657 (March 9, 1977). The applicants have appealed from that order under 10 CFR §2.714a, maintaining that the Board below misapplied the guidelines established by the Commission for allowing intervention as a matter of discretion. The NRC staff supports the appeal. Because two of the five individuals (Drs. Wallace Byrd and Clark Glymour) recently elected to withdraw from the proceeding, at this juncture we are concerned with just the other three: Lawrence Burrell, Mrs. Roberta Ann Paris Funnell and Ms. Sherril Ellis.

On a full consideration of the reasons assigned by the Licensing Board for the result it reached, the underlying record and the briefs of the respective parties, we affirm with respect to Mr. Burrell and reverse with respect to the other two petitioners.

I

The Black Fox construction permit application was noticed for hearing in January 1976. 41 Fed. Reg. 3515 (January 23, 1976). In response to the notice, successful petitions for intervention were filed by Ilene Younghein and Citizens Action for Safe Energy. These petitions brought into controversy a wide variety of both safety and environmental issues.

On October 26, 1976, an amended notice of hearing was published. 41 Fed. Reg. 46918. It was prompted by a then recent amendment to the construction permit application to reflect the fact that the Western Farmers Electric Cooperative, Inc., [Western] had become an additional co-owner of the facility.⁶ Although stating that this change in ownership did not alter or expand the issues for consideration identified in the original notice, it afforded "any person whose interest may be affected by the addition of [Western] as co-owner the opportunity to participate in this proceeding."

In the wake of the amended notice, the three petitions under present consideration were filed. Each petition could have been viewed in either of two lights: (1) as a late attempt to intervene under the original notice; or (2) as a timely attempt to intervene under the amended notice. From the standpoint of intervention as a matter of right, however, these alternatives gave rise to quite different questions. If taken to be late petitions under the original notice, the matters for decision would include, *inter alia*, whether the petitioners had established "good cause for the failure to file on time" within the meaning of 10 CFR §2.714(a). This would involve consideration of not only the adequacy of the excuse advanced for the belated filing but, as well, the four factors set forth in

⁶ As initially filed, the application had listed the Public Service Company of Oklahoma and the Associated Electric Cooperative, Inc., as owners.

that section (see fn. 3, *supra*). *Nuclear Fuel Services, Inc.* (West Valley Reprocessing Plant), CLI-75-4, 1 NRC 273 (1975); *Metropolitan Edison Co.* (Three Mile Island Nuclear Station, Unit 2), ALAB-384, 5 NRC 612, 615-616 (March 22, 1977). On the other hand, if the petitions were treated as being in response to the amended notice, the Board would have had to look into whether the petitioners had asserted an interest in the proceeding which stemmed from the addition of Western as a co-owner — *i.e.*, a much more particularized interest than that necessary to establish standing under the original notice.⁷

In the instance of each of the three petitions (as later amended),⁸ the Licensing Board turned first to whether an interest was alleged which would confer standing under the amended notice. The Board concluded that there was not. 5 NRC at 658-59, 663, 665. And, in our judgment, correctly so. Of the petitioners here-involved, only Mr. Burrell attempted to establish an interest directly related to the addition of Western as a co-owner. That interest, however, was economic in character and stemmed exclusively from the alleged fact that the petitioner was a customer of a cooperative served by Western. As the licensing Board observed (*id.* at 659), status as a ratepayer of an applicant does not bring one within the “zone of interests” protected by the Atomic Energy Act. *Pebble Springs, supra*, NRCI-76/12 at 614.

Turning then to the matter of intervention as a right under the original notice, the Board eschewed any square ruling on petitioners’ standing — confining itself on that score to the observations that (1) certain of the “other allegations regarding interest” in the Burrell petition “might have formed a basis for intervening pursuant” to that notice and (2) Ms. Ellis’ “connections with the site are tenuous.” 5 NRC at 659,666.⁹ Instead, the Board proceeded to determine whether the petitions contained a satisfactory explanation respecting why they had not been filed at an earlier date — *i.e.*, within the thirty-day period prescribed by the original notice. Finding the absence of such an explanation,¹⁰ the Board pointed out that it nonetheless could permit late intervention if justified by the other factors set forth in Section 2.714(a). As we have seen, however, these factors also bear upon whether intervention should be allowed on a discretionary basis. See p. 1145, *supra*. Given this circumstance, the Board decided to make a “unified analysis” of the factors in the context of both (1) late intervention as a matter of right under the original notice and (2) discretionary intervention. 5 NRC at 659, 664, 665.

⁷The original notice required only that the petitioner for intervention have some cognizable interest which might be affected by the decision made on the application for permits to construct the facility.

⁸All references hereinafter to the petitions are to their amended versions.

⁹The Licensing Board identified the allegations which it had in mind (*e.g.*, that Mr. Burrell visited friends and took part in church activities “near the site”).

¹⁰We concur in that finding. All three petitioners appear to have slept on their rights.

This analysis led the board to the conclusion that, as a matter of discretion, it should permit Mr. Burrell to intervene for the limited purpose of pressing two contentions advanced in his petition which had not been put forward by the previously admitted intervenors. *Id.* at 660.

As construed by the Board, these contentions were to the following effect:

- a. The analyses by the Applicants and the Staff of the facilities' response to certain anticipated transients with simultaneous failure of the scram system (ATWS) have underestimated both the consequences of such events and their likelihood, to such an extent that the facilities present an undue hazard to the health and safety of the public.
- b. The Applicant's present design does not adequately protect the public from the potential consequences of sabotage at the Black Fox plant in that the plant does not require sufficient structural integrity and safety redundancy to thwart a saboteur.

The Board opined that "the presentation of testimony in this area by Dr. Webb might be of assistance in developing the record herein." *Id.* at 660. Dr. Webb was not otherwise identified. Nor did the Board endeavor to explain his involvement with the Burrell petition and, more specifically, the two contentions.

The Funnell petition also had raised two matters not previously placed in controversy. One of them was the same ATWS issue presented in the Burrell petition. As to it, the Board allowed discretionary intervention but, "to prevent duplication," directed the consolidation of Mrs. Funnell's interest with that of Mr. Burrell and designated the latter to be the spokesman for both petitioners. See 10 CFR §2.714(e). In this connection, the Board called attention to the fact that Mr. Burrell was presented by counsel and thus would have "the benefit of professional assistance" in connection with the evidentiary presentation. The second new issue in the Funnell petition related to the handling, disposal and environmental effects of radioactive wastes. A ruling on its admission to the proceeding was deferred by the Board. 5 NRC at 664-65.

Its examination of the Ellis petition led the Board to conclude that discretionary intervention should be allowed on one contention contained therein which likewise traversed ground not covered by the previously admitted intervenors. As construed by the Board, that contention asserted that the "Black Fox facility will not meet the employee exposure limits of 10 CFR Part 20, and the health effects of employee exposures have not been adequately considered." *Id.* at 666.

B. As above noted, the Licensing Board justified its grant of discretionary intervention to Mr. Burrell largely on the basis that the testimony of a "Dr. Webb" might be helpful in developing a record on the ATWS and sabotage issues raised in the Burrell petition — issues which were not raised by the earlier

admitted intervenors yet in the apparent (albeit unarticulated) view of that Board are worthy of exploration in the proceeding. In the circumstances, the Board should have discussed, among other things, this individual's qualifications and his present relationship, if any, to Mr. Burrell or other parties. The briefs of the parties and our own examination of the record, however, have enlightened us in sufficient measure. Consequently, there is no need to seek further elucidation.

The Licensing Board's reference turns out to have been to Dr. Richard E. Webb, who possesses a PhD. in Nuclear Engineering which was awarded to him by Ohio State University in 1972. He has had several years experience as a reactor engineer (principally in naval service) and, since 1974, has been performing reactor safety research at the University of Massachusetts.¹¹ It is our understanding that he drafted the two contentions in question; that he is prepared to testify as a witness on those contentions on Mr. Burrell's behalf; and, additionally, that he is already slated to testify in connection with one or more issues raised by the previously admitted intervenors.

Given Dr. Webb's educational and vocational background, we can scarcely quarrel with the Licensing Board's assessment of the potential value of his testimony. Nor can we say that an abuse of discretion was involved in that Board's implicit determination both (1) that the two new safety issues raised by Mr. Burrell warranted scrutiny in this proceeding and (2) that that scrutiny should take place in an adversary context. Accordingly, we uphold the Board's rulings as to the Burrell petition.

We see no similar warrant for the Board's action in granting discretionary intervention on the ATWS issue to Mrs. Funnell. Insofar as we can determine, the basis for this action was simply the fact that Mr. Burrell was being admitted to the proceeding on that issue. Indeed, the Board's recognition that Mrs. Funnell would contribute nothing herself is manifest from its direction that Mr. Burrell serve as spokesman for them both. This being so, we must overturn the Board's result on the Funnell petition.

Turning to the Ellis petition, we find the record devoid of anything to indicate that Ms. Ellis might make a substantial — or for that matter any — contribution on the new issue which she seeks to raise.¹² The Board made a passing elliptical reference to her "personal experience"; by that we presume it had in mind the fact that Ms. Ellis (who now works as a hairstylist) at one time was employed as a "laboratory analyst" in the "nuclear" facility of the Kerr-McGee Corporation located at Crescent, Oklahoma (near Oklahoma City). In her petition (at p. 2), Ms. Ellis asserted that, during that employment, she had

¹¹Intervenor's answers to first interrogatories propounded by Regulatory Staff, dated November 30, 1976, Exhibit G, Attachment 4.

¹²In response to a specific inquiry by the Licensing Board Chairman, Ms. Ellis stated that she would be her own witness on the issue (Tr. 320).

“observed the laxity of the regulated and the regulator” and had “suffered the consequences” in the form of the radioactive contamination of her person and possessions. But if all this be true, it does not provide a foundation for assuming knowledge on her part which could assist in determining whether the Black Fox facility will meet 10 CFR Part 20 radiation exposure limitations or what health effects might be incurred by plant personnel were those limitations to be exceeded.

Nor has any other basis for such an assumption been tendered by Ms. Ellis. For one thing, she does not profess to be trained in either health physics or radiation biology. And, although the precise nature and scope of her duties as a laboratory analyst at the Kerr-McGee facility were not delineated in the petition or otherwise, we are given no reason to believe (and it seems to us extremely unlikely) that the performance of those duties might have provided any insight whatever with respect to the operations of a nuclear generating station, the protective measures which must be taken to avoid undue radiation exposure to the station employees or the consequences which might flow from a failure to take those measures. In this connection, we can take official notice that the Kerr-McGee facility was engaged in the processing of plutonium.¹³ The technology involved in carrying on activities of that stripe bears little relationship to that utilized in the generation of electric power by means of nuclear fission.

We need add on this score only that Ms. Ellis had an especially strong obligation to demonstrate her ability to make a valuable contribution on the plant personnel exposure issue. For it is perfectly clear that, absent the existence of such ability, there is no conceivable justification for allowing her participation in the proceeding on the issue. As the Licensing Board pointed out, Ms. Ellis' interest in the construction and operation of Black Fox is “remote” — resting entirely upon her occasional trips from her residence in Oklahoma City (125 miles from the site) to Tulsa (23 miles from the site) and other unspecified communities asserted to be “near” the site. Beyond that, she does not claim that any interest of her own — protected by statute or not — could be adversely affected by the exposure of plant personnel to radiation.

In sum, Ms. Ellis' situation is entirely different from that of Mr. Burrell. As we have seen, the latter has manifested a willingness and ability to adduce the testimony of a seemingly qualified expert on safety issues which the Licensing Board thinks of sufficient importance to be worthy of scrutiny in this proceeding. That is enough to warrant the exercise by the Licensing Board of the discretion conferred upon it in *Pebble Springs*. See also, *North Anna*, ALAB-363, *supra*, fn. 4. On the other hand, the record indicates that Ms. Ellis

¹³See WASH-1174-74, *The Nuclear Industry 1974*. The facility is no longer in operation.

has no contribution to make. There being no other discernible reason to permit her participation,¹⁴ her admission to the proceeding cannot stand. 7

The March 9, 1977, order of the Licensing Board is *affirmed* insofar as it relates to the petition of Lawrence Burrell and is *reversed* insofar as it relates to the petitions of Mrs. Roberta Ann Paris Funnell and Ms. Sherri Ellis.¹⁵

It is so ORDERED.

FOR THE ATOMIC SAFETY AND
LICENSING APPEAL BOARD

Maragret E. Du Flo
Secretary to the Appeal Board

¹⁴In the case of none of the three petitioners do we find influential any of the other factors referred to by the Commission in *Pebble Springs*. See fn. 3, *supra*. Indeed, as earlier suggested both in this opinion and in *North Anna*, ALAB-363, *supra*, we think that in the vast majority of instances the pivotal factor in determining whether to grant discretionary intervention will be that of the ability of the petitioner to make a valuable contribution to the development of a sound record on a safety or environmental issue which is raised by him and appears to be of enough importance to call for Board consideration.

¹⁵This opinion does not address, of course, the question of whether one or more of the petitioners should be allowed to participate as a matter of discretion on either the "Class Nine accident" contention raised by all three or the radioactive waste contention raised by Mrs. Funnell. The Board below reserved judgment on that question in the March 9 order and thus the matter is not now before us. See 5 NRC at 661, 664.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Alan S. Rosenthal, Chairman
Dr. Lawrence R. Quarles
Jerome E. Sharfman

In the Matter of

Docket Nos. STN 50-518
50-519
50-520
50-521

TENNESSEE VALLEY AUTHORITY

(Hartsville Nuclear Plant
Units 1A, 2A, 1B and 2B)

May 12, 1977

Upon motion by intervenors seeking a suspension of the Licensing Board's initial decision (LBP-77-28, 5 NRC 1081) or, in the alternative, an extension of time within which to file exceptions to that decision, the Appeal Board rules that the failure of the intervenors to have received the initial decision warrants the extension of time but not the more drastic remedy of suspension of the initial decision.

Extension of time within which to file exceptions granted.

RULES OF PRACTICE: NOTICE OF APPEARANCE

One of the purposes of the notice of appearance which attorneys appearing in adjudicatory proceedings must file is to apprise the Chief of the Docketing and Service Section (to whom the notice must be sent) of the names and addresses of counsel who are entitled to service of various papers. 10 CFR § 2.713(a), 2.708(f). Counsel who change addresses should notify that official of that fact immediately.

RULES OF PRACTICE: EXTENSIONS OF TIME

If counsel who has neglected to notify the Chief, Docketing and Service Section, of a change of his address fails to receive a document served upon him in a timely manner, that circumstance will not constitute good cause for extending the time for taking action in light of that document.

Messrs. Leroy J. Ellis, III, Nashville, Tennessee, Raymond P. Gibbs, Murfreesboro, Tennessee, Robert B. Pyle, Nashville, Tennessee, for the intervenors, William N. Young, *et al.*

ORDER

On April 28, 1977, the Licensing Board rendered an initial decision authorizing the issuance of construction permits for the four units of the Hartsville facility. We now have the motion of intervenors, William N. Young, *et al.*, seeking in the alternative (1) a suspension of the initial decision and (2) an extension of time within which to file exceptions to that decision. The sole basis assigned for requesting such relief was that, as of the date of the filing of the motion (May 9), none of the counsel for intervenors had received a copy of the decision. The underlying assumption was that service of it had not been made upon them by the Office of the Secretary of the Commission, as is required by 10 CFR §2.712(a).

The motion first reached us in telegraphic form on May 10. Upon its receipt, inquiry was made of the Chief of the Docketing and Service Section of the Office of the Secretary. His examination of the official records of the Section disclosed that on May 2 copies of the decision had been served by mail on two of the three lawyers who signed the motion as counsel for intervenors (Messrs. Ellis and Pyle). No like service had been made on the third lawyer (Mr. Gibbs) for the reason that several months ago the postal authorities had returned as undeliverable a document which had been served upon him by mailing to the business address appearing on the service list maintained by the Section.

It is not clear why, on May 9, Mr. Ellis (intervenors' lead counsel) had not as yet received the initial decision; the service list address for him fully corresponds to that which is set forth in the motion and, thus, is presumably accurate. Mr. Ellis informed the Secretary to this Board the following day, however, that he had just obtained the decision (from what source is not known). In the circumstances, the appropriate course is to extend his time to file his exceptions to May 17, 1977. This will accord him the full seven day period established by 10 CFR §2.762(a) for the taking of the first appellate step.¹

It is our understanding that, as a matter of accommodation, the Docketing and Service Section will occasionally (as in this instance) make service of an adjudicatory decision upon more than one of the counsel of record for a particu-

¹There is no reason to view the failure of counsel to have received timely the copy served upon him as a justification for the more drastic remedy of a suspension of the effectiveness of the initial decision.

lar party.² But service on lead counsel is all that is legally required. Accordingly, it is not crucial for present purposes that Messrs. Gibbs and Pyle did not timely receive copies of the decision in question (or that no effort was made to serve the former). Nonetheless, it is worthy of note that the addresses appearing on the official service list for these individuals are *not* the same as those contained in the motion. This may well explain both why a previous document served upon Mr. Gibbs was undelivered and why the initial decision has not reached Mr. Pyle.

Our Rules of Practice require attorneys appearing in adjudicatory proceedings in a representative capacity to file "with the Commission a written notice of appearance which shall state his name, address, and telephone number . . ." 10 CFR §2.713(a). One obvious purpose of this requirement is to apprise the Chief of the Docketing and Service Section (to whom the notice must be sent)³ of the *names* and *addresses* of counsel entitled under 10 CFR §2.712(a) to service of "all orders, decisions, notices and other papers" issued by the Commission or one of its adjudicatory tribunals. There is thus a manifest obligation upon the part of counsel who has changed his address subsequent to the filing of his notice of appearance to notify the Chief of the Docketing and Service Section of that fact *immediately*. In the event of noncompliance with that obligation, counsel will not be heard to complain of a failure of receipt of a document sent to him at the address reflected on the notice of appearance (or otherwise previously furnished to the Docketing and Service Section). Nor, in such circumstances, need an adjudicatory board accept nonreceipt of the document as sufficient cause to extend the time for the taking of some action by counsel in light of the document (such as, in the case of an initial decision, the filing of an appeal).

We need add in this connection only that notification of a change of address communicated orally to the board and other counsel during the course of the hearing (or on a different occasion) is not sufficient to constitute notice to the Chief of the Docketing and Service Section. That official has no responsibility to read hearing transcripts in quest of such communications. Nor, absent an express undertaking to do so, is there any duty residing in the board or the other counsel to bring the matter to his attention.

The time of the intervenors, William N. Young, *et al.*, for the filing of exceptions to the April 28, 1977, initial decision *is extended to and including May 17, 1977.*

²We are informed that this is normally done only where the counsel of record are located in more than one city.

³See 10 CFR §2.708(f).

It is so ORDERED.

**FOR THE ATOMIC SAFETY
AND LICENSING APPEAL BOARD**

**Margaret E. Du Flo
Secretary to the Appeal Board**

Dr. Quarles did not participate in the consideration of this motion.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Jerome E. Sharfman, Chairman
Dr. John H. Buck
Dr. Lawrence R. Quarles

In the Matter of

Docket No. 50-247
OL No. DPR-26

CONSOLIDATED EDISON COMPANY
OF NEW YORK, INC.

(Indian Point Station,
Unit No. 2)

May 20, 1977

Upon appeal by licensee from LBP-76-43, NRCI-76/11 598 and LBP-76-46, NRCI-76/12 659, which approved natural-draft wet cooling towers as the preferred type of closed-cycle cooling and ordered operation utilizing once-through cooling to cease by May 1, 1980, the Appeal Board agrees with the selection of the preferred closed-cycle cooling system but concludes that the circumstances requisite to establishing a date for termination of once-through cooling, as provided in existing license conditions, have not yet occurred.

Decisions affirmed in part and reversed in part.

NUCLEAR REGULATORY COMMISSION: JURISDICTION

Where EPA has not yet established a binding effluent limitation pursuant to the FWPCA, the Commission has jurisdiction under NEPA to interpret and apply license provisions concerned with a nuclear power plant's thermal emissions.

COMMISSION PROCEEDINGS: RES JUDICATA/COLLATERAL ESTOPPEL

Where the NRC staff is not a party to a state judicial proceeding, collateral estoppel is not applicable in a Commission proceeding involving the same factual situation.

COMMISSION PROCEEDINGS: RES JUDICATA/COLLATERAL ESTOPPEL

The doctrine of collateral estoppel does not operate to bind the Commission

with respect to a court decision in collateral litigation interpreting an NRC license condition.

NUCLEAR REGULATORY COMMISSION: ENFORCEMENT OF LICENSE CONDITIONS

It is the Commission's province to interpret its own license conditions, and its interpretation cannot be ignored by the courts unless clearly erroneous or arbitrary.

NEPA: FEDERAL PREEMPTION

A zoning decision that substantially obstructs or delays the effectuation of a license condition imposed by the Commission pursuant to NEPA is invalid under the Federal preemption doctrine. Local and incidental regulation exercised so as not to frustrate the licensee's compliance with the license condition is permissible.

NEPA: FEDERAL PREEMPTION

Where a question is presented as to whether state or local regulation relating to alteration of a nuclear plant is preempted under NEPA, the NRC should refrain from ruling on that question until regulatory action has been taken by the state or local agency involved.

Mr. Edward J. Sack, New York, New York (with whom **Ms. Joyce P. Davis** and **Messrs. Leonard M. Trosten** and **Eugene R. Fidell** were on the briefs), for the licensee, Consolidated Edison Company of New York.

Ms. Sarah Chasis, New York, New York (with whom **Mr. Ross Sandler** was on the briefs), for the Hudson River Fisherman's Association.

Mr. Carl R. D'Alvia, Croton-on-Hudson, New York, for the Village of Buchanan, *amicus curiae*.

Mr. Stephen H. Lewis (with whom **Ms. Marcia E. Mulkey** and **Messrs. Michael W. Grainey** and **Richard C. Browne** were on the briefs) for the Nuclear Regulatory Commission staff.

DECISION

This is an appeal by Consolidated Edison Company of New York ("Con Ed") from the Licensing Board's Partial Initial Decision of November 30, 1976,¹ and Supplemental Partial Initial Decision of December 27, 1976,² concerning the interpretation of conditions in its operating license for Indian Point 2. For the reasons hereinafter stated, we reverse.

A. Our 1974 Decision

On April 4, 1974, we decided an appeal from an initial decision of the Licensing Board authorizing the issuance of an operating license for Indian Point 2.³ The construction permit had been issued on October 17, 1966,⁴ years before the enactment of the National Environmental Policy Act ("NEPA"). Therefore, an environmental review of the plant was conducted for the first time in the operating license proceeding. Although the plant had been built with a once-through cooling system, the "central issue" on the appeal was "the length of time the Indian Point facility should be permitted to operate with a once-through cooling system before being required to operate with a closed-cycle cooling system."⁵ The NRC staff and the intervenor Hudson River Fishermen's Association ("HRFA") predicted that long-term operation of the plant with once-through cooling would have a substantial adverse impact on the striped bass spawning in the Hudson River. Even the applicant did not argue that the evidence available at that time warranted permitting it to operate the plant with a once-through cooling system on a permanent basis. It only wanted the change-over postponed to a sufficiently late date so that its research program to measure the plant's effect on the fish would by that time yield a good scientific analysis of that impact and possibly provide the basis for an attempt to change the Commission's mind about conversion to closed-cycle cooling. After reviewing the evidence as to the once-through cooling system's impact on the striped bass and finding it inconclusive, we imposed the following conditions upon the operating license:⁶

Operation of Indian Point Unit No. 2 with the once-through cooling system will be permitted during an interim period, the reasonable termination date for which now appears to be May 1, 1979. Such interim operation is subject

¹ LBP-76-43, NRCI-76/11 598.

² LBP-76-46, NRCI-76/12 659.

³ ALAB-188, 7 AEC 323.

⁴ LBP-73-33, 6 AEC 751, 752 (1973).

⁵ ALAB-188, 7 AEC at 325.

⁶ Par. 2.E.(1), *id.* at 407-08.

to the following conditions, none of which shall be interpreted to limit or to affect in any way such other conditions as are imposed by the Atomic Energy Commission or any other governmental body in accord with applicable law:

(a) interim operation shall only be permitted to the extent that the requirements of this license to protect the aquatic biota of the Hudson River from any significant adverse impacts are satisfied; any necessary mitigating measure shall be promptly taken; such measures to include any authorized remedy deemed to be appropriate by the Atomic Energy Commission, including an advancement of the May 1, 1979, date to an earlier date which is deemed reasonable and warranted by the circumstances.

(b) The finality of the May 1, 1979, date also is grounded on a schedule under which the applicant, acting with due diligence, obtains all governmental approvals required to proceed with the construction of the closed-cycle cooling system by December 1, 1975. In the event all such governmental approvals are obtained a month or more prior to December 1, 1975, then the May 1, 1979, date shall be advanced accordingly. In the event the applicant has acted with due diligence in seeking all such governmental approvals, but has not obtained such approvals by December 1, 1975, then the May 1, 1979, date shall be postponed accordingly.

(c) If the applicant believes that the empirical data collected during this interim operation justifies an extension of the interim operation period or such other relief as may be appropriate it may make timely application to the Atomic Energy Commission. The filing of such application in and of itself shall not warrant an extension of the interim operation period.

(d) After the commencement of the construction of a closed-cycle cooling system, a request for an extension of the interim operation period will be considered by the Atomic Energy Commission on the basis of a showing of good cause by the applicant which also includes a showing that the aquatic biota of the Hudson River will continue to be protected from any significant adverse impacts during the period for which an extension is sought.

We also required the licensee "to file with the Commission and serve on the parties reports, under oath or affirmation, of its analysis of data collected during interim operation which bear on the environmental effects of once-through cooling on the aquatic biota of the Hudson River" periodically, "as significant new data become available."⁷

⁷*Id.* at 408-09.

B. The Proceeding At Bar

Paragraph 2.E.(2) of the operating license provides:

Evaluation of the economic and environmental impacts of an alternative closed-cycle cooling system shall be made by the licensee in order to determine a preferred system for installation. This evaluation shall be submitted to the Atomic Energy Commission by December 1, 1974, for review and approval prior to construction.

On December 2, 1974, Con Ed filed such an evaluation with the Commission and also filed an application to amend its operating license to provide that the "Commission has determined . . . that a closed-cycle natural-draft, wet cooling tower system is the preferred alternative closed-cycle cooling system for installation at Indian Point, Unit No. 2."⁸ The proceeding with respect to this application is the one before us for review now. During the course of this proceeding, all parties stipulated that the type of cooling system described in the application is the preferred type of closed-cycle cooling system for installation at Indian Point 2.⁹ Although various nonparties objected to construction of the proposed cooling tower, the Licensing Board, after holding a hearing on the matter, accepted the stipulation and approved the "selection of the natural-draft wet cooling tower system as the preferred type of closed-cycle cooling system for [Indian Point] 2."¹⁰ No one appealed from this decision.

The stipulation referred to above also listed issues as to which the parties were unable to reach agreement. Most notable among them were "(a) whether all other governmental approvals required to proceed with the construction of the closed-cycle cooling system have been granted, as provided in subparagraph 2.E(1)(b) of the license" and "(b) what is the effect of the Licensee's failure to have received all of such governmental approvals by December 1, 1975, on the date for cessation of operation with once-through cooling in accordance with subparagraph 2.E(1)(b) of the license." Although these issues were not raised by Con Ed's December 2, 1974, application, counsel for Con Ed, HRFA and the staff urged that they be determined as part of this proceeding¹¹ and the Licensing Board accommodated them.

Con Ed had sought to obtain variances from the zoning laws of the Village of Buchanan, which otherwise apparently would prohibit the construction of a

⁸On January 19, 1975, the Nuclear Regulatory Commission ("NRC") came into existence and succeeded to the regulatory functions of the Atomic Energy Commission. All references to "the Commission" in the context of events occurring subsequent to this date are to the NRC.

⁹NRCI-76/11 598, 600-01.

¹⁰*Id.* at 601-02.

¹¹Tr. of prehearing conference of September 22, 1976, ("P. Tr.") at 9-19.

cooling tower. The Village's Zoning Board of Appeals denied the request. Con Ed sought judicial review in the New York courts. The Supreme Court, Westchester County¹² held that pervasive Federal regulation of the Indian Point 2 plant under the Atomic Energy Act, NEPA and the Federal Water Pollution Control Act ("FWPCA") implies Federal preemption of the right to regulate it and enjoined the Village from attempting to enforce its zoning laws against construction by Con Ed of a closed-cycle cooling system. The Appellate Division, Second Department affirmed, on the grounds that denial of the variance was contrary to both Federal and State law, and directed the issuance of the variance. However, it held permissible "limited regulation [by the Village] of local and incidental conditions with respect to the proposed facilities, in accordance with the Zoning Ordinance, so long as such regulation is reasonable and is not inconsistent with the construction of the proposed facility." The Village attempted to appeal to the New York Court of Appeals as of right but its appeal was dismissed on February 10, 1977, (after the Licensing Board had issued its decision in this proceeding) for failure to satisfy the statutory requirements for appeals as of right. The Village thereafter moved for leave to appeal. That motion is still pending before the Court of Appeals.

1. The Disputed Holdings of the Licensing Board

a. The Licensing Board held "that approval by the Village is not a governmental approval that is required to proceed with construction of the closed-cycle cooling system" because the law of New York prevents the Village from interfering with its construction.¹³

b. It should be recalled that license condition 2.E.(1)(b) provides that, if Con Ed has acted with "due diligence" in seeking all governmental approvals required to proceed with construction of the closed-cycle cooling system "but has not obtained such approvals by December 1, 1975, then the May 1, 1979, date shall be postponed accordingly." None of the parties had raised due diligence as a factual issue at an appropriate time for raising issues¹⁴ but an HRFA brief before the Licensing Board suggested that Con Ed had not been sufficiently diligent in prosecuting its petition for variances from the Village of Buchanan's zoning code.¹⁵ At a prehearing conference on September 22, 1976, the Licens-

¹²This court was referred to in the Licensing Board's November 30th decision and is sometimes referred to in this opinion as the Supreme Court of New York or the New York Supreme Court. Contrary to what its name implies, it is not the highest court of the state (that is the Court of Appeals) but rather a trial court of general jurisdiction sitting in each county.

¹³NRCI-76/11 at 604.

¹⁴Counsel for HRFA stated at oral argument before us that HRFA "did not raise it as a formal contention." App. Tr. 71.

¹⁵NRCI-76/11 at 604.

ing Board announced that it would hold a hearing on the preferred alternative closed-cycle cooling system in early October and that it “would contemplate a further evidentiary session would be held at a later time later to be scheduled on the other matters in reference to due diligence and that sort of thing, that has been identified here somewhat this morning.”¹⁶ On November 9, 1976, the Licensing Board issued an order scheduling a conference for December 8th to consider “if challenge is made” on the issue of due diligence “and the nature of evidence that might be introduced if the proceedings were reopened to consider such a challenge.” Nonetheless, the Licensing Board went ahead and dealt with the question of due diligence in its November 30th decision. It stated that HRFA had raised the issue in a brief and added that it had examined the transcript of proceedings before the Village’s Zoning Board of Appeals and that it “agrees that HRFA has a substantial basis for its comments.”¹⁷ The Licensing Board went on to say:¹⁸

If the Board had concluded that issuance of variances and a building permit by the Village was required before construction could proceed on the closed-cycle cooling system, further examination of the Licensee’s efforts to obtain the variances from the Village might be warranted. However, the conclusion that the Commission’s amendment to the Facility Operating License is the last required approval makes such an examination unnecessary. There has been no suggestion, and the Board finds no reason to believe, that the Licensee has acted with other than due diligence in its efforts to obtain the amendment to the Facility Operating License. The Board finds, therefore, that the Licensee has “acted with due diligence in seeking all such governmental approvals.”

At the conference on December 8th, Con Ed was permitted to state its position on due diligence. However, it did object to the Licensing Board’s having ruled upon it before it had a chance to respond to HRFA’s accusations.¹⁹ In any event, as the Board’s Chairman recognized, the issue was no longer before the Licensing Board at that time.²⁰

At oral argument before us,²¹ Con Ed agreed that, should we find it necessary to decide the due diligence issue, we could do so without a hearing, even though none was afforded by the Licensing Board, if with the consent of the other parties, we took official notice of various documents bearing on the issue.

c. Finally, the Licensing Board’s November 30th decision determined that,

¹⁶ P. Tr. 56-58.

¹⁷ NRCI-76/11 at 604.

¹⁸ *Ibid.*

¹⁹ Tr. 298-301.

²⁰ *Id.* at 297.

²¹ App. Tr. 103-08.

with the issuance of the requested amendment of the license as to the preferred type of closed-cycle cooling system, "all necessary governmental approvals will have been received by the Licensee."²² The Board went on to say that because, under the terms of the license, Con Ed would have to cease operation with once-through cooling by May 1, 1979, it "should commence construction of its recommended closed-cycle wet-draft cooling tower system."²³ This statement was based on the not unreasonable assumption that it would take at least that long to build the new system.

Con Ed took exceptions from all aspects of the Licensing Board's November 30th decision other than its finding as to the preferred type of closed-cycle cooling system.

In the reference in its November 30th decision to the May 1, 1979, date as a binding date for the termination of once-through cooling, the Licensing Board seemed to forget the provision for postponement of that date if all required governmental approvals have not been obtained by December 1, 1975. However, it made amends for that lapse of memory in its supplemental partial initial decision of December 27, 1976, in which it decided that the May 1, 1979, date should be postponed to May 1, 1980.²⁴ That decision also mentioned that the last remaining issue that the parties had wanted the Licensing Board to decide in this proceeding, one pertaining to a monitoring program for bird mortalities that might be caused by a cooling tower when built, had been settled between the staff and Con Ed.²⁵ Con Ed filed a single exception to the December 27th decision addressed to the fixing of the May 1, 1980, date.

C. Related Proceedings

There are two related proceedings concerning this license which, while not presently before us, are pending before the Licensing Board.

The first concerns an application filed on June 6, 1975, by Con Ed pursuant to paragraph 2.E.(1)(c) of the license which seeks to defer the obligation to terminate operation with once-through cooling until May 1, 1981. At the time the application was filed, this would have resulted in a two-year postponement. Based on the amendment to the license ordered by the Licensing Board on December 27, 1976, it amounts to a one-year extension. The justification for it offered by Con Ed was that it would allow time for completion and governmental evaluation of its research program to determine the existing cooling system's impact on fish "before irretrievable commitments must be made for the

²² NRCI-76/11 at 605.

²³ *Ibid.*

²⁴ NRCI-76/12 at 661.

²⁵ *Ibid.*

construction of a closed-cycle cooling system at Indian Point 2.”²⁶ Con Ed also represented that such an extension “will not have an irreversible adverse impact on Hudson River biota.”²⁷ This matter has already been tried and the Licensing Board has received proposed findings and briefs.

The second of these related proceedings is a new one. On March 18, 1977, Con Ed filed an application, pursuant to paragraph 2.E.(1)(c) of the license, to modify the license by totally deleting the requirement for the cessation of operation with once-through cooling by May 1, 1980, and by permitting such operation for the full term of the license. The basis for this application, according to Con Ed, is that the final results of its research program show “that the impact of continued operation of Indian Point 2 with once-through cooling will not have a significant or irreversible impact on the biota of the Hudson River, for whose protection the closed-cycle cooling condition was designed.”²⁸ This proceeding is just beginning.

I. JURISDICTION

Under the Federal Water Pollution Control Act Amendments of 1972 (“FWPCA”), the Environmental Protection Agency (“EPA”) has the power to decide whether a nuclear plant should have a once-through or closed-cycle cooling system.²⁹ In the typical case, the Commission’s role would be limited to considering the environmental impact of the cooling system required by EPA as part of its balancing of environmental costs and benefits under the National Environmental Policy Act (“NEPA”) in deciding whether a construction permit should be granted. *Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), ALAB-366, 5 NRC 39, 48-55 and 61 (January 21, 1977), *aff’d*, CLI-77-8, 5 NRC 503 (March 31, 1977).

The specific statutory provision establishing EPA’s primacy in this regard is §511(c)(2) of the FWPCA, 33 U.S.C. §1371(c)(2), which states, insofar as is relevant:

Nothing in the National Environmental Policy Act of 1969 (83 Stat. 852) shall be deemed to—

(A) authorize any Federal agency authorized to license or permit the

²⁶ Letter dated June 4, 1975, from Carl L. Newman, Vice President of Con Ed, to Mr. Ben C. Rusche, Director, Office of Nuclear Reactor Regulation, NRC, p. 1.

²⁷ *Ibid.*

²⁸ Letter dated March 15, 1977, from William J. Cahill, Jr., Vice President of Con Edison, to Mr. Ben C. Rusche, Director, Office of Nuclear Reactor Regulation, NRC, p. 2.

²⁹ This assumes that appropriate requirements of state law are complied with. FWPCA §401(d), 33 U.S.C. §1341(d). It also assumes that the discharge permit program within a state has not been taken over by the state government pursuant to FWPCA §402(b)-(f), 33 U.S.C. §1342(b)-(f).

conduct of any activity which may result in the discharge of a pollutant into the navigable waters to review any effluent limitation or other requirement established pursuant to this Act

When the operating license application was before the Licensing Board and this Board in 1973 and 1974, EPA did not have any thermal effluent limitations in effect.³⁰ Neither does it have any in effect now. See *Seabrook, supra*, at 50.³¹ Moreover, at the time that ALAB-188 was rendered, EPA had not yet issued a discharge permit pursuant to §402 of the FWPCA, 33 U.S.C. §1342, for Indian Point, Units 1 and 2. However, it did so on February 24, 1975. This permit provided, in effect, that these power plants may no longer use a once-through cooling system beginning on May 1, 1979.³² Although this date was the same as that contained in the original NRC license for Unit 2, unlike that license the discharge permit did not make the changeover to a closed-cycle system dependent on first obtaining all required governmental approvals. If this permit requirement were still in effect, the Commission would have no power to delay the date of the changeover.³³ However, it is not.

On April 7, 1975, Con Ed filed with the EPA Regional Administrator a request for an adjudicatory hearing to reconsider some of the determinations made with regard to the permit and some of the conditions contained in it.³⁴ Among these was the requirement for the termination of operations with a once-through cooling system by May 1, 1979. The request for hearing reiterated Con Ed's earlier request (made on July 26, 1974) for the imposition of alternative effluent limitations with respect to Indian Point, Units 1 and 2.³⁵ If such alternative limitations were imposed, Con Ed would presumably be free not only of the May 1, 1979, conversion requirement in the discharge permit but also of the general EPA regulations prohibiting thermal discharges from cooling systems in steam electric power generating plants from and after July 1, 1981.³⁶

³⁰"Congress has included heat within the Act's definition of pollutants (Section 502(6), 33 U.S.C. 1362(6)), and our basic concern here is, of course, with the cooling system necessary to deal with waste heat." *Seabrook, supra*, at 49.

³¹It has promulgated regulations prohibiting any discharge of heat from condenser cooling water which become effective on July 1, 1981. *Id.*, at 50-51. Certain aspects of these regulations were set aside in *Appalachian Power Co. v. Train*, 545 F.2d 1351 (4th Cir. 1976).

³²See pars. 10(b) and 11(a) of the permit.

³³FWPCA §511(c)(2)(A).

³⁴See 40 CFR §125.36(b)(1).

³⁵"The term 'alternative effluent limitations' means all effluent limitations or standards of performance for the control of the thermal component of any discharge which are established pursuant to Section 316(a) and these regulations and imposed pursuant to Sections 301 or 306 of the Act, including Section 301(b) (1) (C) in lieu of effluent limitations or standards of performance otherwise applicable under such section." 40 CFR §122.1(c).

³⁶40 CFR §423.13(1) and (m).

On May 16, 1975, EPA granted the request for a hearing. In its public notice of adjudicatory hearing of that date,³⁷ EPA stayed the effectiveness of the contested provisions of the discharge permit "pending the completion of the Adjudicatory Hearing process." Included among the stayed conditions were those requiring conversion to closed-cycle cooling by May 1, 1979. This is required by 40 CFR §125.35(d)(2) which also leaves the uncontested provisions in effect. Thus, the conversion requirement established in the original discharge permit was soon nullified by the automatic stay, the purpose of which is to prevent requirements in the discharge permit which a party is contesting from taking effect before an adjudicatory hearing is concluded. A prehearing conference was held before an EPA administrative law judge on February 22, 1977, and an order was issued on February 25th setting up a one-year schedule for the submission of written testimony and cross-examination.³⁸

The picture of EPA before us today, then, is that of an agency in the process of making up its mind, not an agency which has already established an "effluent limitation or other requirement . . . pursuant to [the FWPCA] . . ." ³⁹ Therefore, §511(c)(2)(A) of the FWPCA does not apply and we may not avoid interpreting and applying the provisions of our own license dealing with the subject of thermal emissions from the plant into the river.

II. REQUIRED GOVERNMENTAL APPROVALS

One of the primary questions posed by this appeal is whether the acquisition of variances from the zoning laws of the Village of Buchanan is a "governmental approval required to proceed with the construction of the closed-cycle cooling system" within the meaning of paragraph 2.E.(1)(b) of the operating license. *Ab initio*, that is a question of New York law. The Licensing Board

³⁷Copies of this public notice, Con Ed's letter of July 26, 1974, to EPA, the discharge permit and Con Ed's request for an adjudicatory hearing were given to us and to counsel for the other parties by counsel for Con Ed pursuant to our request. No one objected. We take official notice of them.

³⁸Exhibit G to Con Ed's Affidavit and Brief in Opposition to Motion for Leave to Appeal filed March 22, 1977, in the New York Court of Appeals in *Matter of Consolidated Edison Co. v. Hoffman*.

³⁹We are told that, in the pending adjudicatory proceeding before the EPA concerning the discharge permit, Con Ed has contended that New York State, which has taken over most of the discharge permit program from EPA pursuant to §402(b)-(f) of the FWPCA, now has jurisdiction over that proceeding. See Con Ed's Memorandum in Response to Board's Request at 4-5. The resolution of this question can have no effect on our jurisdiction because, whether the decision on the cooling system is made by EPA or New York's Department of Environmental Conservation, it will be an "effluent limitation or other requirement established pursuant to this Act" within the meaning of §511(c)(2)(A) of the FWPCA.

recognized this but erred both in its method of determining what the New York law is and in its substantive conclusion as to the content of that law.

The Licensing Board made two points in support of its decision that obtaining the zoning variances is not a necessary governmental approval within the meaning of the license. The first is that "the Licensee agrees that the law of the State is uniform that a Village cannot prevent construction by a utility of a facility needed for the rendition of its service."⁴⁰ The question, however, is not what Con Ed thinks the law of New York is but what it actually is. Moreover, even if we should accept Con Ed's understanding of the relevant New York law, the question would remain whether a variance from the zoning laws must be obtained. Under the Appellate Division's decision, the zoning variance appears to be the means by which the Village may engage in reasonable, limited regulation of "local and incidental conditions relative to the construction of the proposed facility." It therefore can hardly be said that it need not be obtained.

The Licensing Board's second point was as follows:

Important, in addition, is somewhat of a "law of the case" ruling established by the decision of the Supreme Court of New York, which stated that it reads:

... the provision of the license which refers to "governmental approvals" to exclude zoning approvals.⁴¹

There are six reasons why this point is not well taken.

1. It is as possible for a ruling to be "somewhat" the law of the case as it is for a woman to be somewhat pregnant.

2. Even when something is the law of the case, it is only the law in that case. The case before us is not the same case that was before the New York Supreme Court.

3. Con Ed had no right to appeal from the Supreme Court's quoted statement because the decision was in its favor. Moreover, it was compelled to engage in that litigation against its will because of the license condition obligation to exercise due diligence. Therefore, it would be unfair to saddle Con Ed with this ruling in other cases in other tribunals.

4. There is no collateral estoppel because the Commission staff was not a party to the New York litigation.⁴²

5. Even had the parties been identical, this Commission would not be bound

⁴⁰NRCI-76/11 at 604.

⁴¹*Ibid.*

⁴²See *Toledo Edison Co.* (Davis-Besse Nuclear Power Station, Units 1, 2 and 3), ALAB-378, 5 NRC 557,561 (March 1, 1977); *Alabama Power Co.* (Joseph M. Farley Nuclear Plant, Units 1 and 2), ALAB-182, 7 AEC 210, 212-13, remanded on other grounds, CLI-74-12, 7 AEC 203 (1974).

by a court decision in a collateral litigation.⁴³ As the Interstate Commerce Commission stated long ago, in holding that it was not bound by a state commission decision and a state court affirmance interpreting operating authority which the I.C.C. had previously issued to a motor carrier, “[t]he fact that the court, for reasons heretofore shown, felt justified in interpreting our order collaterally does not preclude us from entertaining, and affording, the relief sought in the instant petition, *for it cannot be disputed that it is the province of this Commission to interpret its own orders, and that its interpretations cannot be ignored by the courts unless clearly erroneous or arbitrary.*” (Emphasis added.)⁴⁴

6. The cardinal defect of the Licensing Board’s entire analysis of this question is that, despite the fact that there was a state court litigation on this very issue of New York law between most of the same parties, it failed to base its determination of the issue upon the highest state court decision in that litigation. The Appellate Division clearly held that it was necessary for Con Ed to obtain a variance from the Village’s Zoning Board of Appeals because it deleted the second decretal paragraph of the Supreme Court’s judgment, which declared that the Zoning Board’s actions in requiring Con Ed to seek a building permit and in attempting to regulate construction of the closed-cycle cooling system are illegal and void, and directed the Zoning Board to issue a variance permitting such construction. It would not have been necessary to direct the issuance of an unnecessary variance. Moreover, it is obvious that this direction was not a mere matter of form because the Appellate Division found that the Village had the authority to “regulate local and incidental conditions relative to the construction of the proposed facility.”⁴⁵

While we have decided, therefore, that a zoning variance or variances from the Village’s Zoning Board of Appeals is a required governmental approval under New York law, that does not put the matter to rest. HRFA argues that the Village is preempted by NEPA and the Supremacy Clause of Article VI of the Constitution from exercising any zoning powers, even if sanctioned by state law, to change the timing for conversion to a closed-cycle cooling system or to dictate the height, structure or location of the cooling tower.

⁴³See *NLRB v. Stafford Trucking, Inc.*, 371 F.2d 244, 249 (7th Cir. 1966); *Southern Ry. v. United States*, 186 F. Supp. 23, 41 (N.D. Ala. 1960) (3 judge ct.), *Susquehanna Corp.*, 44 S.E.C. 379, 387 (1970).

⁴⁴*Atlantic Freight Lines, Inc.*, 51 M.C.C. 175, 186 (Div. 5, 1949). This holding was endorsed by the Supreme Court in *Service Storage & Transfer Co. v. Virginia*, 359 U.S. 171, 177 (1959). In discussing the problem of conflicting decisions on the same question by administrative agencies and courts, Professor Jaffe says: “In cases where an order is directed to future relationships, the decision of that agency which has the major and continuing responsibility should prevail.” L. Jaffe, *Judicial Control of Administrative Action* 135 (1965). In the case at bar, that would mean that this Commission would have the primary responsibility for interpreting the terms of the license which it issued.

⁴⁵Appellate Division’s order of October 25, 1976, at p. 2.

If we were now confronted simply by the Zoning Board of Appeals' decision of June 19, 1975, denying the variances, we would be compelled to hold that its power to make such a decision is preempted by NEPA. For NEPA gave this Commission both the power and the duty to interpret and administer the Atomic Energy Act and its own regulations in accordance with the policies of NEPA.⁴⁶ Among the policies of NEPA are to "fulfill the responsibilities of each generation as trustee of the environment for succeeding generations," to "attain the widest range of beneficial uses of the environment without degradation . . ." and to "enhance the quality of renewable resources. . ."⁴⁷ The requirement to convert eventually to closed-cycle cooling imposed by ALAB-188, though subject to reconsideration on later evidence to be gleaned from the fish mortality studies, was imposed for the purpose of implementing these policies. State or local regulation is preempted where it produces "a result inconsistent with the objective of the Federal statute,"⁴⁸ where it "frustrates the full effectiveness of Federal law,"⁴⁹ or where it "stands as an obstacle to the accomplishment and execution of the full purposes and objectives of Congress."⁵⁰ The Zoning Board's attempt to prevent construction of a cooling tower is preempted under all of these tests. And the fact that there may be some permissible scope for the operation of local zoning laws with respect to nuclear power plants does not matter. "Congressional enactments that do not exclude all state legislation in the same field nevertheless override state laws with which they conflict."⁵¹

However, the case is now in a very different posture. Buchanan, Con Ed and HRFA have been through a long litigation in the New York courts which has produced an order requiring the Zoning Board to issue the variances but giving it power to "regulate local and incidental conditions relative to the construction of the proposed facility," with the caveat that such regulation must be "reasonable" and "not inconsistent with the construction of the proposed facility." If the Zoning Board uses this declaration of its power under state law in such a way as substantially to obstruct or to delay the license conditions imposed on Con Ed by this Commission pursuant to NEPA, then its "regulation" would be preempted by Federal law. However, it is certainly conceivable that this local and

⁴⁶Section 102, 42 U.S.C. § 4332.

⁴⁷Section 101, 42 U.S.C. § 4331.

⁴⁸*Rice v. Santa Fe Elevator Corp.*, 331 U.S. 218, 230 (1947).

⁴⁹*Perez v. Campbell*, 402 U.S. 637, 652 (1971); *accord*, *FPC v. Corporation Commission of Oklahoma*, 362 F. Supp. 522, 536 (W.D. Okla. 1973) (3 judge ct.), *aff'd mem.*, 415 U.S. 961 (1974).

⁵⁰*Jones v. Rath Packing Co.*, 51 L.Ed. 2d 604, 614 (March 29, 1977); *De Canas v. Bica*, 424 U.S. 351, 363 (1976); *Goldstein v. California*, 412 U.S. 546, 561 (1973); *Perez v. Campbell*, 402 U.S. 637, 649 (1971); *Florida Lime & Avocado Growers v. Paul*, 373 U.S. 132, 141 (1963); *Hines v. Davidowitz*, 312 U.S. 52, 67-68 (1941).

⁵¹*Jones v. Rath Packing Co.*, 51 L.Ed. 2d 604, 614 (March 29, 1977).

incidental regulation may be exercised in such a way as not to frustrate compliance with the conditions in the Indian Point 2 license. Federal judicial tribunals have traditionally avoided the decision of Constitutional issues where such decision would have been premature or otherwise unnecessary to the disposition of the case before them. This course of conduct stems from the doctrine that the judiciary's power to interpret the Constitution arises from the need to decide cases.⁵² Where preemption is concerned, there is an even greater reason for restraint—the Federal government has no right to interfere with state law which is otherwise within Constitutional bounds unless it conflicts with Federal law. Thus, in cases where a state statute could be interpreted in such way as to be either consistent or in conflict with Federal law or where an actual conflict between state law in a valid area of state concern and Federal law was possible but had not yet arisen, the Supreme Court has held that the Federal judiciary should stay its hand until such time as the state courts interpret the statute or an actual conflict arises.⁵³ It would therefore be premature to rule at this time on whether the Zoning Board's local and incidental regulation might be preempted by this Commission's license conditions.

That is not to say, however, that the Zoning Board may sit back and continue to block construction of the cooling tower by either inaction or unreasonably restrictive regulation.⁵⁴ Moreover, in view of the long delay already occasioned by the New York litigation, we cannot in good conscience permit this matter to remain in limbo pending final resolution of the appeal in the Court of Appeals. If leave to appeal is granted, such resolution could easily be the better part of a year in coming. And the wait would be pointless because the Court of Appeals could not give the Zoning Board of Appeals any greater powers than those afforded to it by the decision of the Appellate Division and still remain consistent with Federal law. The Appellate Division's decision was issued on October 25, 1976. The Zoning Board of Appeals must have a pretty good idea by now of what kind of local and incidental regulation it wishes to impose under existing local ordinances. If, within 45 days of the service of this order,⁵⁵ it does not issue variances embodying whatever local and incidental regulation of

⁵²See *Marbury v. Madison*, 1 Cranch 137, 177-80 (1803).

⁵³*De Canas v. Bica*, 424 U.S. 351, 363 (1976); *Rice v. Santa Fe Elevator Corp.*, 331 U.S. 218, 237 (1947).

⁵⁴We should note at this point that, for reasons developed in Part III of this opinion, we conclude that Con Ed has exercised due diligence in seeking "all governmental approvals required to proceed with the construction" of the cooling tower. The ensuing discussion in this paragraph takes that conclusion into account.

⁵⁵A copy of this decision is being sent to the attorney who appeared before us on behalf of the Village of Buchanan, which we admitted as *amicus curiae* on this appeal. See ALAB-369, 5 NRC 129 (January 27, 1977). In addition, Con Ed is directed to provide a copy to the Village's Zoning Board of Appeals promptly.

the construction of the cooling tower it desires to effectuate or if it attempts to impose regulation which is inconsistent with the carrying out of the license conditions, any party will be free to come back to the Licensing Board and ask that it find that the Zoning Board of Appeals' inaction⁵⁶ or local and incidental regulation is inconsistent with and hence preempted by Federal law. Should the Licensing Board make such a finding, the Zoning Board's permission to build a cooling tower will no longer be a required governmental approval under paragraph 2.E.(1)(b) of the license. If, on the other hand, the Zoning Board of Appeals acts within 45 days of the service of this order and does so in a manner consistent with the requirements of the operating license, then the Licensing Board shall find that all required governmental approvals have been obtained. In either case, the Licensing Board shall fix a date for the termination of operation with the present once-through cooling system, in accordance with the guidelines set forth in paragraph 2.E.(1)(b) of the license.

III. DUE DILIGENCE

Both HRFA and the staff argue on appeal that Con Ed is not entitled to a postponement of the termination date for operation with once-through cooling under paragraph 2.E.(1)(b) of the license because it did not exercise the "due diligence" required by that paragraph in seeking the variances from the Village of Buchanan's Zoning Board of Appeals.⁵⁷ They argue that Con Ed's presentation to the Zoning Board was a reluctant, half-hearted effort.⁵⁸ More specifically, they maintain that Con Ed should have made a vigorous presentation of the thesis that closed-cycle cooling is needed to prevent serious damage to the fish in the Hudson River and that Con Ed should have argued that the Zoning Board

⁵⁶For the proposition that protracted administrative inaction may be deemed the equivalent of a denial of relief, see *Environmental Defense Fund v. Hardin*, 428 F.2d 1093, 1099 (D.C. Cir. 1970); *Detroit Edison Co. (Greenwood Energy Center, Units 2 and 3)*, ALAB-376, 5 NRC 426, 428 (February 22, 1977).

⁵⁷In its last brief to us, the staff states that it does not object to the Licensing Board's one-year extension of the date to May 1, 1980, because the Board's decision did not issue until November 30, 1976, and the license amendment did not issue until December 1, 1976. HRFA does not make a similar concession. Although these parties did not raise the due diligence issue as a contention below and we normally do not permit parties to raise issues for the first time on appeal, the license requires us to decide this issue as part of the process of determining whether the licensee is entitled to a postponement. Moreover, we could hardly decide it without permitting Con Ed to supplement the record with the evidentiary material it would have submitted if there had been a hearing on it below and without permitting all parties to brief it for us. We therefore invited them to do so.

⁵⁸A transcript of the Zoning Board hearing of May 6, 1975, was sent to us at our request by counsel for the staff. None of the parties objected to our considering it. App. Tr. 100-102, 105. We take official notice of it.

was compelled by both Federal preemption and state statutes to grant the variances.

As for the first point, we think it would have been extremely unfair to expect Con Ed to advocate a factual position before the Zoning Board which it did not believe to be true and which would have been inconsistent with and prejudicial to the position on the fish damage issue which it planned to take before this Commission in support of petitions to delay the conversion date and to remove the conversion requirement altogether from the operating license. We have read Con Ed's presentation to the Zoning Board and we think it fully satisfied the due diligence requirement. It made the case that, irrespective of Con Ed's views on the need for a closed-cycle cooling system, failure to build it will necessitate a shutdown of the reactor unless Con Ed can persuade both this Commission and EPA that such a system is not necessary to protect fish in the river. It pointed out, that, despite its hope to change the Commission's mind on the matter, the variances must be obtained because conversion is required by the present license. Both the Supreme Court, Westchester County and the Appellate Division, Second Department held that this presentation laid a sufficient basis for an order compelling the Zoning Board to grant permission to build the tower. We therefore cannot fault Con Ed for a lack of diligence in making it.

Nor can we agree that the dictates of diligence required Con Ed to present to the Zoning Board of Appeals the argument that Federal preemption and the doctrine of public utility necessity enshrined in two New York statutes⁵⁹ required the Board to grant the variances as a matter of law. For it is the law of New York that zoning boards of appeals do not have jurisdiction to pass upon the constitutionality or legality of a zoning ordinance as applied in a particular case; that is a matter reserved for the exclusive judgment of the courts.⁶⁰ Making these arguments to the Zoning Board would therefore have been a futile effort.

Although the Zoning Board hearing is the only matter with respect to which the parties have charged Con Ed with a lack of due diligence, we have examined closely two other aspects of Con Ed's conduct which at first blush raised some question of diligence in our minds.

The first of these is Con Ed's concession at the argument before the Appellate Division that Buchanan does have the right to exercise local and incidental regulation over the construction of the cooling tower.⁶¹ We have examined the

⁵⁹New York Public Service Law §65, sub. 1; New York Transportation Corporations Law §11, sub. 3.

⁶⁰*Baddour v. City of Long Beach*, 18 N.E. 2d 18, 22 (N.Y. Ct. of Appeals 1938), *appeal dismissed*, 308 U.S. 503 (1939); *Consolidated Edison Co. v. Village of Briarcliff Manor*, 144 N.Y.S. 2d 379, 383 (Sup. Ct., Westchester County 1955).

⁶¹See App. Tr. 20-21.

cases in this area and have concluded that there is substantial basis in New York law for the making of this concession. Therefore, we cannot say that it was unreasonable to make it. Indeed, any experienced litigator knows that conceding a point which would be lost anyway is usually a wise tactical move because it increases one's credibility with the court.

The second matter concerns the currently effective stay of the Appellate Division's decision. CPLR §5519(a)(1)⁶² provides for an automatic stay of proceedings to enforce the judgment or order appealed from pending appeal or determination of a motion for permission to appeal where "the appellant or moving party is the state or any political subdivision of the state or any officer or agency of the state or of any political subdivision of the state. . . ." In the New York litigation on judicial review of the Buchanan Zoning Board decision, this automatic stay provision operated to stay the Appellate Division's order. However, CPLR §5519(c) gives a party the right to move to vacate such an automatic stay. In our order of February 10, 1977, we asked Con Ed to tell us in its supplementary brief whether it had made such a motion in the case pending against the Zoning Board in the Court of Appeals and, if not, why not.

By way of response, Con Ed first states that the initial steps in a tower construction program would be execution of contracts, clearing of land and commencement of excavation. It argues that these activities would not require a variance and therefore are not affected by the stay. It might have had difficulty, therefore, in showing a need to lift the stay. However, Con Ed makes too much of this when it goes on to say that an attempt to compel the issuance of a variance while the appeal is pending would be frivolous. Con Ed was the winning party and would have been able to show a strong public interest in implementing the Commission's license condition. It also should have been able to show substantial harm which might inure to itself in the long run as a result of the Zoning Board's refusal to grant the variances and, as we can see from the length of time it has already taken to get a determination as to whether the appeal will be heard, the adjudication of an appeal on the merits could be expected to take a substantial amount of time. Although the Village might have been able to show substantial harm to itself resulting from a lifting of the stay, the outcome of a motion to vacate the stay would have been difficult to predict and hence hardly frivolous.

But even if such a motion would not have been frivolous, the critical question for our purposes is whether the license required Con Ed to make it. We believe that it did not. The license condition requires due diligence in seeking "all governmental approvals required to proceed with the construction of the closed-cycle cooling system." A mandatory order requiring the issuance of variances subject to reversal on a pending appeal is not an approval. It is merely

⁶²"CPLR" is the commonly accepted abbreviation for the New York Civil Practice Law and Rules.

permission to start construction at one's own risk while the question of approval of construction is being litigated. It was not our intention in putting the due diligence requirement into the license to penalize the licensee if it did not voluntarily place itself into this type of jeopardy.

One more thing should be said before leaving the subject of due diligence. It was unfortunate that the Licensing Board chose to issue an opinion in this case before permitting Con Ed to be heard on the due diligence issue. While the Board did not find it necessary to rule definitively on the issue, it did comment on it in a manner which cast aspersions on Con Ed and which might be thought to have prejudiced the issue should it have to be reached at some future time. In this case, this fundamental unfairness (which bordered on the edge of a denial of due process) proved harmless because, by agreement among the parties, all the relevant evidence was considered and all parties were heard on appeal. But it is important that, in future, licensing boards take pains to ensure that parties are fully heard before substantial issues are decided against them. While we realize that the Licensing Board here did not purport actually to decide the issue, to indicate its opinion on it in a decision before all parties were heard from, and the evidence was in, was conduct which does not inspire confidence in the justice and impartiality of our proceedings.

Conclusion

With the exception of the Licensing Board's finding that the closed-cycle natural-draft, wet cooling tower system is the preferred type of closed-cycle cooling system for installation at Indian Point, Unit No. 2,⁶³ its orders of November 30 and December 27, 1976, are *reversed*. The operating license should be amended to provide that the termination date for operation of the plant with the once-through cooling system will be fixed by the Licensing Board in future proceedings consistent with this opinion. This decision is without prejudice to the merits of any applications for deferral of that date or elimination of the conversion requirement which are pending before the Licensing Board.

It is so ORDERED.

FOR THE ATOMIC SAFETY AND
LICENSING APPEAL BOARD

Romayne M. Skrutski
Secretary to the Appeal Board

⁶³As we noted, at p. 1160, *supra*, with respect to this issue, the Licensing Board approved what had been stipulated to by the parties. The issue was therefore beyond the scope of the exceptions filed with us. However, in view of the fact that one of the non-parties objecting to this type of cooling system by means of a limited appearance was the Village of Buchanan, our *sua sponte* review of this issue and the record underlying it have been done with special care. In our view, the finding is adequately supported by the record.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Alan S. Rosenthal, Chairman
Michael C. Farrar
Jerome E. Sharfman

In the Matter of

Docket No. P-564-A

PACIFIC GAS AND ELECTRIC COMPANY

(Stanislaus Nuclear Project,
Unit No. 1)

May 20, 1977

Upon appeal by applicant from LBP-77-26, 5 NRC 1017, which granted three petitions seeking leave to intervene and accordingly ordered an antitrust hearing and which declined on jurisdictional grounds to consider applicant's motion for summary judgment, the Appeal Board summarily affirms on the basis of the Licensing Board's opinion.

RULES OF PRACTICE: APPELLATE REVIEW

The single exception to the prohibition against interlocutory appeals is contained in 10 CFR §2.714a, which allows an interlocutory challenge only to the grant or total denial of an intervention petition. Deferral of action on, or denial of, a motion for summary judgment does not come within that classification.

LICENSING BOARD: JURISDICTION

An "intervention" Licensing Board, convened solely to rule on petitions and/or requests for leave to intervene, lacks jurisdiction to consider filings going to the merits of the controversy; this authority rests with the "hearing" Licensing Board convened to conduct the evidentiary hearing.

Messrs. Morris M. Doyle, Terry J. Houlihan, William H. Armstrong, Philip A. Crane, Jr., Glenn West, Jr., San Francisco, California, for the applicant, Pacific Gas and Electric Company

DECISION

By its April 15, 1977, memorandum and order,¹ the Licensing Board granted the petitions of the Northern California Power Agency, the California Department of Water Resources and two California municipalities (Anaheim and Riverside) seeking leave to intervene and an antitrust hearing in this proceeding involving Unit No. 1 of the Stanislaus Nuclear Project. The applicant appeals under 10 CFR §2.714a. The appeal is directed not only to the grant of intervention but also to the declination of the Licensing Board, for jurisdictional reasons, to pass judgment in the order upon a motion for summary disposition which the applicant had filed along with its response to the petitions.

We summarily affirm on the basis of the opinion of the Licensing Board, with which we find ourselves in essential agreement.² Although we might well leave it at that, some of the arguments advanced by the applicant justify a few additional words in reinforcement of what was said by the Board below.

The applicant makes much of the fact that, in an endeavor to avoid an antitrust hearing at the instance of the Department of Justice, it had acquiesced (following negotiations with that Department) in the imposition of certain license conditions. But the petitioners consider these conditions to be inadequate to deal with a situation inconsistent with the antitrust laws which they allege would be created or maintained by the activities under the Stanislaus license, and have identified the further relief which they deem appropriate. An examination of the specific averments of the several petitions convinces us that the Board below correctly concluded that the pleading requirements in antitrust matters which were laid down by us in *Wolf Creek*³ have been fully satisfied here. This being so, the grant of the petitions was obligatory.⁴

It does not necessarily follow, of course, that the pivotal allegations of the petitions have substance or even that an *evidentiary* hearing must be held to determine their substantiality. There remains for Licensing Board consideration the applicant's motion for summary disposition. A grant of that motion would

¹ LBP-77-26, 5 NRC 1017.

² The other parties were relieved by us of the obligation to respond to the applicant's brief.

³ See *Kansas Gas & Electric Co.* (Wolf Creek Generating Station, Unit No. 1), ALAB-279, 1 NRC 559 (1975), and ALAB-299, 2 NRC 740 (1975).

⁴ The joint petition of the two California municipalities had been belatedly filed but the Licensing Board found upon analysis (5 NRC at 1034-1036) the existence of "a substantial showing of good cause for failure to file on time" within the meaning of 10 CFR §2.714(a) as construed in *Nuclear Fuel Services, Inc.* (West Valley Reprocessing Plant), CLI-75-4, 1 NRC 273 (1975). In its brief, the applicant does not address the analysis directly but rather simply refers us to arguments advanced in the answer to the intervention petition which it had filed below.

Continued on next page

bring the proceeding to an end (subject to the exercise by the petitioners of their appellate rights).

Needless to say, whether the applicant is entitled to summary disposition is not a matter now before us; indeed, the responses to the motion are yet to be filed below. As earlier noted, however, we are confronted with the applicant's attack upon the declination of the Licensing Board to decide the motion in conjunction with its action on the intervention petitions.

In mounting that attack, the applicant has accorded insufficient effect to the general proscription against interlocutory appeals which is contained in 10 CFR §2.730(f). We have previously had occasion to stress that Section 2.714a represents the single exception to that proscription. See *e.g.*, *Public Service Co. of Oklahoma* (Black Fox Station, Units 1 and 2), ALAB-370, 5 NRC 131 (1977), and cases there cited. On its face, the section allows an interlocutory challenge only to the grant or the total denial of an intervention petition. Deferal of adjudicatory action on a motion for summary disposition obviously does not come within that classification.⁵

In any event, the Board below correctly held that it lacked jurisdiction to pass upon the motion. The role assigned to the Board at the time of its establishment by the Chairman of the Licensing Board Panel was a narrow one: "to rule on petitions and/or requests for leave to intervene in [this] proceeding." 41 Fed. Reg. 26081 (June 24, 1976). The Board was not given the additional authority to proceed beyond that assignment and to entertain filings going to the merits of the controversy between the petitioners and the applicant.

In thus confining the area of responsibility of the Board, the Licensing Board Panel Chairman was adhering to firmly rooted Commission practice. In virtually

Continued from previous page.

More often than not, the mere incorporation by reference in an appellate brief of what was contained in a filing on the trial level will prove most unhelpful. For rarely will the precise reasoning of the trial tribunal on the point in question turn out to have been anticipated to such a degree that what was told *to* that tribunal will serve as an adequate response to what is thereafter said *by* it. In the present case, we do not find the applicant's papers submitted to the Licensing Board to constitute a sufficient rejoinder to the Board's conclusions on the lateness matter. Be that as it may, we accept the Board's analysis as fundamentally sound and also find no reason to overturn its further determination (likewise disputed by the applicant on the appeal) that the municipalities have established the requisite standing.

⁵"[A] protracted withholding of action on a request for relief may be treated as tantamount to a denial of the request." *Detroit Edison Co.* (Greenwood Energy Center, Units 2 and 3), ALAB-376, 5 NRC 426, 428 (1977). Even if this principle were applicable on the facts here, the result would be the same. For the denial of summary disposition is also interlocutory and thus not within the purview of Section 2.714a. *Louisiana Power and Light Co.* (Waterford Steam Electric Generating Station, Unit 3), ALAB-220, 8 AEC 93, 94 (1974), citing *Switzerland Cheese Asso. v. Horne's Market*, 385 U.S. 23 (1966).

all NRC proceedings in which a hearing is not mandatory but rather is dependent upon a successful intervention petition being filed in response to the published notice of *opportunity* for hearing, an "intervention" licensing board is especially established for the sole purpose of passing upon such petitions as may have been filed. If that board denies each and every petition placed before it, absent appellate reversal no further adjudicatory action need be taken. Should, however, at least one petition be granted in whole or in part, thus giving rise to the necessity for adjudication of the merits of the issues presented therein, a discrete licensing board is then established to perform that function. See *Mississippi Power and Light Co.* (Grand Gulf Nuclear Station, Units 1 and 2), ALAB-130, 6 AEC 423, 424 fn. 2 (1973).⁶

The second or "hearing" board may or may not have the same composition as the "intervention" board which preceded it. This determination is made by the Chairman of the Licensing Board Panel when and if the occasion arises and will depend upon, among other things, his appraisal of the continuing availability of the members of the "intervention" board. Although a particular Licensing Board Panel member may be in a position to devote the relatively limited time required to decide whether an intervention petition or petitions should be granted, his overall caseload may be such as to preclude his commitment of the potentially much greater amount of time which hearing the merits would entail.

In the totality of circumstances, we think the settled division of jurisdiction between "intervention" and "hearing" boards to be as sensible as it is venerable and therefore reject out-of-hand the applicant's claim to the contrary.⁷ All that need be added is that, notwithstanding the applicant's dark forebodings respecting "delay" in an "era of increasing energy shortages," there is every reason to assume that the summary disposition motion will be considered with appropriate dispatch. A special prehearing conference is now scheduled for July 8, 1977. The motion is on the agenda and the other parties must respond to it prior to that date.⁸

⁶ *Grand Gulf* also laid to rest the notion, which this applicant nonetheless seeks to resurrect, that an intervention petition may not be granted unless its crucial allegations are first expressly determined to be well founded by the board passing upon it. 6 AEC at 426.

⁷ The claim appears to rest entirely upon the happenstance that, in this instance, the members of the "intervention" Board have been designated to serve as the "hearing" Board. But, at the time the former Board acted on the petitions, the composition of the "hearing" Board had not as yet been determined by the Licensing Board Panel Chairman. And properly so. For it was the grant of the petitions which triggered the need to establish a board to hear the cause.

⁸ The special prehearing conference was initially scheduled for June 8. A one-month postponement was ordered by the Licensing Board on the motion of all intervenors and the NRC staff. The applicant interposed no objection to the postponement.

The grant of the intervention petitions here involved is *affirmed* for the reasons assigned by the Licensing Board in its April 15, 1977, memorandum and order.

It is so ORDERED.

FOR THE ATOMIC SAFETY AND
LICENSING APPEAL BOARD

Romayne M. Skrutski
Secretary to the Appeal Board

Concurring opinion of Mr. Sharfman:

In my judgment, petitioners' pleadings were sufficient to warrant intervention. With respect to the late intervention of the Cities of Anaheim and Riverside, it appears:

- (1) that their intervention would neither significantly broaden the issues nor substantially delay the proceeding;
- (2) that the Cities legitimately desire that relief should be granted to them and not merely to other intervenors;
- (3) that although a similar antitrust suit in the Federal courts would be sufficient to protect the Cities' interests, it would be duplicative, onerous and needlessly expensive; and
- (4) that the Cities may reasonably be expected to assist in the development of a sound record.

I therefore conclude that the Licensing Board acted correctly in granting their petition to intervene.

As to the deferral of action on the motion for summary disposition, I join in the views of my colleagues.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING APPEAL PANEL

Dr. John H. Buck, Vice-Chairman

In the Matter of

Docket No. STN 50-437

OFFSHORE POWER SYSTEMS

(Manufacturing License for
Floating Nuclear Power Plants)

May 20, 1977

Application for review of procedural ruling by Licensing Board denied as interlocutory under 10 CFR §2.730(f); no cause found to exercise discretionary review authority under 10 CFR §2.718(i).

Mr. Harold P. Green and Ms. Rebecca A. Donnellan, Washington, D. C., for intervenor, City of Brigantine.

MEMORANDUM AND ORDER

The intervenor City of Brigantine has filed an "application for review" of a ruling of the Licensing Board concerned with the scheduling of the taking of evidence on a certain environmental contention identified as "Atlantic County Contention No. 1." The ruling is obviously interlocutory in character and, as such, not appealable as a matter of right. 10 CFR §2.730(f). Although the City's application does not ask us to invoke our discretionary authority under 10 CFR §2.178(i) to review the ruling,¹ it is clear in any event that there would be no cause to exercise that authority here. See *Public Service Co. of Indiana* (Marble Hill Nuclear Generating Station, Units 1 and 2), ALAB-393, 5 NRC 767 (April 26, 1977), and cases there cited.

The City's application must therefore be denied. This action carries with it no implications about the merits of the interlocutory ruling which the City seeks to bring into question; nor does it preclude a further endeavor to obtain Licensing Board reconsideration. See ALAB-393, *supra*, 5 NRC at 768.

¹ See *Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), ALAB-271, 1 NRC 478 (1975).

Application review *denied*.
It is so ORDERED.

**FOR THE ATOMIC SAFETY AND
LICENSING APPEAL BOARD**

**Romayne M. Skrutski
Secretary to the Appeal Board**

This action was taken by the Appeal Panel Vice-Chairman under the authority of 10 CFR §2.787(b), the Panel Chairman having elected for the present to take no part in any action pertaining to this proceeding.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Alan S. Rosenthal, Chairman
Dr. W. Reed Johnson
Jerome E. Sharfman

In the Matter of

Docket Nos. STN 50-556
STN 50-557

PUBLIC SERVICE COMPANY OF OKLAHOMA
ASSOCIATED ELECTRIC COOPERATIVE, INC.
WESTERN FARMERS ELECTRIC COOPERATIVE
INC.

(Black Fox Station, Units 1 and 2)

May 25, 1977

The Appeal Board denies the request of a petitioner for intervention for reconsideration of so much of ALAB-397, 5 NRC 1143, as reversed the discretionary grant by the Licensing Board of her petition.

Mrs. Roberta Ann Paris Funnell, Oklahoma City, Oklahoma, *pro se*.

MEMORANDUM AND ORDER

Mrs. Roberta Ann Paris Funnell has asked us to reconsider so much of ALAB-397, 5 NRC 1143 (May 9, 1977), as reversed the discretionary grant by the Licensing Board of her petition for leave to intervene in this construction permit proceeding involving the proposed Black Fox nuclear facility. We have examined the assertions which she has put forth in support of her request for such relief and find no cause to alter the result previously reached by us.

Beyond that, these assertions come too late in the day. Everything that Mrs. Funnell now tells us could have been just as readily said in a submission in response to the applicants' brief in support of their appeal from the Licensing Board's order admitting her to the proceeding. Yet, for reasons which have gone unexplained, she chose not to respond to the appeal at all. Making all due allowance for the consideration that she is not represented by counsel, it nonetheless appears to us that a party who eschews the opportunity to participate on

an appeal affecting her interests is in no position later to complain if the outcome is not to her liking. In this connection, it is reasonable to suppose that Mrs. Funnell was aware of her entitlement under 10 CFR §2.714a to file a brief;¹ at the very least, there was an obligation on her part to make an inquiry respecting her rights and when they had to be exercised.

We need add only that Mrs. Funnell's attack upon ALAB-397 is not aided by her fleeting reliance on the fact that she alone advanced a contention related to the handling, disposal and environmental effects of radioactive wastes. Since the Licensing Board reserved judgment on whether she should be allowed to participate as a matter of discretion on that contention, we explicitly refrained from addressing the matter in ALAB-397 on the ground that it was "not now before us." 5 NRC at 1151, fn. 15.

Reconsideration *denied*.
It is so ORDERED.

FOR THE ATOMIC SAFETY AND
LICENSING APPEAL BOARD

Margaret E. Du Flo
Secretary to the Appeal Board

¹That she has access to the Rules of Practice seems apparent from the specific reference in her petition for reconsideration to the section (10 CFR §2.771) authorizing such a petition.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Jerome E. Sharfman, Chairman
Richard S. Salzman
Dr. W. Reed Johnson

In the Matter of

Docket Nos. STN 50-508
STN 50-509

WASHINGTON PUBLIC POWER
SUPPLY SYSTEM

(WPPSS Nuclear Project,
Nos. 3 and 5)

May 26, 1977

The Appeal Board, on the basis of *sua sponte* reviews, affirms LBP-77-25, 5 NRC 964, and LBP-77-31, 5 NRC 1247.

DECISION

On April 8, 1977, the Licensing Board rendered a partial initial decision in this construction permit proceeding involving WPPSS Nuclear Project, Nos. 3 and 5.¹ On the basis of this decision, the staff issued a limited work authorization. On May 10, 1977, the Licensing Board issued a supplemental partial initial decision authorizing an amendment to the limited work authorization permitting the development and use of the Saginaw Spur laydown area.² Exceptions were not filed to either of these decisions within the time prescribed by 10 CFR §2.762(a). On May 20, 1977, we extended our time for review of the first decision.

We have now completed, *sua sponte*, reviews of both decisions. We have found no error warranting corrective action. The decisions are therefore *affirmed*.

It is so ORDERED.

FOR THE ATOMIC SAFETY AND
LICENSING APPEAL BOARD

Margaret E. Du Flo
Secretary to the Appeal Board

¹ LBP-77-25, 5 NRC 964.

² LBP-77-31, 5 NRC 1247.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Michael C. Farrar, Chairman
Richard S. Salzman
Dr. W. Reed Johnson

In the Matter of

Docket No. 50-389

FLORIDA POWER & LIGHT COMPANY

(St. Lucie Nuclear Power Plant,
Unit No. 2)

May 31, 1977

Upon intervenors' requests (1) for expeditious consideration of their motion for a stay pending appeal of the Licensing Board's Initial Decision, LBP-77-27, 5 NRC 1038, authorizing issuance of a construction permit, and (2) for an emergency stay of the effectiveness of the construction permit pending disposition of their stay motion, the Appeal Board adopts an expedited schedule for briefing and oral argument but declines to issue an immediate stay.

RULES OF PRACTICE: STAY PENDING APPEAL

It is an appropriate practice first to seek a stay of an initial decision from the Licensing Board.

RULES OF PRACTICE: STAY PENDING APPEAL

In assessing a request for an emergency stay pending final disposition of a stay motion, NRC adjudicatory boards must consider the four factors enumerated in *Virginia Petroleum Jobbers Ass'n v. FPC*, 259 F.2d, 921, 925 (D.C. Cir. 1958).

RULES OF PRACTICE: STAY PENDING APPEAL

Where an underlying appeal questions the correctness of the selected site for a nuclear facility, adjudicatory boards in ruling on a stay motion must consider whether allowing construction pending appeal seriously prejudices the consideration of alternate sites.

RULES OF PRACTICE: STAY PENDING APPEAL

Where none of the other factors favor the movant, and particularly where there is an absence of irreparable injury, an overwhelming showing of likelihood of success on the merits must be made in order to obtain a stay.

Mr. Martin Harold Hodder, Miami, Florida, *pro se*, and as counsel for Rowena E. Roberts, *et al*, intervenors.

MEMORANDUM AND ORDER

In its April 19, 1977, initial decision (LBP-77-27, 5 NRC 1038), the Licensing Board authorized the issuance of a permit for the construction of a second nuclear unit at the applicant's St. Lucie site on Florida's east coast.¹ The construction permit was issued on May 2, 1977, while the Board below was considering the intervenors' motion for a stay pending the outcome of their appeal to us.² The Licensing Board denied that motion on May 11, 1977. On May 23, 1977, the intervenors renewed their stay motion before us.³

The intervenors have asked us to give expedited consideration to their request for a stay pending the outcome of their appeal and to afford them the opportunity for oral argument on that request. Because in any event some time will elapse before we can act on the "long-term" stay motion, the intervenors have also asked us to issue immediately an emergency stay of the effectiveness of the construction permit.

1. The intervenors' suggestions as to how we might handle their long-term stay request are well taken. Accordingly, we informed the parties by telephone last Thursday that the following schedule will be in effect:

¹ Earlier Licensing Board decisions had authorized the grant of a limited work authorization. LBP-75-5, 1 NRC 101 (1975); LBP-75-25, 1 NRC 463 (1975). Although we reversed those decisions in part, we decided—by divided vote—to let the LWA stand pending the outcome of further proceedings before the Licensing Board. ALAB-335, 3 NRC 830 (1976). That ruling was overturned by the Court of Appeals in an unpublished order. *Hodder v. NRC* (D.C. Cir. October 21, 1976, Docket No. 76-1709). The court has since dissolved its stay of the LWA in light of the completion of the proceedings on remand (unpublished order, May 12, 1977).

² At the same time that they sought a stay from the Board below, the intervenors noted an appeal on the merits by filing with us exceptions to the initial decision. By first seeking a stay from the Licensing Board, the intervenors were following the practice which we have repeatedly stressed is appropriate. *Public Service Co. of New Hampshire* (Seabrook Units 1 and 2), ALAB-338, NRCI-76/7 10, 12 (1976); *Toledo Edison Co.* (Davis-Besse Units 1, 2 and 3), ALAB-364, 5 NRC 35 (1977); *Consumers Power Co.* (Midland Units 1 and 2), ALAB-395, 5 NRC 772, 785 (April 29, 1977).

³ The intervenors' brief on the merits of their appeal reached us last Thursday, at the same time as did their accompanying stay motion.

(1) in order to expedite matters and in light of the location of counsel's offices, the applicant's and staff's replies to the motion for a stay pending appeal are to be in the hands of the Board by 4:00 p.m. on Thursday, June 2, 1977, and in the hands of the intervenors' counsel by the close of business on Friday, June 3, 1977; (2) oral argument on the motion for a stay pending appeal will be held at 10:00 a.m. on Wednesday, June 8, 1977, in the Commission's public hearing room on the 5th floor of the East-West Towers Building, 4350 East West Highway, Bethesda, Maryland.

Each side will be allotted one hour for the presentation of argument. The applicant and the staff shall divide their time equally in the absence of agreement between them as to some other allocation.

2. Under the expedited schedule we have set at the intervenors' request, oral argument will be held on their motion for a stay pending appeal less than two weeks after our receipt of their request for that relief. Our decision on that long-term stay must abide the briefing and argument schedule. Whether we should stay construction in that two-week interim, however, must be decided now. This requires us to consider the standards laid down in *Virginia Petroleum Jobbers Ass'n. v. Federal Power Commission*, 259 F. 2d 921, 925 (D. C. Cir. 1958), in that time frame.⁴ For the reasons outlined below, we decided that emergency relief was not warranted under those standards.⁵ We so advised the parties by telephone last week, and informed them that this explanatory opinion would follow.

(1) **Irreparable injury.** The factor which proved uppermost in our deliberations was the absence of any irreparable injury that would be suffered by the intervenors were the request for an immediate stay to be denied. The claims of irreparable injury which they do present involve primarily the threat to their safety which they perceive would stem from plant *operation*. But the matter now before us involves the consequences of the early stages of plant *construction*; operation is literally years in the future. We do not perceive how construction will cause the intervenors any harm at all.

The intervenors do mention—but only in passing and then in the most general terms—the possible adverse environmental effects of early construction activity. But because St. Lucie is not a virgin site (one nuclear reactor has already been constructed there), the early stages of construction do not pose the

⁴It is well settled that the four *Virginia Petroleum Jobbers* criteria ordinarily govern disposition of stay motions. *Natural Resources Defense Council*, CLI-76-2, 3 NRC 76, 78 (1976); *Seabrook*, ALAB-338 (*supra*, fn. 2), NRCI-76/7 at 13; *Midland*, ALAB-395 (*supra*, fn. 2), 5 NRC at 778-779.

⁵The matter being exigent, we did not require the applicant and staff to respond on the question of emergency relief but instead gleaned their position on that question from the papers they filed below in opposition to the stay.

environmental threat that might exist at some other, previously undisturbed, site.⁶ In the absence of some specific showing of immediate, particular environmental impact, we cannot conclude that there will be any—much less irreparable—injury suffered.

The intervenors do refer to the possibility that their position on the merits of the case—*i.e.*, that alternative sites are preferable to St. Lucie—would be jeopardized by permitting construction to go forward. This point can be a strong one, for the larger the commitment of resources to one site, the less likely it is that an alternative site will remain feasible.⁷ Because, as we have said only recently, “there is a public—as well as a private—interest in the fairness of the decision-making process,”⁸ we discuss the intervenors’ argument in connection with the other public interest considerations which are involved here (see point 3, *infra*).

(2) **Injury to the other parties.** In contrast, if we grant the emergency stay the utility company stands to suffer delay, with its accompanying monetary costs and impact upon the ultimate completion date of the facility. Although these burdens may not be enormous in the short term, they do exist and militate against granting the stay.

The intervenors would counter this factor by arguing that the grant of a stay, rather than harming the applicant, may prove beneficial by protecting it from expenditures which will turn out to be wasted if the grant of a construction permit is ultimately set aside. Although this is true, and it is understood that the investment to be made by the applicant is at its own risk,⁹ the intervenors will not be heard to make an argument of this nature. See *Virginia Petroleum Jobbers, supra*, 259 F.2d at 926-27. Having thus far been given the green light to proceed, it is for the applicant to decide whether financial considerations make it wise for it to do so.

(3) **The public interest.** We have already referred (p. 1188, *supra*) to the fact that the decision-making process can be prejudiced by a commitment of resources to a project. Particularly where, as here, an alternative site contention is being vigorously pursued, permitting construction to go forward could, at least theoretically, alter the outcome. Accepting that to be true, all we must decide now is whether allowing construction to go forward for the next two weeks—the time needed to hear from the other side and to hold oral argument—is likely to

⁶ Compare *Northern Indiana Public Service Co.* (Bailly Nuclear-1), ALAB-192, 7 AEC 420, 421 (1974).

⁷ See *Public Service Co. of New Hampshire* (Seabrook Units 1 and 2), CLI-77-8, 5 NRC 503, 531-534 (March 31, 1977); *Vermont Yankee Nuclear Power Corp.* (Vermont Yankee Station), ALAB-392, 5 NRC 759, 761-764 (April 21, 1977); *Midland*, ALAB-395 (*supra*, fn. 2), 5 NRC at 779.

⁸ *Midland*, ALAB-395 (*supra*, fn. 2), 5 NRC at 780.

⁹ *Southern California Edison Co.* (San Onofre Units 2 and 3), ALAB-268, 1 NRC 383, 401 (1975).

be prejudicial. Intervenor has not shown that it would. For substantial advance site preparation work was done here in conjunction with the building of the first unit. That work may have already irretrievably altered the balance against any alternative site; but nothing more that might occur in the next fortnight is likely to do so.

In other respects, the public interest factor does not aid the intervenors.¹⁰ Their claims were fully litigated before the Board below, which rejected them on the merits. Because we are unable to say on the basis of intervenors' *ex parte* papers that we should disturb the presumption of validity that attaches to the conclusions of that Board (see point 4, *infra*), we are left with its view that the public interest will be served best by the award rather than the rejection of the construction permit. See *Coleman v. PACCAR, Inc.*, 424 U.S. 1301, 1306 (Rehnquist, Circuit Justice, 1977).

(4) **Probability of success on the merits.** In light of what we have said in connection with the other three factors, particularly the absence of irreparable injury, it would take an overwhelming showing of likelihood of success on the merits for the intervenors to obtain an immediate stay. The hasty review which we have been able to give their motion papers has not convinced us that the merits are clearly in their favor. By the same token, however, we cannot say that their position is devoid of merit; this is one reason that we called for expedited consideration of, and oral argument on, their long-term stay motion. We will be in a much better position after that argument to evaluate, at least on a preliminary basis, the likelihood of success on the merits.

For the foregoing reasons, the intervenors' motion for an immediate stay of the effectiveness of the construction permit is *denied*.¹¹ Further proceedings on their motion for a stay pending appeal shall be in accordance with the schedule set out in this opinion.

It is so ORDERED.

FOR THE ATOMIC SAFETY AND
LICENSING APPEAL BOARD

Romayne M. Skrutski
Secretary to the Appeal Board

¹⁰No claim is made here that the public interest will suffer by virtue of the irretrievable loss of any valuable natural resource as a result of early construction activity.

¹¹We stress that, because of the emergency character of the matter under consideration in this opinion, the conclusions we have reached on the four factors are necessarily based on only a cursory analysis of the parties' positions. Although the same four factors will control our decision on the long-term stay, our conclusions are fully open to reconsideration based on what we are told in the forthcoming papers and at oral argument. By explicating our preliminary views now, we hope not only to provide the parties with the reasons for our decision but also to assist them in determining which matters need to be emphasized or further developed in their oral arguments.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Richard S. Salzman, Chairman
Dr. John H. Buck
Michael C. Farrar

In the Matter of

Docket Nos. STN 50-546
STN 50-547

**PUBLIC SERVICE COMPANY OF
INDIANA, INC.**

**(Marble Hill Nuclear Generating
Station, Units 1 and 2)**

May 31, 1977

The Appeal Board declines to accept the Licensing Board's referral under 10 CFR §2.730(f) of its order (LBP-77-4, 5 NRC 433) ruling that co-owners of a nuclear facility must be co-applicants.

RULES OF PRACTICE: INTERLOCUTORY APPEALS

The Appeal Board reserves the exercise of its discretionary authority to review interlocutory orders to circumstances where prompt appellate consideration is important; generally these involve situations where the ruling below threatens a party with immediate and serious irreparable harm which, as a practical matter, cannot be redressed on appeal at the end of the case.

RULES OF PRACTICE: INTERLOCUTORY APPEALS

Conflict between the decisions of two Licensing Boards does not necessarily justify interlocutory appellate review.

MEMORANDUM AND ORDER

Earlier this year, the Licensing Board presiding over this construction permit proceeding ruled that all the proposed co-owners of the Marble Hill facility had to become co-applicants with the "lead" applicant, Public Service Company of Indiana. LBP-77-4, 5 NRC 433 (1977). Two days later, the Board referred its "co-applicant" ruling to us for interlocutory review. Its stated reason for doing

so was that another Licensing Board had reached the contrary result in a different proceeding and had referred its ruling to us. 5 NRC at 436, citing *Omaha Public Power District* (Fort Calhoun, Unit 2), LBP-77-5, 5 NRC 437 (1977).¹ The Board below also decided that, by virtue of its ruling on the co-applicant question and a change in the ownership interests to be held by the various utilities involved, an amended notice of hearing had to be issued and the then-imminent start of the hearing postponed. 5 NRC at 434. We stepped in at that point and, expressing the view that there appeared to be issues independent of the ownership questions which could be heard at an early date, directed the Board to reevaluate its postponement order. ALAB-371, 5 NRC 409, *on reconsideration*, ALAB-374, 5 NRC 417 (1977). At the same time, we deferred decision on whether to accept the referral of the merits of the co-applicant question. ALAB-371, *supra*, 5 NRC at 410, 412. We also announced that if we accepted the referral we would proceed primarily on the basis of the briefs filed below. In that connection, however, we did instruct the parties to file additional briefs on two points. *Ibid.*

We have now decided to decline the referral, as we have done in other cases.² The reasons why we must do so are easy to understand. Our present workload permits us to take only the most pressing questions for interlocutory review. For this reason, we have of late often denied requests from the parties that we direct certification of questions they believed important.³ We likewise cannot accept referrals from the Licensing Board without ourselves evaluating the need for prompt appellate review.

In this regard the co-applicant question does not come to us in circumstances which justify our involvement at this time. For one thing, as noted above, the referral order itself was based on the fact that a contrary ruling had

¹ In ruling that co-owners did not have to become co-applicants, the *Fort Calhoun* Board had essentially adopted the reasons put forth by counsel for the applicant in that case, who also represents the lead applicant here.

² *Commonwealth Edison Co.* (Zion, Units 1 and 2), ALAB-116, 6 AEC 258 (1973); *Public Service Co. of New Hampshire* (Seabrook, Units 1 and 2), ALAB-293, 2 NRC 660 (1975).

³ See *Puerto Rico Water Resources Authority* (North Coast, Unit 1), ALAB-313, 3 NRC 94 (February 24, 1976); *Toledo Edison Co.* (Davis-Besse, Unit 1), ALAB-314, 3 NRC 98 (February 26, 1976); *Long Island Lighting Co.* (Jamesport, Units 1 and 2), ALAB-318, 3 NRC 186 (March 16, 1976); *Project Management Corp.* (Clinch River Breeder), ALAB-326, 3 NRC 406 (April 19, 1976) and ALAB-330, 3 NRC 613 (May 12, 1976); *reversed*, CLI-76-13, NRCI-76/8 67 (1976); *Consumers Power Co.* (Midland, Units 1 and 2), ALAB-344, NRCI-76/9 207 (September 3, 1976); *Long Island Lighting Co.* (Jamesport, Units 1 and 2), ALAB-353, NRCI-76/10 381 (October 28, 1976); *Puerto Rico Water Resources Authority* (North Coast, Unit 1), ALAB-361, NRCI-76/12 625 (December 28, 1976); *Consumers Power Co.* (Midland, Units 1 and 2), ALAB-382, 5 NRC 603 (March 18, 1977); *Public Service Co. of Indiana* (Marble Hill, Units 1 and 2), ALAB-393, 5 NRC 767 (April 26, 1977); *Offshore Power Systems* (Floating Plants), ALAB-401, 5 NRC 1180 (May 20, 1977).

been made in the *Fort Calhoun* case and referred to us. But one of the two proposed co-owners of the Fort Calhoun facility has since told us that the construction contracts have been cancelled, eliminating for the present any need to address the question there.⁴ Nor is immediate resolution necessary here.⁵ For, as a consequence of the ruling below, the proposed co-owners will be treated as co-applicants during the course of the hearing. This will protect the interests of all parties who believe, as does the Board below, that the co-owners should be co-applicants. And it does not appear to threaten the co-owners with any substantial harm to their interests which could not be alleviated by an appeal to us at the conclusion of the proceeding.⁶ This convinces us that invocation of our interlocutory jurisdiction is not needed. Almost without exception in recent times, we have undertaken discretionary interlocutory review only where the ruling below either (1) threatened the party adversely affected by it with immediate and serious irreparable impact which, as a practical matter, could not be alleviated by a later appeal or (2) affected the basic structure of the proceeding in a pervasive or unusual manner.⁷

⁴ A separate order (ALAB-406) dismissing that referral is being issued today. 5 NRC 1194.

⁵ And, unlike the situation in a recent case in which we held on to a referral after a change in circumstances eliminated the need for immediate review in that case, there is no claim here that our guidance is necessary because the same issue is lurking in a number of other cases. See our unpublished orders of April 25 and May 23, 1977, in *Tennessee Valley Authority* (Phipps Bend, Units 1 and 2), Docket Nos. 50-553 and 50-554. In retaining the referral in *Phipps Bend*, however, we announced that we would decide the case on a nonpriority basis, rather than, as first anticipated, in expedited fashion.

⁶ In this connection, it is significant that the applicant here did not request that the Board below refer the *merits* of the co-owner ruling to us. And after the Board did so *sua sponte*, the applicant urged quick review only of the ruling postponing the start of the hearing. See its February 3, 1977, "Motion for Expedited Consideration and Partial Summary Reversal."

We note also that the Board below did not indicate that its ruling was of such a nature that immediate review was necessary to avoid jeopardizing the orderly future conduct of the proceeding before it. As previously observed, it relied only on the existence of a contrary ruling in another case. Of course, even if that conflict persisted, it would not of itself warrant our undertaking to resolve it now. See *Public Service Co. of New Hampshire* (Seabrook, Units 1 and 2), ALAB-271, 1 NRC 478, 484-85 (1975).

⁷ See *Kansas Gas & Electric Co.* (Wolf Creek, Unit 1), ALAB-321, 3 NRC 293 (April 7, 1976) (denial of permission to begin "offsite" construction activity) and ALAB-327, 3 NRC 408 (April 27, 1976) (order to disclose contract terms claimed to be proprietary); *Toledo Edison Co.* (Davis-Besse, Unit 1), ALAB-323, 3 NRC 331 (April 14, 1976) (operating license could not issue until antitrust review completed); *Toledo Edison Co.* (Davis-Besse, Units 1, 2 and 3), ALAB-332, 3 NRC 785 (June 11, 1976) (disqualification of attorneys); *Pacific Gas and Electric Co.* (Diablo Canyon, Units 1 and 2), Docket Nos. 50-275 and 50-323, unpublished order of November 3, 1976 (requirement to disclose provisions of security plan); *Consumers Power Co.* (Midland, Units 1 and 2), ALAB-365, 5 NRC 37 (January 18, 1977), ALAB-373, 5 NRC 415 (February 11, 1977), and ALAB-379, 5 NRC 565 (March 4, 1977) (sequestration of witnesses); *Phipps Bend* (*supra*, fn. 5) (scope of environmental hearing in all TVA cases).

There is also no need to review now the Board's decision that an amended notice of hearing was required. That notice was duly published and produced no new intervenors. Consequently, we see no justification for taking this issue out of the regular course.

For the foregoing reasons, we decline to accept the Licensing Board's referral to us of its co-applicant ruling. The ruling thus continues in effect unless modified either by further order of that Board or as a result of appellate review of its final decision.

It is so ORDERED.

**FOR THE ATOMIC SAFETY AND
LICENSING APPEAL BOARD**

Romayne M. Skrutski
Secretary to the Appeal Board

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING APPEAL PANEL

Alan S. Rosenthal, Chairman

In the Matter of

Docket No. 50-548

OMAHA PUBLIC POWER DISTRICT
(Fort Calhoun Station, Unit 2)

May 31, 1977

The construction contracts for the Fort Calhoun nuclear facility have been cancelled; accordingly, the Licensing Board's referral under 10 CFR §2.730(f) of its ruling (LBP-77-5, 5 NRC 437) that co-owners need not be co-applicants is dismissed.

MEMORANDUM AND ORDER

On our docket since February have been two rulings by two different Licensing Boards on the question whether, as a matter of law, all proposed co-owners of a nuclear power facility must join in the application for a permit to construct the facility (*i.e.*, be "co-applicants"). One of these rulings (which answered the question affirmatively) was entered in the *Marble Hill* proceeding¹ and then referred to us under 10 CFR §2.730(f). The other ruling (reaching the opposite conclusion) was entered in this proceeding involving Unit 2 of the Fort Calhoun Station.² It too was promptly referred for our consideration by the Board which rendered it.

The day following the *Fort Calhoun* referral, the Omaha Public Power District (the single named applicant) advised the Licensing Board that all construction contracts for that facility had been cancelled. Because of that and other factors, an order was entered on February 9, 1977, deferring action on the referral pending our further order. ALAB-372, 5 NRC 413.

The *Marble Hill* Appeal Board has announced today the dismissal of the referral in that proceeding for want of an imperative necessity that the "co-applicant" issue be resolved on an interlocutory basis. ALAB-405, 5 NRC 1190. If

¹ *Public Service Co. of Indiana* (Marble Hill Nuclear Generating Station, Units 1 and 2), LBP-77-4, 5 NRC 433 (1977).

² LBP-77-5, 5 NRC 437 (1977).

anything, there is still less reason for keeping the *Fort Calhoun* referral before us, even in its present state of suspended animation. Accordingly, that referral is likewise being dismissed. In the event that, at some future date, the Licensing Board should be called upon to move forward with the *Fort Calhoun* proceeding, a motion may be made to us to reinstate the referral. To have any chance of success, however, the motion will have to demonstrate the existence of circumstances clearly warranting an interlocutory consideration of the determination below that co-owners need not be co-applicants.

The Licensing Board's referral of its co-applicant ruling is *dismissed*.
It is so ORDERED.

FOR THE CHAIRMAN, ATOMIC SAFETY AND
LICENSING APPEAL PANEL

Romayne M. Skrutski
Secretary to the Appeal Panel

This action was taken by the Appeal Panel Chairman under the authority of 10 CFR §2.787(b).

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Ivan W. Smith, Chairman
Lester Kornblith, Jr.
Dr. George C. Anderson

In the Matter of

Docket No. STN 50-484

**NORTHERN STATES POWER COMPANY
(MINNESOTA)
NORTHERN STATES POWER COMPANY
(WISCONSIN), et al.**

(Tyrone Energy Park, Unit 1)

May 3, 1977

Upon application for construction permit pursuant to Standardized Nuclear Unit Power Plant System, the Licensing Board issues a partial initial decision, making findings of fact and conclusions of law pursuant to the Atomic Energy Act, but withholding any authorization of construction pending completion of necessary environmental reviews.

EMERGENCY PLAN: PROTECTION OF PERSONS OUTSIDE LPZ

Consideration need not be given in a licensing proceeding to the feasibility of devising an emergency plan for the protection (in the event of an accident) of persons located outside of the low population zone. *New England Power Company, et al.* (New England Power, Units 1 and 2) and *Public Service Company of New Hampshire, et al.* (Seabrook Station, Units 1 and 2), ALAB-390, 5 NRC 733 (1977).

SECURITY PLAN: PROTECTION OF FACILITY AGAINST WELL ARMED TERRORIST GROUP

Consideration need not be given in a licensing proceeding to protection of the facility against a well armed terrorist group, since applicants may rely on traditional government assistance in handling attacks by such groups. *Consolidated Edison Company of New York, Inc.* (Indian Point Station, Unit No. 2), ALAB-197R, 7 AEC 826 (1974).

TECHNICAL ISSUES DISCUSSED: Emergency Plans; Emergency Core Cooling System; Isolation Valves; Isolation Valve Testing; Radioactivity Releases; Industrial Security; Effects of Tornadoes; Radiation Monitoring; Ownership of Land; Financial Qualifications.

PARTIAL INITIAL DECISION
(Construction Permit)

Appearances

Gerald Charnoff, Esq., and Thomas A. Baxter, Esq., for the Applicants.

Willard E. Fantle, III, and Thomas Galazen, for the Intervenor, Northern Thunder.

Mrs. Harold C. Bauer, *pro se* and for Citizens For Tomorrow, Inc.

Helen M. Kees, *pro se.*

Stanley Cider, *pro se.*

Barbara Willard, Esq., for the Public Service Commission of Wisconsin.

Joseph P. Schaeve, Esq., for Wisconsin Department of Natural Resources.

Sandra S. Gardebring, Esq., Special Assistant Attorney General and **Jocelyn F. Olson, Esq.,** Special Assistant Attorney General, for the Minnesota Pollution Control Agency.

Stephen H. Lewis, Esq., and Michael E. Riddle, Esq., for the U.S. Nuclear Regulatory Commission.

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I. PRELIMINARY STATEMENT AND DESCRIPTION OF THE RECORD

1. On August 21, 1974, the Commission¹ issued "Notice of Hearing on Application for Construction Permits,"² with respect to the application filed on April 30, 1974, pursuant to the Atomic Energy Act of 1954, as amended, by Northern States Power Company (Minnesota) and Northern States Power Company (Wisconsin) for permits to construct Tyrone Energy Park, Units 1 and 2, to be located in Dunn County, Wisconsin.

On June 17, 1976, Northern States Power Companies amended their application (Amendment No. 29) by adding three additional power suppliers as applicants. These are: Cooperative Power Association, Dairyland Power Cooperative and Lake Superior District Power Company who together will own a total of 32.4% of Unit No. 1. The applicants in this proceeding then are Northern States Power Company (Minnesota), Northern States Power Company (Wisconsin),³ Cooperative Power Association, Dairyland Power Cooperative and Lake Superior District Power Company.

2. Members of the Board designated to conduct the Hearing were: Dr. George C. Anderson, Lester Kornblith, Jr., and Samuel W. Jensch, Esq., who was designated Chairman. Subsequently, to avoid the possibility of schedule conflicts, Mr. Jensch was replaced as Chairman by Ivan W. Smith by the Chairman of the Atomic Safety and Licensing Board Panel. Notice of July 16, 1975.

3. The Notice of Hearing also provided that any person whose interest may be affected by the proceeding might file a petition for leave to intervene in accordance with the provisions of 10 CFR §2.714 by September 30, 1974.

4. On September 30, 1974, Northern States Power Company announced its intention to amend, and subsequently amended, the application to delete Unit 2 of Tyrone Energy Park because of its indefinite postponement. This proceeding concerns the application to construct the Tyrone Energy Park, Unit 1 ("TEP" or "the plant"). In light of this development, the Board granted several extensions of time for the filing of petitions for leave to intervene with respect to environmental matters until following the submission by Northern States Power Company of a revised Environmental Report addressed to only one unit.⁴

¹The Energy Reorganization Act of 1974, 42 U.S.C. §5801, *et seq.*, abolished the Atomic Energy Commission effective January 20, 1975, and transferred its licensing functions to the Nuclear Regulatory Commission. The term "Commission" is used in this decision to refer to either the AEC or the NRC, as appropriate.

²39 Fed. Reg. 31688 (August 30, 1974).

³Hereafter in this decision except as noted the Minnesota corporation and the Wisconsin corporation shall be referred to jointly as "Northern States Power Company" or "NSP."

⁴See Board orders of November 14 and December 11, 1974; November 5 and December 15, 1975; February 6, 1976.

5. On October 7, 1974, pursuant to an extension of time granted by the Board, Harold C. and Lucille Bauer, Henry and Clara Falkner, and Citizens for Tomorrow, Inc. (collectively "CFT") filed a petition for leave to intervene, which was granted by the Board in an order issued on October 24, 1974. An additional petition was filed by CFT on January 20, 1976, pursuant to leave of the Board.

6. On November 25, 1974, Eau Claire Area Ecology Action filed a petition for leave to intervene, which was granted by the Board in an order issued on December 12, 1974. An additional petition was filed on January 15, 1976, and was amended on or about April 12, 1976, by leave of the Board. On June 29, 1976, Eau Claire Area Ecology Action filed a notice announcing a change in the name of the organization, which became Northern Thunder ("NT"). Tr. 8 and 9.

7. On November 27, 1974, pursuant to extensions of time granted by the Board, the Minnesota Pollution Control Agency ("MPCA") filed a petition for leave to intervene, which was granted by the Board in an order issued on December 12, 1974. MPCA amended its intervention petition on June 2, 1976, by leave of the Board.

8. In an order issued on February 23, 1976, the Board granted the petitions for leave to intervene filed on December 12, 1975, by Helen M. Kees, and on December 23, 1975, by Citizens Against Unsafe Sources of Energy ("CAUSE"). On April 2, 1976, the Board granted conditionally an amended petition for leave to intervene filed on March 2, 1976, by Stanley Cider, for himself and on behalf of Anastasia and John or Joseph Cider and the Village of Tyrone (collectively, "Mr. Cider").

9. Petitions by the State of Wisconsin, through its Attorney General, Department of Natural Resources, and Public Service Commission, to participate in the proceeding as an interested state pursuant to 10 CFR §2.715(c), were granted by the Board in orders issued on October 24, November 13, and December 11, 1974.

10. In a notice issued by the Board on May 26, 1976,⁵ the Board scheduled a special prehearing conference, pursuant to 10 CFR §2.751(a), which was held in Eau Claire, Wis., on June 29, 1976. The Board heard oral argument at the special prehearing conference on the admission of intervenors' contentions as matters in controversy in the proceeding. The Board also considered a schedule proposed by the parties for further actions in the proceeding with respect to radiological health and safety matters under the Atomic Energy Act having determined to hear that phase of the proceeding first. In a Special Prehearing Conference Order issued on July 15, 1976, the Board recited the actions taken at the conference, including its rulings on the admission of intervenors' contentions as matters in controversy and its adoption of the proposed schedule for

⁵ 41 Fed. Reg. 22895 (June 7, 1976).

further actions leading to a hearing on radiological health and safety matters. In an Appendix to the Special Prehearing Conference Order the Board set forth its revised version and a consolidation of those intervenors' contentions to be heard in the radiological health and safety portion of the hearing.

On July 9, 1976, the Board issued "Amended Notice of Hearing on Application for Construction Permit"⁶ which announced the addition of Cooperative Power Association, Dairyland Power Cooperative and Lake Superior District Power Company as applicants to the proceeding. The amended Notice of Hearing provided an opportunity until August 23, 1976, to file petitions to intervene to those persons whose interest may be affected by the addition of the new owners. No such petitions were filed during the time provided. However on July 30, 1976, CFT filed an objection to the addition of new power suppliers and requested that the application be dismissed. The Board granted CFT an additional period, until September 15, 1976, to modify its petitions to intervene to include contentions relating to its interests resulting from the addition of the new owners.⁷ CFT did not file any amendments or modifications in this respect.

11. Pursuant to a notice and order issued by the Board on August 31, 1976,⁸ a prehearing conference was held in Eau Claire, Wisconsin, on September 28, 1976, to consider appropriate matters under 10 CFR §2.752. Pursuant to a notice and order issued by the Board on August 9, 1976,⁹ sessions of the hearing to receive evidence on radiological health and safety matters were held in Eau Claire on September 28 through October 1, and October 5 through 7, 1976. Appearing and presenting evidence at the hearing were Applicants, the NRC Staff, and intervenors Minnesota Pollution Control Agency and Northern Thunder. Also appearing at and participating in the hearing were intervenors Citizens for Tomorrow, *et al.*, Stanley Cider and Helen M. Kees. Intervenors CFT, Northern Thunder, Ms. Kees, and Mr. Cider appeared without legal counsel. CAUSE did not participate in the evidentiary hearing, but a representative of that organization made a limited appearance statement. Also appearing were the Wisconsin Department of Natural Resources, and the Wisconsin Public Service Commission. The record of the hearing includes the testimony of the witnesses for the parties and exhibits. A list of the exhibits offered by the parties, and either marked for identification or received into evidence, is set forth in Attachment A, which is appended to this Partial Initial Decision.

12. Opportunity for the presentation of oral and written limited appearance statements pursuant to 10 CFR §2.715(a) was afforded at the opening and at several subsequent daily and evening sessions of the hearing.

⁶ 41 Fed. Reg. 30218 (July 22, 1976).

⁷ Board Order dated August 27, 1976.

⁸ 41 Fed. Reg. 38829 (September 13, 1976).

⁹ 41 Fed. Reg. 37170 (September 2, 1976).

This Partial Initial Decision decides the issues identified in the Commission's Notice of Hearing and the contentions of the intervenors as modified and consolidated by the Board which relate to radiological health and safety matters under the Atomic Energy Act.

The Board provided an opportunity to the parties to file proposed findings of fact and conclusions of law. Tr. 1999-2012 and Board order dated January 27, 1977. We received proposals from the Applicants, Staff, Northern Thunder, MPCA, and CFT. The Board has carefully considered each of the proposed findings of fact and conclusions of law submitted by the parties, and where supported by the record, we have frequently adopted them as presented. We have not adopted proposed findings of fact nor conclusions of law where the proposal is not supported by the record, or is not material to the issues in controversy. Each proposed finding of fact and conclusion of law not adopted by the Board is specifically rejected. This Partial Initial Decision is based upon the entire record to date. The environmental phase of the proceeding has not yet been conducted.

II. FINDINGS OF FACT—UNCONTESTED RADIOLOGICAL HEALTH AND SAFETY ISSUES

A. The Application and Its Review

13. On June 21, 1974, the Commission docketed for formal review the application by Northern States Power Company (Minnesota) and Northern States Power Company (Wisconsin)¹⁰ for licenses to construct and operate the Tyrone Energy Park on a site in Dunn County, Wisconsin. SER¹¹ at 1-1. The application is one of four concurrently filed applications submitted under the Commission's standardization policy by five utilities¹² which have formed for that purpose the Standardized Nuclear Unit Power Plant System ("SNUPPS"). These applications were filed pursuant to the Commission's "Duplicate Plant" concept,¹³ whereby one or more utilities may submit individual construction permit applications which reference, for the technical information pertaining to design specified in 10 CFR §50.34, a single document describing the design of the reactors which are to be constructed and operated at the various sites. This

¹⁰Section I of this Partial Initial Decision describes the subsequent amendment of the application to include three additional applicants.

¹¹Safety Evaluation Report, NUREG-75/102, October 1975, following Tr. 266 (hereinafter "SER").

¹²Some of the applications have been amended to include additional utilities as applicants.

¹³See Subpart D of 10 CFR Part 2 and Appendix N to 10 CFR Part 50.

concept permits the simultaneous review of the safety-related parameters of the duplicate plants. The other SNUPPS applications were filed by: (1) Kansas Gas and Electric Company and Kansas City Power & Light Company for the Wolf Creek Generating Station, Unit 1, in Coffey County, Kansas (Docket No. STN 50-482); (2) Rochester Gas and Electric Corporation for the Sterling Power Project Nuclear Unit 1 in Cayuga County, New York (Docket No. STN 50-485); and (3) Union Electric Company for the Callaway Plant, Units 1 and 2, in Gallaway County, Missouri (Docket Nos. STN 50-483, 50-486).¹⁴

14. The application includes a SNUPPS Preliminary Safety Analysis Report which describes those portions of the Tyrone Energy Park, Unit No. 1, that are standard to the SNUPPS plants, and a Tyrone Energy Park Addendum to the SNUPPS PSAR¹⁵ (Exhibit 1), which sets forth the specific site and related design information, and the applicant-related information for the plant. The SNUPPS PSAR incorporates by reference, SNUPPS PSAR, §1.6, certain portions of the Westinghouse Reference Safety Analysis Report (RESAR-3 Consolidated Version as amended through Amendment 6) (Exhibit 24). The application contains a description of the site and the basis for its suitability, a detailed description of the proposed facility, including those reactor systems and features which are essential to safety, an analysis of the safety features provided in the facility design, an evaluation of various postulated accidents and hazards involved in the operation of such a facility and a description of the engineered safety features provided to limit their effects. It also includes a description of the financial qualifications of the Applicants, a description of the technical qualifications of the Applicants, including their contractors, to design and construct the facility, a description of the Applicants' quality assurance program and plans for the conduct of operations, and information relevant to the common defense and security of the United States. The Board finds that the application adequately describes the proposed facility in accordance with the Commission's regulations.

15. The Staff reviewed the information provided by Applicants and performed its own analyses and investigations evaluating the radiological health and safety aspects of the plant. The results of the Staff's technical evaluation of the proposed plant design and the scope of the technical matters considered by the Staff in that evaluation are set forth in the Safety Evaluation Report. SER, SER

¹⁴Construction permits were issued to Union Electric Company for the Callaway Plant on April 16, 1976. See 41 Fed. Reg. 17436 (April 26, 1976). A Limited Work Authorization was issued for the Wolf Creek facility on January 24, 1977. See 42 Fed. Reg. 6651 (February 3, 1977).

¹⁵Hereinafter "SNUPPS PSAR" and "PSAR Site Addendum," respectively.

Supp. 1,¹⁶ SER Supp. 2,¹⁷ and SER Supp. 3,¹⁸ *passim* and particularly at 21-1 of each.

16. The Advisory Committee on Reactor Safeguards (ACRS) has also reviewed the radiological health and safety aspects of the application. In a letter of December 11, 1975, to the Chairman of the Commission, the ACRS concluded that if due consideration is given to certain matters which the Committee believes can be resolved during construction, Tyrone Energy Park, Unit 1, can be constructed with reasonable assurance that it can be operated without undue risk to the health and safety of the public.¹⁹ The matters referred to include anticipated transients without scram, conformance with 10 CFR Part 50, Appendix I, fuel design, ECCS evaluation, fire hazards, protection against sabotage, and previously identified generic problems. The Staff has responded to the ACRS comments and recommendations. SER Supp. 1 at 18-1, 18-2.

17. The Staff concluded, as a result of its review of the application, that the application satisfies the requirements of §50.35(a) of 10 CFR Part 50. SER at 21-1; SER Supp. 1 at 21-1; SER Supp. 2 at 21-1. The Board has considered the application, the SNUPPS PSAR and PSAR Site Addendum, and the SER and Supplements thereto, and finds that the Staff's technical review and safety evaluation is adequate and comprehensive.

B. The Site

18. The Licensing Board has evaluated the proposed site for the Tyrone Energy Park to determine whether, considering the particular design proposed for the facility and the site criteria contained in 10 CFR Part 100, the proposed facility can be constructed and operated at the proposed location without undue risk to the health and safety of the public. The record before the Board includes the Applicants' description of the site, PSAR Site Addendum, §2, and the Staff's description and evaluation. SER, §2. The site evaluation has addressed the population distribution and density, the use characteristics of the site environs, and the physical characteristics of the site, including meteorology, hydrology, geology, and seismology, to determine that these characteristics have been adequately described, that they have been given appropriate consideration in the design of the Tyrone plant, and that they conform to the Commission's

¹⁶Safety Evaluation Report Supplement No. 1, NUREG-0092, July 1976, following Tr. 266 (hereinafter "SER Supp. 1").

¹⁷Safety Evaluation Report Supplement No. 2, NUREG-0092, September 1976, following Tr. 266 (hereinafter "SER Supp. 2").

¹⁸Safety Evaluation Report Supplement No. 3, NUREG-0092, December 1976 (hereinafter "SER Supp. 3") (Exhibit 28).

¹⁹The ACRS letter is reprinted at Appendix B of Supplement No. 1 of the SER.

reactor site criteria, 10 CFR Part 100, taking into consideration the facility design and proposed engineered safety features.

19. Tyrone will be located on a site approximately 4600 acres in southern Dunn County, Wisconsin, approximately 19 miles west-southwest of Eau Claire, Wisconsin. PSAR Site Addendum, § 2.1.1, 2.1.2; SER § 2.1.1. The minimum exclusion area boundary distance is 1470 meters, measured from the center of the reactor building. The exclusion area is entirely within the site boundary. All of the land within the site boundary, including mineral rights is currently owned or will be owned by Applicant Northern States Power Company (Wisconsin). PSAR Site Addendum, § 2.1.2; SER, § 2.1.1; paragraphs 101 through 106, *infra*. Our affirmative finding on the Applicants' ownership of the site is included in our discussion of Contention 4, *infra*. The Applicants have provided reasonable assurance that those public roads which presently traverse the designated exclusion area can and will be abandoned prior to the start of construction. SER, § 2.1.1; PSAR Site Addendum, § 2.1.2.

20. The area within 10 miles of the site is predominantly rural with low population. The Applicants have estimated the 1970 population within a 10-mile radius to be 8632 with 1108 of these within five miles. The only incorporated community within 10 miles is Durant, 8 miles southwest of the site, with a 1970 population of 2103. PSAR Site Addendum, § 2.1.3.1. Applicants have specified a low population zone with a radius of 2.5 miles. They have estimated the population within this zone to be 183 persons, with no significant change anticipated over the life of the plant. *Id.*, § 2.1.3.3; SER, § 2.1.2. The only significant transient population identified by the Applicants is an estimated maximum of 150 hunters and 25 fishermen per day using the Dunnville Public Hunting and Fishing Grounds, 2 miles northwest of the plant site. The Staff has performed analyses confirming the practicability of evacuation, as an emergency measure, within and beyond the low population zone, including the Hunting and Fishing Grounds. SER, §§ 2.1.2, 13.3.

21. The nearest population center containing more than 25,000 residents is Eau Claire, Wisconsin, with a 1970 population of about 45,000 persons. The nearest boundary of Eau Claire is 15 miles east-northeast of the site. Menomonie, Wisconsin, which is about 11 miles north-northwest of the site, had a 1970 population of 11,275, and could conceivably reach a population of 25,000 during the operational lifetime of the plant. In either case, however, the nearest population center distance is well in excess of the minimum distance of one and one-third times the low population zone radius of 2.5 miles. SER, § 2.1.2; PSAR Site Addendum, § 2.1.3. The Staff concluded, SER, § 2.1.3, and the Board concurs that the exclusion area, low population zone and population center distances comply with requirements of 10 CFR Part 100.

22. We have examined the record for the numerous other factors considered by the Staff in determining suitability of the Tyrone site. These include the use

characteristics of the site environs, meteorology, hydrology, geology and seismology. The record supports the suitability of the site for the Tyrone facility. In addition, the plant as designed adequately takes into account the meteorological, hydrological and geological conditions, including the possibility of floods, tornadoes and earthquakes. Therefore, the Board finds that the site proposed is such that the Tyrone facility can be constructed and operated without causing undue risk to the public health and safety.

C. Design of the Facility

23. The Staff has reviewed the Tyrone plant design, fabrication, construction, and testing criteria, and the expected performance characteristics of the structures, systems and components important to safety, to determine that they are in accord with the Commission's General Design Criteria, Quality Assurance Criteria, applicable Regulatory Guides, and other appropriate codes and standards, and that any departure from these criteria, codes and standards has been identified and justified. SER, §1.5.

24. The plant will utilize a four-loop pressurized water reactor nuclear steam supply system having a core power level of 3411 Mwt. The reactor core will be composed of uranium dioxide pellets enclosed in Zircaloy tubes with welded end plugs. The fuel tubes will be grouped and supported in assemblies with a 17 x 17 fuel rod array. SER, §§1.2.1, 4.1, 4.2. The reactor coolant system will include a reactor vessel and four coolant loops connected in parallel to the vessel. Water will serve as both the moderator and coolant and will be circulated through the reactor vessel and core by four coolant pumps. The heated water will flow through four steam generators where heat will be transferred to the secondary (steam) system. An electrically heated pressurizer will establish and maintain the reactor coolant pressure, and will provide a surge chamber and a water reserve to accommodate reactor coolant volume changes during operation. The reactor will be controlled by control rod movement and by regulation of the boric acid concentration in the reactor coolant. The control elements, whose drive shafts will penetrate the top head of the reactor vessel, will be moved vertically within the core by individual control rod drives. A reactor protection system will be provided that automatically initiates appropriate action whenever a condition monitored by the system approaches preestablished limits. This reactor protection system will act to shut down the reactor, close isolation valves, and initiate operation of the engineered safety features should any or all of these actions be required. SER, §§1.2, 4.0, 5.0. Heat rejected into the condenser circulating water system will be dissipated by three mechanical-draft cooling towers. PSAR Site Addendum, §10.4

25. The nuclear steam supply system will be housed in a containment structure. An auxiliary building, to be located adjacent to the containment structure,

will house components of engineered safety features, and various related auxiliary systems. The fuel handling building, also to be located adjacent to the containment structure, will house a spent fuel pool and new fuel storage facility. The rad-waste building, which will be separate from the other structures, will house the radioactive waste treatment systems. SER, §1.2.1.

26. Plant structures, systems and components important to safety, that are required to be designed to withstand the effects of a safe shutdown earthquake (0.2g) and remain functional, have been properly classified as seismic Category I items, and will be designed to withstand the effects of forces imposed by such an earthquake. SER at §§3.2.1, 3.7-3.10; SNUPPS PSAR and PSAR Site Addendum at §3. All seismic Category I structures that will be exposed to wind and tornado forces will be designed to withstand the effects of forces imposed by the design wind (velocity of 100 miles per hour based upon a recurrence interval of 100 years) and by the design basis tornado (tangential wind velocity of 290 miles per hour and translational velocity of 70 miles per hour) specified for the site.²⁰ SER, §§2.3, 3.3; SNUPPS PSAR at §3. Likewise, seismic Category I structures will be adequately protected during the design flood or the highest groundwater level specified for the plant. SER, §3.4; SNUPPS PSAR and PSAR Site Addendum, §3. The plant will be designed so that postulated missiles generated from internal sources and from outside of containment do not cause or increase the severity of an accident. SER, §3.5; SNUPPS PSAR, §3. The Staff has concluded, SER, §3.1, and the Licensing Board finds, that the proposed facility can be designed, constructed and operated to meet the requirements of the General Design Criteria.

27. The station will have engineered safety feature systems, the purpose of which is to provide a complete and consistent means of assuring that the plant personnel and the public will be protected from excessive exposure to radioactive materials in the event of a major accident. These engineered safety systems and components will be designed to assure safe shutdown of the reactor under the adverse conditions of various postulated design basis accidents. Designed as seismic Category I, these engineered safety systems and components must function even with complete loss of offsite power and will be provided in sufficient redundancy so that a single failure of any component or system will not result in the loss of the capability to achieve safe shutdown of the reactor. SER, §6.1. The ultimate heat sink will be a Category I mechanical draft cooling tower. SER, §9.3.3.

28. One of the engineered safety features of the plant is a steel-lined, pre-stressed, posttensioned concrete containment structure and associated systems. The containment structure, including its penetrations, is designed to safely confine, within the leakage limit of the containment, the radioactive material that

²⁰For further discussion of tornado design, see our findings on Contention 3.C, *infra*.

could be released in the event of an accident. A containment spray system will provide borated water containing sodium hydroxide to remove heat and radioactive iodine in the event of an accidental coolant release. The containment cooling system, consisting of four equal capacity fan cooling units, will be used during normal plant operation. During accident conditions, these fan coolers are capable of maintaining the containment pressure below design levels even in the event of a single active failure in either the spray system or the fan cooling system. SER, §§1.2.1, 6.2.

29. Another engineered safety feature is the emergency core cooling system. Our conclusion that this system satisfies the Commission's requirements is set forth in our findings on Contention 2.A, *infra*.

30. Tyrone will have radioactive waste management systems and an offsite radiological monitoring program. The radioactive waste management systems will be designed to provide for controlled handling and treatment of liquid, gaseous, and solid wastes.²¹ On September 4, 1975, the Commission announced²² the availability of an optional method for complying with its guidelines on the releases of radioactive materials in the nuclear power plant effluents (Appendix I to 10 CFR Part 50). That option permits a determination of compliance with Appendix I without making a cost-benefit analysis if the radioactive waste management systems meet the guidelines of the proposed Appendix I used by the Staff before the final Appendix I became effective. Applicants have chosen to select this option of not performing a cost-benefit analysis. SER, Supp. 1, §11.1.

31. The Staff has evaluated the design of the systems provided for the control of the radioactive effluents from the Tyrone plant and has determined that these systems can control the release of radioactive wastes within the limits of the Commission's Standards For Protection Against Radiation (10 CFR Part 20) and that the equipment to be provided will be capable of being operated by Applicants in such a manner as to reduce radioactive releases to levels that are "as low as is reasonably achievable," as prescribed by the criteria in Appendix I to 10 CFR Part 50. SER, §11; SER Supp. 1, §11. The Board concurs in the conclusions of the Staff that the proposed liquid and gaseous radioactive waste management systems for the Tyrone facility will satisfy the requirements of Appendix I. Therefore, the Board finds that the design of these features is acceptable.

32. The Staff has also evaluated Applicants' radiation protection program. SNUPPS PSAR and PSAR Site Addendum, §12. The review covered Applicants'

²¹The radioactive waste management systems are described in SNUPPS PSAR, §11. The offsite radiological monitoring program and the estimated doses due to the anticipated release of gaseous and liquid radioactive effluents are described in PSAR Site Addendum, §11.

²²40 Fed. Reg. 40816 (September 4, 1975).

radiation protection design features, including shielding and the layout of the facility, the area monitoring program, which details radiological and airborne radioactivity monitoring features, the ventilation systems which will be designed to provide a suitable radiological environment, and the health physics program. This review has shown that occupational radiation exposures can be controlled to meet the requirements of 10 CFR Parts 20 and 50. SER, §13.

33. The Staff has concluded, SER, §3.1, and the Board finds, that the proposed Tyrone Energy Park can be designed, constructed and operated to meet the requirements of the General Design Criteria of Appendix A to 10 CFR Part 50.

D. Research and Development

34. The principal features of the design of the Tyrone plant are similar to those features that have been evaluated and approved previously for other nuclear power plants. The nuclear steam supply system is similar to the systems for other large pressurized water reactors now being designed and built by Westinghouse for plants being constructed under Commission construction permits. SER, §1.3. The Applicants, the ACRS,²³ and the Staff have identified certain ongoing investigations to confirm and finalize the design of certain of the plant systems, including generic design features. SER, §1.7; SNUPPS PSAR, §1.5. Westinghouse is also conducting an integrated test program to confirm the design margins associated with the 17 x 17 fuel assembly design. The review of the additional information on the design and nuclear characteristics of this fuel is being conducted in connection with a number of pending operating license applications and will be completed well before an operating license application is submitted for the Tyrone Energy Park Unit 1. SER, §4.1.

35. The Staff has concluded, SER, §1.7, and the Board finds, that Applicants have identified and will perform development tests necessary for verification of the design and safe operation of the Tyrone Energy Park Unit 1 on a timely schedule, and that if the results of such tests are not successful, appropriate alternative actions, or restrictions in operation, can be imposed to protect the health and safety of the public.

E. Technical Qualifications

36. Applicant Northern States Power Company (Minnesota) will be responsible for the design, construction and operation of the Tyrone Energy Park. PSAR Site Addendum, §1.4.1.2. It has had extensive experience in the design, construction and operation of large power plants including its Monticello and

²³ See paragraph 16, *supra*.

Prairie Island nuclear plants. *Id.*, §1.4.1.3. NSP has joined with the other SNUPPS utilities to form a SNUPPS Project Organization, with technical representatives from each utility, to manage the design and procurement of the standard portions of the SNUPPS plants. The SNUPPS Project Organization, acting on behalf of the SNUPPS utilities, has retained the Bechtel Power Corporation to provide architect-engineer services, including procurement, for the standard portions of the SNUPPS plants. The Westinghouse Electric Corporation has been retained to design, manufacture and deliver to the appropriate site the nuclear steam supply system and the initial core for each of the five SNUPPS units. SNUPPS PSAR, §1.4; SER, §1.4. NSP has established a project organization under the Manager—Nuclear Plant Projects as the primary group to implement NSP's responsibility for the design and construction of the plant and has retained Commonwelath Associates, Inc., as an architect-engineer to provide engineering and technical services for those portions of the project not included in the SNUPPS standard plant. It has also retained other consultants for particular portions of the project. PSAR Site Addendum, §§1.4.6, 1.4.7, 13.1.1.1; SER, §§1.4, 13.1, 17.1. Based on the entire record, the Board finds that NSP is technically qualified to design and construct the proposed facility.

F. Quality Assurance

37. The evidence presented by the Staff and Applicants covered the quality assurance responsibilities and programs of the SNUPPS Project Organization and Bechtel and Westinghouse as well as those of NSP.

38. The SNUPPS Quality Assurance (QA) Committee, consisting of one QA representative from each SNUPPS utility, develops the QA manual of procedures, reviews and approves Bechtel and Westinghouse QA programs and verifies their adequacy for the project, provides formal audits of the SNUPPS Project Organization, and evaluates the effectiveness of the QA program implementation. The NSUPPS Executive Director is responsible for the implementation of the QA program of the SNUPPS Project Organization through the QA Manager. The organizational level of the QA Manager provides him with adequate independence and he reports to a sufficiently high management level to accomplish his objectives. The QA Manager and each member of the QA Committee can initiate stop-work action through the SNUPPS Executive Director for the activities managed by the SNUPPS Project Organization. A system of planned and documented audits will be used by the SNUPPS Project Organization to verify compliance with the requirements of the QA program and to assess its effectiveness. Audit results will be reviewed and corrective action taken by responsible management. SER, §17.2; SNUPPS PSAR, §17. The Staff has concluded that the SNUPPS Project Organization QA program for the standard portion of the SNUPPS plants includes an acceptable QA organization, with adequate policies, procedures and instructions to satisfy the requirements of Appendix B to 10

CFR Part 50. SER, §17.2. The Staff has also evaluated the QA programs of Bechtel Power Corporation (architect-engineer for the standard plant) and Westinghouse Electric Corporation (supplier of the nuclear steam supply system), and has found those programs to be in compliance with Appendix B to 10 CFR Part 50. SER, §§17.3, 17.4.

39. Applicant NSP is organized to control the activities of SNUPPS and its principal contractors through membership in the SNUPPS Quality Assurance Committee. NSP will directly handle control of the activities at the site. Applicants' quality assurance program provides that the Vice President—Plant Engineering and Construction, who reports to an Executive Vice President, is responsible for quality assurance, engineering, and construction of TEP. The Manager—Quality Assurance for NSP reports to him. PSAR Site Addendum, §17.1.1; SER, §17.5. The Staff conducted a thorough review of the NSP QA organization and program. It concluded that NSP's QA organization is (1) sufficiently independent of the organization whose work it verifies; (2) has clearly defined authorities and responsibilities; (3) is so organized that it can identify quality problems in other organizations performing quality related work; (4) can initiate, recommend or provide solutions; and (5) can verify implementation of solutions. The review also resulted in a Staff finding that the QA program acceptably includes each of the QA criteria in 10 CFR Part 50, Appendix B and that the program is structured in accordance with the appropriate Commission guidance. Based on its review, the Staff concluded that NSP's QA program was acceptable for the design, procurement and construction of the Tyrone plant. SER, §17.5.

40. On the first day of the hearing, the Board requested that the Staff provide appropriate witnesses from the Commission's Office of Inspection and Enforcement to testify on the inspection experience to date of the Tyrone project and on any inspection experience at NSP's other facilities that would reflect the Applicants' qualifications to design and build a plant that could be operated safely. Tr. 236-37. Three witnesses from that office testified. Tr. 966-1018. The witness regarding the Tyrone inspection testified on inspections relating both to the Tyrone program and to the SNUPPS program. He testified that all deficiencies found to date have been corrected, Tr. 984, and that the program is adequate and NSP is well prepared to start the construction phase. Tr. 988. With respect to inspections of Monticello and Prairie Island, the witnesses testified that none of their inspection findings indicated inadequate attention to quality assurance matters or anything that would have a detrimental effect on construction activities. Tr. 989. They further testified that NSP aggressively pursued corrective action when deficiencies were identified. Tr. 991-93. On the basis of all the information available to it, the Staff concluded that the implementation of the QA program to date is acceptable for the design, procurement and construction of the Tyrone facility. SER Supp. 1, §17.7.

41. Based on the above testimony and the entire record, the Board finds that the Tyrone QA organization and programs comply with Appendix B to 10 CFR Part 50, and that they are adequate for the design, procurement, and construction of the Tyrone plant.

G. Financial Qualifications

42. The Board's finding that Applicants are financially qualified to design and construct the plant is set forth in our consideration of Contention 5, *infra*.

H. Conduct of Operations

43. The initial test programs for the plant will be conducted by Applicant NSP with technical support from the nuclear steam supply system vendor, the architect-engineer, the construction contractor and other vendors. SNUPPS PSAR and PSAR Site Addendum, §14. In general, preoperational testing will be completed prior to fuel loading. As the construction of individual systems is completed, preoperational tests are performed to verify, as nearly as possible, the performance of the system under actual operating conditions. Fuel loading begins when all prerequisite system tests and operations are satisfactorily completed. While NSP will provide additional details of its testing program at the operating license stage, the Staff has concluded that an acceptable test and startup program will be implemented by NSP. SER, §14.

44. The proposed station organization for operation of TEP will consist of a technical staff of approximately 102 persons. A typical shift crew will consist of seven persons, one of whom will be a licensed senior operator and two of whom will be licensed operators. Supporting the operations staff of 30 persons will be a maintenance staff of 32, a radiation protection and plant chemistry staff of 11, 12 engineers, and other technical support personnel. The requirements for each job category used at the plant will meet the minimum requirements set forth in American National Standards Institute Standard, ANSI N18.1 (1971), "Selection and Training of Personnel for Nuclear Power Plants." SER, §13.1.

45. A training program will be established to provide plant personnel with sufficient knowledge and operating experience to start up, operate, and maintain the plant in a safe and efficient manner. SER, §13.2; PSAR Site Addendum, §13.2. The Staff has concluded that Applicant NSP has established an acceptable organization to implement its responsibilities for the design and construction of the Tyrone facility, that the proposed plant organization, the proposed qualifications of personnel, and the proposed plans for offsite technical support are sufficient to provide acceptable staff and technical support for the operation of the plant, and that the proposed training program is acceptable. SER, §§13.1, 13.2. The Board examined NSP's Vice President—Plant Engineering and

Construction to obtain the views and plans of top management for the operation of TEP. Tr. 602-22. The Board finds that Applicant's preliminary plans for the conduct of operations are adequate for this stage of the TEP project.

46. Applicants' preliminary plans for coping with emergencies are addressed in the Licensing Board's findings on Contention 2.B, *infra*.

I. Common Defense and Security

47. The activities to be conducted under the permit and licenses applied for will be within the jurisdiction of the United States. All of the directors and principal officers of Applicants are citizens of the United States. Applicants are not owned, dominated or controlled by an alien, foreign corporation or foreign government. The activities to be conducted do not involve any restricted data, but Applicants have agreed to safeguard in accordance with the requirements of 10 CFR Part 50 any such data that might become involved. SER, §19.0. Fuel will be obtained from sources of supply available for civilian purposes so that no diversion of special nuclear material from military purposes is involved. The Staff has concluded, SER, §19.0, and the Board finds, that the activities to be performed will not be inimical to the common defense and security.

III. FINDINGS OF FACT—CONTESTED ISSUES

CONTENTION 1: The description of the emergency plan contained in §13.3 of the Tyrone Energy Park Addendum to the SNUPPS Preliminary Safety Analysis Report (PSAR) is inadequate in the following ways:

- A. The plan does not comply with the requirements of 10 CFR 50, Appendix E, in the following respects:
- (1) Insufficient information is provided to determine the compatibility of proposed emergency plans with facility design features, site layout, and site location with respect to such considerations as access routes, surrounding population distributions, and land use (*MPCA II-1, #1*).
 - (2) Insufficient information is provided to assess the feasibility of actually contacting persons in the surrounding areas, in the event of an emergency, in the ways described in §13.3.3.8 of the Tyrone Energy Park Addendum to the SNUPPS PSAR, as required by paragraph IIC (*MPCA II-1, #3; CFT-U*).
 - (3) There is no description of the expected emergency response of outside agencies; as required by paragraph IIC (*MPCA II-1, #4*).

- (4) There is no description of the training program for employees whose services may be required in coping with an emergency, as required by paragraph IIF (*MPCA II-1, #5*).
 - (5) There is no description of the program for training persons, not employees of the licensees, whose services may be required in coping with an emergency, as required by paragraph IIF, or for proposed emergency drills to assess such training (*MPCA II-1, #5; NT 23-C*).
 - (6) There is not an adequate description of the offsite medical facilities to be provided or of the development and updating of training programs at each of the hospitals that may be called upon in an emergency and the proposed emergency drills to assess such training as required by paragraph IIE (*NT 23-A; CFT-U*).
 - (7) There is no discussion of the licensee's preliminary plans to house, clothe, feed, and otherwise provide for those individuals who may have to be evacuated from the area due to the implementation of the emergency plan or of the procedures for transportation of such individuals back to their homes and places of business and reoccupation and reuse of such homes and business places once an emergency is over, all as required by paragraph IIC (*MPCA II-1, #7 & #8*).
- B. Insufficient information is provided to determine whether the emergency plan provides reasonable assurance that measures can and will be taken in the event of an emergency to adequately protect public health and safety and prevent damage to property (*MPCA II-1, #2*).
 - C. Compliance with the Wisconsin Radiological Response Plan is not adequate assurance of the reliability of the Tyrone Emergency Plan in that the United States Nuclear Regulatory Commission has not concurred with any state plan, and the United States General Accounting Office (GAO) has determined that all state plans are inadequate (*MPCA II-1, #6*).
 - D. There is not an adequate identification of evacuation routes, including contingency considerations of weather, time of year, etc. (*NT 23-E*).
 - E. There is not an adequate identification of all areas where people could be gathered at high density for various time periods, such as fair grounds, parks, stadiums, schools, etc., to enable evacuation and notification of these facilities in the event that they are downwind from an abnormal radioactive release (*NT 23-D*).

F. There is no description of a local public reporting system that informs local residents of *all* offsite releases of radiation above AEC specifications for these facilities (NT 23-B).

48. The Commission's regulations that prescribe the technical information to be included in an applicant's safety analysis report require that a construction permit applicant must provide a discussion of preliminary plans for coping with emergencies,²⁴ and that an operating license applicant must provide actual plans for coping with emergencies.²⁵ In both instances 10 CFR Part 50, Appendix E, is referenced for a description of the emergency planning information to be provided in the application. Appendix E provides, in §I, that "[p]rocedures used in the detailed implementation of emergency plans need not be described in the preliminary or final safety analysis report." The guiding standard for the emergency planning information to be provided at the construction permit stage is found at §II of Appendix E:

The Preliminary Safety Analysis Report shall contain sufficient information to assure the compatibility of proposed emergency plans with facility design features, site layout, and site location with respect to such considerations as access routes, surrounding population distributions, and land use.

We have reviewed the record on Applicants' preliminary plans for coping with emergencies against these standards.

49. Information relevant to Applicants' preliminary emergency planning is found in the record at: §§2.1 and 13.3 of the PSAR Site Addendum; §§6.2.1, 6.4, 9.4.1 and 13.3 of the SNUPPS PSAR; and in the prepared testimony of their witness Gordon H. Jacobson²⁶ and the subsequent examination of Mr. Jacobson and Applicants' consultant Walmer E. Strobe²⁷ and Exhibits 18-A and 18-B. Following its review of the emergency planning information provided in the application, the NRC Staff concluded that Applicants' program meets the requirements of Section II of 10 CFR Part 50, Appendix E, that it is consistent with facility design features, analyses of postulated accidents and characteristics of the proposed site location, and that it provides reasonable assurance that appropriate protective measures can be taken within and beyond the site boundary in the event of a serious accident. SER, §13.3. Additional testimony supportive of this conclusion was presented by the Staff in the prepared testi-

²⁴ 10 CFR §50.34(a)(10).

²⁵ 10 CFR §50.34(b)(6)(v).

²⁶ Applicants' Testimony of Gordon H. Jacobson on Contention 1, following Tr. 1406 (hereinafter "Jacobson Testimony").

²⁷ Tr. 1420-98, 1506-1670, 1991-99.

mony²⁸ of the Staff witnesses R. W. Houston and Harold E. Collins and their subsequent examination.²⁹ Testimony for the Intervenors on this issue was presented by Dennis C. Dums,³⁰ on behalf of Northern Thunder and John W. Ferman³¹ on behalf of MPCA.

50. The Board concurs in the Staff's conclusion stated above. Before setting out the factual bases for this finding, however, we will address several legal questions. First, as pointed out by the Staff,³² Intervenor MPCA's Contention 1B implies that sufficient information should be provided at this stage of the licensing process to enable a determination that reasonable assurance exists that "measures can and *will* be taken in the event of an emergency to adequately protect public health and safety and prevent damage to property" (emphasis added). That determination, however, should be made at the operating license stage after submission of the detailed emergency plan. Houston Testimony at 11-12; Tr. 1894-95. Our concern at this stage is that such measures *can* be taken, *i.e.* that they are feasible. *Southern California Edison Co.* (San Onofre Nuclear Generating Station, Units 2 and 3), ALAB-248 8 AEC 957, 961 (1974). Second, MPCA has taken the position in its proposed findings³³ that the Applicants must amend their PSAR to include any supplemental testimony or information contained in the record of this proceeding which is not in the PSAR before a construction permit can be issued. MPCA's Memorandum at 7-9. MPCA's Memorandum has provided no basis for such a requirement and we find no necessity for such requirement. The Board's decision on the adequacy of Applicants' preliminary emergency planning is to be made based on the whole record. 10 CFR §2.760(c). Third, MPCA asserts that the Board should give no weight to the Applicants' declaration of intent to comply with the Wisconsin Radiological Response Plan. MPCA's Findings at 9; MPCA's Memorandum at 6-7. The bases for this assertion are that the NRC has not concurred with the Wisconsin plan

²⁸Supplemental Testimony of NRC Staff on Emergency Planning, Contentions IA(1-7), IB, ID, IE and IF by R. W. Houston, following Tr. 1860 (hereinafter "Houston Testimony") and Supplemental Testimony of NRC Staff on Contention 1(C) by Harold E. Collins and R. W. Houston, also following Tr. 1860 (hereinafter "Collins-Houston Testimony").

²⁹Tr. 1861-1981.

³⁰Northern Thunder Testimony on Emergency Planning, Contentions I(A) (5, 6), ID, IE, IF by D. C. Dums, following Tr. 1733 (hereinafter "Dums Testimony") and examination at Tr. 1731-36.

³¹Professional Qualifications and Testimony of John W. Ferman and Contention 1, following Tr. 1738 (hereinafter "Ferman Testimony"), additional testimony of John W. Ferman on Contention 1, following Tr. 1739 (hereinafter "Additional Ferman Testimony"), and examination at Tr. 1737-1850.

³²Staff's Proposed Findings of Fact and Conclusions of Law (hereinafter "Staff's Proposed Findings") at 10, n. 18.

³³Minnesota Pollution Control Agency's Proposed Findings of Fact, Conclusions of Law, and Order and MPCA's Memorandum in Support of its Proposed Findings of Fact and Conclusions of Law" (hereinafter "MPCA's Findings," "MPCA's Memorandum").

and that the U. S. General Accounting Office has published a report in which it stated that as of December 1975, the NRC did not consider any state plan to have adequately addressed the NRC radiation emergency planning guidance. *Id.* at 7. Thus, MPCA asserts, there is no evidence that the Wisconsin plan is adequate and therefore the Board should give no weight to the Applicants' statement of intent to comply with it. *Ibid.* Leaving for later consideration the adequacy of the Wisconsin plan, the Board is of the view that, although compliance with the Wisconsin plan is certainly not dispositive evidence of adequacy of the Applicants' plan, it is entitled to some weight, since any plan of the Applicants', however detailed and complete, cannot by itself satisfy the Commission's requirements unless it is also coordinated with the plans of other agencies having legal or *de facto* responsibilities for emergency actions. We will, in our considerations below, accord appropriate weight to the Wisconsin plan for the content thereof (even if it is currently undergoing revision, Tr. 1874) and to the declaration of the Applicants as evidence of intent by the Applicants to coordinate their activities with those of other responsible organizations.

51. Finally, we come to the question of whether the Applicants' emergency plan must include provision for evacuation plans for persons living outside of the low population zone. Applicants assert that their plan need not include such provisions. See Attachment B to Applicants' Proposed Findings of Fact and Conclusions of Law. The Staff disagreed, asserting that the area which must be considered is a factual determination to be made on a case-by-case basis and that in this case the area should be that within a five-mile radius of the plant (twice the radius of the low population zone). Attachment 1 to Staff's Proposed Findings. MPCA agrees with the Staff and would even go beyond the Staff's proposal to include evacuation plans beyond the five-mile radius. MPCA's Memorandum at 5-6. Northern Thunder also agrees with the Staff. Northern Thunder's Proposed Findings of Fact and Conclusions of Law at 8.

52. Although this question has been extensively argued and briefed by the parties, we can dispense with detailed consideration of the arguments, for in the meanwhile the Appeal Board has, in another case, made a ruling which is dispositive here.³⁴ (The Staff, after reviewing this ruling, recognized that it is controlling and urged us to adopt the Applicants' proposed finding. Letter, Staff to Board, April 15, 1975 (*sic*).

53. Two Appeal Boards, sitting together because of the similarity of the issues presented, reached the decision set forth in ALAB-390.³⁵ The question

³⁴We note in passing that in any event resolution of the question here at the construction permit stage would not have been required, since the evidence does establish (and the Staff so agrees) that evacuation of the area within the five-mile radius is feasible.

³⁵*New England Power Company, et al.* (New England Power, Units 1 and 2) and *Public Service Company of New Hampshire* (Seabrook Station, Units 1 and 2), ALAB-390, 5 NRC 733 (April 7, 1977). One member of each Board wrote a separate opinion concurring in the result, but suggesting certification to the Commission.

before the Boards was “[W]hether, under existing Commission regulations, consideration is to be given in a licensing proceeding to the feasibility of devising an emergency plan for the protection (in the event of an accident) of persons located outside of the low population zone for the particular facility” ALAB-390, 5 NRC at 734-35. The issue in *Seabrook* was an appeal by several of the parties (including the Staff) to a ruling in the Licensing Board’s initial decision to the effect that it was not necessary for the Applicants in that case to devise an evacuation plan for areas outside of the low population zone for that facility (specifically beach areas in the vicinity of the proposed site). In the *NEP* proceeding, which was still in its infancy, the issue was an appeal by the Applicants from a Licensing Board order granting a petition to intervene from a citizens group asserting, as its only issue, the feasibility of evacuating the residents of an island within sixteen miles of the plant in the event of a severe nuclear accident. Pointing out that this was not a question of first impression, but had been squarely presented, and answered in the negative, in several earlier cases,³⁶ the Appeal Boards adhered to their prior rulings on the point, denying the exceptions in the *Seabrook* case and reversing the Licensing Board in the *NEP* case. On the basis of that decision, the Board finds that Applicants’ are not required to include in their preliminary emergency planning provisions for evacuation of people located beyond the low population zone.

54. In assessing the feasibility of coping with an emergency at the TEP site, it is important to note that the site area is sparsely populated. The entire population within 5 miles of the site is estimated to peak at 1070 in 1980. Jacobson Testimony at 5-6. Even when a conservatively estimated transient population is included, the total number of persons within the 5-mile radius at any time is not expected to be greater than 2,000. *Id.* at 8. A low population zone (LPZ) has been defined to be that area bounded by a 2.5-mile radius circle around the facility. The 1970 resident population within the LPZ was estimated to be about 183. No significant changes in this population are projected for the period of plant operation. *Id.* at 10. Section 2.1 of the PSAR Site Addendum provides information on the approximate location of the resident and transient populations, including an identification of school locations and recreational areas, within a 5-mile radius of the plant as well as beyond. Section 2.1 also contains the results of a survey conducted in 1973 to determine existing and planned public facilities and institutions such as schools, hospitals, prisons and parks within 10 miles of the plant. *Id.* at 7. The facilities identified within 5 miles of the plant included Grandview Elementary School, with a 1972 enrollment of 103, located 4.5 miles east-northeast of the plant; Sacred Heart Parochial School, with a 1972 enrollment of 160, located at 5 miles, south-southwest of the plant; and the

³⁶These cases are discussed in the briefs of Staff and Applicants (Attachments to proposed findings).

Dunville Public Hunting and Fishing Grounds identified as being located 2 miles northwest of the plant. The Applicants estimated that the Dunville Public Hunting and Fishing Grounds might contain a maximum of 150 hunters and 75 fishermen per day. Also identified was the Caddie Woodlawn Home and Park located 4.5 miles west-northwest of the plant. The Applicants estimated that this facility might contain a maximum of 50 visitors at any one time. No other schools, recreational areas or other areas "where people could be gathered at high density for various time periods" were identified within 5 miles of the plant. *Id.* at 7-8; PSAR Site Addendum, §2.1; Houston Testimony at 13-14. Although the Staff did not independently verify the location of these facilities, the Staff reviewed the information in Section 2.1 and considered that this information was adequate for emergency planning purposes. Houston Testimony at 13-14. We find that the Applicants have adequately identified all areas within the environs of the plant where people could be gathered at high densities for various time periods and that the information provided is sufficient for emergency planning purposes.

55. Section 13.3.3.8 of the PSAR Site Addendum describes Applicants' preliminary plans for the notification of the population-at-risk, including those within the LPZ, in the event of any emergency. These preliminary procedures rely on the participation of certain state and local agencies and officials, acting in their normal and assigned capacities (*e.g.*, traditional police functions). These agencies and officials can be contacted by Applicants through the use of multiple, diverse communications systems. Tr. 1617. The record shows, then, that it is quite feasible to formulate plans for the timely notification of the population-at-risk in the event of any emergency. Houston Testimony at 7.

56. Applicants' preliminary plans for coping with emergencies considers the expected emergency responses of, among others, the following outside agencies of the State of Wisconsin: Division of Emergency Government, Division of Health, State Patrol, and Department of Agriculture. *Ibid.* Applicants have also made preliminary contact with a number of agencies, officials and organizations concerning the TEP emergency planning efforts. The arrangements to be made include those pertaining to fire protection, medical support for injured personnel, notification for and organization of offsite evacuation if necessary, and the overall coordination of emergency responses. Jacobson Testimony at 18-19. Applicants have already found that local police will be available on a 24-hour basis. Tr. 1615. In addition, it was demonstrated that public weather service assistance could be used in the event that the plant's meteorological instrumentation becomes unavailable. Tr. 1536. Additional contacts with agencies, officials and organizations will be made by Applicants during the preparation of the actual emergency plan, and agreements will be sought to assure that all participants have a clear understanding of assigned responsibilities and coordinated actions. Jacobson Testimony at 19. This preliminary information adequately describes,

we find, the expected response of offsite agencies. See Houston Testimony at 8.

57. Applicants have addressed the training of TEP employees, including training in emergency operating procedures, in PSAR Site Addendum, §§13.2 and 13.3.6. This training program will be designed to assure that all personnel are aware of the current emergency plans and understand their responsibilities. *Ibid.*; Jacobson Testimony at 31-32. Applicants will also conduct periodic training of offsite personnel. This training will include the review of the current emergency plan and the indoctrination of all individuals new to their involvement with the plan. Personnel not employed by Applicants who will respond to an emergency—such as police, hospital, fire and ambulance personnel—will be trained by plant personnel in the performance of those duties. This program will include fundamental training in dealing with potentially contaminated personnel, equipment and areas. Houston Testimony at 9; Jacobson Testimony at 32. Applicants' preliminary plans contemplate the use of drills, involving emergency response personnel, to assess and aid in such training. *Id.* at 32-33; Tr. 1517. Applicants' preliminary description of and commitment to perform training in support of the emergency plan is adequate for this stage of the licensing process. See Houston Testimony at 8-9.

58. Applicants' description of their preliminary plans for coping with emergencies includes a medical support plan and information on offsite medical facilities to be used in case of an emergency. See PSAR Site Addendum, §13.3.4. See also Jacobson Testimony at 29-31. Applicants have preliminary agreements with two hospitals in Eau Claire, Wisconsin, and one in Durand, Wisconsin, for the provision of emergency health care on a 24-hour basis. PSAR Site Addendum, §13.3.4.4; Houston Testimony at 10. This information on the general scope and contemplated design of a medical support plan, including the training of personnel, is adequate, we find, for a construction permit application.

59. The main thrust of Intervenor MPCS's Contention 1A(7) is that the Applicants should have considered plans to provide for the housing, clothing and feeding of evacuated individuals, their transportation back to their residences, or the reoccupation of their residences and/or businesses. We find however, that these activities are to be regarded as emergency preparedness functions of government for a broad range of natural or man-made emergency situations. Both the Applicants and the Staff have indicated that provisions exist in the State of Wisconsin relating to agency responsibilities to house, clothe, feed and otherwise provide for individuals in the event of disasters and emergencies. This information is presently found in the State of Wisconsin's Emergency Operations Plan. Jacobson Testimony at 36-37; Tr. 1555-56; Houston Testimony at 10-11.

60. Proposed evacuation routes for the TEP site environs have been identified and described in the PSAR Site Addendum, §13.3.3.11 and Fig. 13.3.-1. See also Jacobson Testimony at 14. The adequacy of these evacuation routes has been considered in light of possible adverse weather conditions simultaneous

with an emergency. Applicants have identified such routes and have performed studies to evaluate the effects of blizzards and floods on the feasibility of evacuation. *Id.* at 39; Tr. 1425-26. These studies show that design basis accident dispersion factors are 4 to 40 times more conservative than blizzard dispersion factors. *See* Exhibit 20. Thus, radiation doses resulting from an accident coincident with a blizzard would be at least 4 to 40 times lower than those reported in the PSAR and evacuation as an emergency response would not likely be preferred to taking shelter. Jacobson Testimony at 39. *See also* Houston Testimony at 12-13. Also, a substantial inventory of local snow removal equipment is available on a priority basis to clear evacuation routes during and after a blizzard, Tr. 1525-28, and local residents can reasonably be expected to have experience in dealing with the typical weather of the northern United States. Tr. 1933. The evaluation of flood condition effects shows that, using the so-called "100-year flood" as a basis, evacuation routes would not become impassable with the possible exception of a section of one county road outside the low population zone. Even this one section of county road is likely to remain passable, although capacity may be reduced by shallow flooding. Jacobson Testimony at 39; *see also* Exhibit 21. Thus Applicants have adequately considered evacuation routes and considered the contingencies of bad weather in formulating their preliminary emergency response plans.

61. Applicants' preliminary emergency response plans recognize the need for coordination with the State of Wisconsin's Radiological Response Plan. *See* PSAR Site Addendum, §13.3. While it is true that NRC, as alleged in Contention 1(C),³⁷ has not "concurred" in the State's plan, the Staff witnesses explained that this concurrence function—essentially a planning, training and coordinating function assigned by the Federal Preparedness Agency—is separate and apart from the NRC's licensing program and such concurrence is not required by the Commission's regulations. Collins-Houston Testimony at 2-4; Tr. 1905. It is required, however, that operating license applicants describe agreements reached with local and state agencies which provide for taking protective measures on behalf of the public in the event such steps should become necessary. Collins-Houston Testimony at 2, 5. The Wisconsin plan is undergoing continuing review by the State, the NRC and other agencies. It is anticipated that revisions and improvements to that plan will be accomplished in the near future, and therefore prior to the commencement of commercial operation at TEP. Collins-Houston Testimony at 4-5; Jacobson Testimony at 37-38. To the extent that coordination and cooperation with the State of Wisconsin are required, Applicants' preliminary plans demonstrate the feasibility of formulating adequate implementing

³⁷We note, however, that the GAO report cited in Contention 1.C does not determine, as the contention states, that "all state plans are inadequate." Collins-Houston Testimony at 6; Jacobson Testimony at 37.

procedures; and, as we noted above in our discussion of emergency responses, agreements will be sought on the required State agency response and coordinated action in the event of an emergency.

62. Section 13.3.2.3 of the PSAR Site Addendum indicated that Applicant would define a general emergency as existing when it had "been determined that a high level release of radioactivity to the environment has occurred which could result in short-term radiation exposures in excess of 0.5 rem to members of the general public at the site boundary." The .5 rem number was derived from the .5 rem per year exposure level limit found in 10 CFR §20.105. *See* Tr. 1997-Applicants' witness explained however that the .5 rem figure would be utilized as the basis for actuating the initial steps in the Applicants' emergency plan as going on "alert status." Tr. 1642-45, 1997-99. With respect to evaluating various protective actions and timing their application the Staff adopted the Protective Action Guides (PAG) of the United States Environmental Protection Agency³⁸ (Exhibit 23A). Houston Testimony at 4; Tr. 1863-67. These PAG's set forth recommended actions to be taken in the event that projected doses³⁹ to the population are anticipated to exceed specified levels. Tr. 1863-65. With respect to the protective measures of evacuation, the Guides, for planning purposes, recommend mandatory evacuation when projected doses are expected to exceed 25 rem thyroid or 5 rem whole body. Exhibit 23A, Table 5.2. At the request of the Staff, the Applicants developed conservative dose level plots as a function of time and distance from the release point. These plots utilized the same isotopic release rates to the atmosphere, the same dispersion model, and the same meteorology as are postulated for the most conservative case in Applicants' accident analyses set forth in Chapter 15 of the SNUPPS PSAR. SNUPPS PSAR, §13.3. The results of these plots indicate that for the most serious design basis accident as postulated for Part 100 siting purposes, the 25 rem thyroid dose could extend out to approximately five miles from the plant. *Ibid.*⁴⁰ The Applicants analyzed the feasibility of evacuation of the population within a five-mile radius. PSAR Site Addendum, §§13.3.3, 11; Jacobson Testimony at 24-27; Tr. 1639. The Applicants' analysis determined that within any one 45° sector out to five miles

³⁸The Staff would have us find that the Applicants have also adopted the Protective Action Guides. Staff Proposed Findings at 14. We note, however, that that appears not to be the case and that Applicants' calculations of doses at a five-mile radius were made only in response to a specific Staff request. *See* Applicants' Reply to the Proposed Findings of Fact and Conclusions of Law of the Other Parties at 8-9 and transcript citations therein.

³⁹A project dose is the dose that would be received if no protective actions were taken. Tr. 1864-65.

⁴⁰*See also* Exhibit 22. Figure 13.3.1 of the SNUPPS PSAR is for all practical purposes the same as Figure 1 of Exhibit 22. Tr. 1649-50.

all personnel could be notified⁴¹ within one hour of a determination that an emergency existed. The actual transit time after notification was determined to be much shorter than one hour. PSAR Site Addendum, §§13.3.3.8, 13.3.3.11; Jacobson Testimony at 25-27. The Staff also utilized the EPA Protective Action Guides and the time-dose distance curves of §13.3 of the SNUPPS PSAR in evaluating protective actions and timing their application. Houston Testimony at 3-4. Utilizing a semiempirical mathematical model based on data from actual evacuations,⁴² the Staff's witness indicated that it might take approximately three hours to evacuate the approximate 200 persons within the entire LPZ measured from the first warning to the population at risk. For the approximate 1000 residents within the entire 5-mile radius the estimate was 5-6 hours. Houston Testimony at 5. Even when a conservatively estimated transient population is included the population within five miles could be evacuated within six to seven hours. Tr. 1859-60. Combining these evacuation times with dose plots of the SNUPPS PSAR, Section 13.3, the Staff found that no one initially within the LPZ would receive an exposure in excess of the site criteria values of 10 CFR Part 100. Houston Testimony at 5-6. Thus the Staff concluded that an evacuation even out to five miles would be entirely feasible and that the Applicants' submittals for the construction permit application are adequate to demonstrate this feasibility. *Id.* at 6. The Applicants also submitted time-distance-dose calculations based on more realistic assumptions as to source term and dispersion factors and dose models of the type authorized for use in the Applicants' environmental report. For an accident characterized by these "realistic" assumptions Applicants showed that the projected thyroid dose would be less than 5 rem even at the exclusion area boundary. Exhibit 22, Figure 4. Such calculations show that it is relatively unlikely that an evacuation would ever have to be implemented beyond the exclusion area boundary.

63. As we stated at the outset, the law in this case is that the area in which the Applicant must demonstrate the feasibility of evacuation is the Low Population Zone, as set forth in ALAB-390. There is no question that this requirement is satisfied, and we so find. On the other hand, good practice may dictate that planning include evacuation of any area within which the PAG limits may be

⁴¹The primary means of notification would be by personal notification by the sheriffs of Dunn and Pepin Counties. However, notification of offsite individuals by phone could be utilized when practicable. Jacobson Testimony at 26. Applicants have indicated that they intend to make a telephone contact list for the persons living within the LPZ. Tr. 1591.

⁴²The Staff's witness acknowledged that the actual evacuation data utilized in developing the model were extremely sparse with respect to such low population densities as exist around the Tyrone site. However, he indicated that the results obtained by application of the model to the Tyrone environs were intuitively logical and provided reasonable expectation values with respect to evacuation times. Tr. 1969-77.

exceeded, even if this is not the responsibility of the Applicants.⁴³ In view of this (and in view of the possibility that our interpretation of ALAB-390 is erroneous), we further find that the record clearly demonstrates that evacuating the area within a five-mile radius of the plant is feasible.

64. Intervenor MPCA submitted testimony in support of Contention 1 that has two essential thrusts: (a) That Applicants have incorrectly judged vehicle speeds and local road capacities, thereby rendering inadequate Applicants' preliminary assessment of evacuation feasibility, Additional Ferman Testimony at 2-4; and, (b) that, based upon a reading of 10 CFR §20.105, Applicants should consider evacuation plans out to as far as 100 miles. *Id.* at 2; Ferman Testimony at 3-4; Tr. 1804, 1832.

65. Witnesses for Applicants and the Staff agreed that in an area of low population density such as the TEP site environs, evacuation feasibility is not limited by road capacity or vehicle speed. Houston Testimony at A-6, A-11; Tr. 1437-38. Most of the elapsed time during evacuation is consumed in the warning process and preparations for leaving, rather than in actual transit. Houston Testimony at 5. On cross-examination, the MPCA witness equivocated considerably on the validity of his traffic flow theory and demonstrated little appreciation for its applicability to the TEP site area. Tr. 1807-17. Under examination by the Board, the witness essentially admitted that road capacity would not be a limiting factor for evacuation feasibility at TEP. Tr. 1841-42. In fact, the very low population density in the site area renders academic any disagreements as to the exact capacity of local roads.

66. MPCA's second point was that evacuation plans should be developed out to 100 miles. MPCA appears to base this recommendation on a totally inappropriate reading of 10 CFR §20.105 and Appendix I to 10 CFR Part 50. Tr. 1793-98, 1997-99. These regulations, are concerned with normal, nonemergency levels of radiation associated with nuclear facility operation over long periods of time. Part 20 and Appendix I to Part 50 do not address emergency actions or in any way purport to imply protective action guidance. The specific 100-mile radius was selected by the witness based on his suggestion that evacuation should be carried out to avoid projected exposures of one-tenth of a rem, a figure which the Staff's witness had never heard mentioned for protective action guides despite being personally involved in discussions with EPA during development of the EPA guidelines. Tr. 1954-57. The one-tenth rem is an unreasonably low figure to be considered for evacuation purposes, especially when it is considered that the naturally occurring background dose rate in Wisconsin is also approximately one-tenth rem per year.⁴⁴ Tr. 1844-46. The 100-mile radius selected by

⁴³We note that, by their terms, the PAG's refer to actions by "State authorities" and "State and local officials." Exhibit 23A at p. 5.1.

⁴⁴This one-tenth figure represents the approximate difference between the background rate in Wisconsin and what the MPCA witness agreed was the naturally occurring background rate in Denver, Colorado of approximately 200 millirem per year. Tr. 1845.

the witness was also dependent upon an extrapolation, by a purely mathematical device of the Applicants' time-dose-distance curves found in Section 13.3 of the PSAR, a technique which the witness himself acknowledged was risky. Ferman Testimony at 4. We must therefore reject MPCA's suggestion that planning for evacuation out to 100 miles should have been considered as being unsupported by an adequate analysis.

67. Intervenor Northern Thunder also filed testimony in support of Contention 1. Dums Testimony. This testimony basically asserts a need for more detailed emergency plan information. Much of the information for which this testimony asserts a need has been considered in this record through the testimony of Applicants and the NRC Staff which we have addressed in these findings. Detailed plans beyond those considered here, the Board finds, are not required for a construction permit application.

68. In summary, the Board finds that, contrary to the assertions of Contention 1, the information in the record is sufficient and that the requirements of §II of 10 CFR Part 50, Appendix E, and 10 CFR §50.34(a)(10) have been met. We find that sufficient information has been provided to assure the compatibility of the proposed emergency plans with facility design features, site layout, and site location with respect to such considerations as access routes, surrounding population distributions, and land use.

CONTENTION 2.A: There is insufficient evidence that the proposed emergency core cooling system planned for the Tyrone reactors will meet the requirements of Criterion 35, 10 CFR Part 50, Appendix A (CFT-P).

69. Criterion 35 requires a system to provide abundant emergency core cooling in order to transfer heat from the reactor core following any loss of reactor cooling at a rate such that fuel and clad damage that could interfere with continued effective cooling is prevented and that clad metal-water reaction is limited to negligible amounts. It also requires suitable redundancy and other features to assure that in case of loss of either onsite or offsite power this function will be accomplished even assuming an additional single failure. Evidence provided by Staff and Applicants shows that the Emergency Core Cooling System (ECCS) is sized and designed to accomplish its required function even for a hypothetical, instantaneous double-ended severance of the largest pipe in the reactor coolant system. The ECCS will have the required number, diversity, reliability and redundancy of equipment such that no single failure of the ECCS equipment, occurring during a loss-of-coolant accident, will result in inadequate cooling of the reactor core. SER, §6.3.1; Esposito Testimony⁴⁵ at 1.

⁴⁵ Applicants' Testimony on Contention 2A, following Tr. 672 (hereinafter "Esposito Testimony").

70. The ECCS design combines the use of accumulators, charging pumps, safety injection pumps and residual heat removal pumps to provide the necessary component and system redundancy to meet the single failure criterion of 10 CFR Part 50, Appendix A, Criterion 35. Esposito Testimony at 2. The principal design features are set forth in the record. See Esposito Testimony at 2-5; SER, §6.3.2; Exhibit 24, §6.3.

71. The Staff initially presented its evaluation of the performance of the ECCS proposed for Tyrone Energy Park in §6.3.3 of the SER, Supplement No. 1. It concluded that, on the basis of its review of Applicants' analysis, the ECCS would comply with the Commission's Acceptance Criteria⁴⁶ for such systems. In the SER, Supplement No. 2, the Staff stated that subsequent measurements performed in an operating plant and calculations had indicated that the temperature of the reactor coolant in the upper head region of the reactor vessel may be higher than the temperature that was assumed in the ECCS analysis. The Staff stated that using the higher upper head water temperatures would be expected to increase the calculated peak clad temperature when all other inputs to the analysis remain unchanged. The Staff therefore requested Applicants to submit a reanalysis of ECCS performance. Applicants submitted such a revised ECCS performance analysis for four postulated large pipe ruptures, conservatively assuming an upper head coolant temperature equal to the hot leg coolant temperature. The new analysis shows that, contrary to the Staff's earlier expectation, the resulting peak temperature is lower than previously calculated (2148°F compared to 2178°F). The calculated maximum local metal-water reaction is also slightly lower than previously calculated. These differences are attributed to the use in the current analysis of a modified version of the Westinghouse evaluation model approved by the Staff in May 1976. SER Supplement No. 3, §6.3.3. The Staff's evaluation of this reanalysis reaffirms that the ECCS performance for Tyrone Energy Park conforms to the Acceptance Criteria in Section 50.46 of 10 CFR Part 50. *Ibid.* As stated in paragraph (d) of Section 50.46, the criteria set forth therein (specifically in paragraph (b)), with cooling performance calculated in accordance with an evaluation model which conforms to Appendix K to 10 CFR Part 50, are in implementation of the General Design Criteria (Appendix A to 10 CFR Part 50) with respect to ECCS cooling performance design, including in particular Criterion 35. Therefore, based upon our review of the record, the Board concurs in the Staff's conclusion and also finds that, contrary to Contention 2.A, the Tyrone ECCS complies with General Design Criterion 35 of Appendix A to 10 CFR Part 50.

CONTENTION 2.B: Isolation valves in the safety injection and residual heat removal systems do not conform to acceptable valve

⁴⁶10 CFR §50.46.

arrangement as described in General Design Criterion 55, 10 CFR Part 50, Appendix A. Further, no other defined basis for the justification of the described arrangement is provided in the SNUPPS Preliminary Safety Analysis Report or the Tyrone Energy Park Addendum (MPCA II-3, #1).

72. The containment isolation valve arrangement which is the subject of Contention 2.B was identified during cross-examination of MPCA's witness as being the arrangement associated with penetrations 27, 82 and 48, which are part of the safety injection and residual heat removal systems. Tr. 1341-42. These containment isolation provisions consist of a check valve inside containment and a remote manual valve outside containment. A remote manual isolation valve is provided in lieu of an automatic isolation valve because the lines, which are part of the emergency core cooling system, have a postaccident function that necessitates their being opened in the event of an accident. Shapaker Testimony⁴⁷ at 2-3. During different accident situations, this valve arrangement could be required either to form part of the reactor coolant pressure boundary or to perform a containment isolation function. Schwoerer 2B Testimony⁴⁸ at 1. Thus, it must satisfy both General Design Criterion⁴⁹ (GDC) 55 and GDC 56. The same four allowable valve configurations are identified in both GDC 55 and GDC 56 and both criteria recognize that containment isolation provisions may be acceptable on "some other defined basis." Shapaker Testimony at 2. The arrangements for penetrations 27, 82 and 48 were found acceptable by the Staff on such an "other defined basis." That basis is set forth in Section 6.2.4, Item III.3.b, of the Commission's Standard Review Plan.⁵⁰ *Id.*, at 2-3; Schwoerer 2.B Testimony at 1-2.

73. The arrangement prescribed by GDC 55 and 56 applicable to these penetrations is "one automatic isolation valve inside and one automatic valve outside containment." Although the GDC prohibits use of a simple check valve as an automatic isolation valve outside of containment, no such prohibition applies to such use where, as in this case, the valve is inside containment. The cited section of the Standard Review Plan provides that in circumstances such as those here a remote-manual valve may be used instead of an automatic isolation valve, if "provisions [are] made to detect possible leakage from these lines

⁴⁷Supplemental Testimony of NRC Staff on Contention 2(B) by James W. Shapaker, following Tr. 1384 (hereinafter "Shapaker Testimony").

⁴⁸Applicants' Testimony of Frank Schwoerer on Contention 2B, following Tr. 1347 (hereinafter "Schwoerer 2B Testimony").

⁴⁹The General Design Criteria are set forth at 10 CFR Part 50, Appendix A.

⁵⁰Section 6.2.4 is attached to both the Shapaker Testimony and the Schwoerer 2.B Testimony.

outside containment.” Such provisions have been made.⁵¹ On this basis, the Staff has found these penetration arrangements to be acceptable. Tr. 1398-99.

74. MPCA presented a witness on this contention⁵² whose testimony was directed primarily to the adequacy of the leakage testing provisions. These are found below to be acceptable. Neither MPCA nor the other intervenors proposed findings of fact on this contention.

75. The Board finds that, contrary to Contention 2.B, the isolation valve arrangements in the TEP safety injection and residual heat removal systems meet GDC 55 and 56.

CONTENTION 2.C: Isolation valves in the safety injection and residual heat removal systems do not meet the requirements of General Design Criteria 37 and 54, 10 CFR Part 50, Appendix A, in that the check valves in tandem cannot be independently tested (MPCA II-3, #2).

76. General Design Criterion 37 establishes the requirement that the emergency core cooling system be designed to permit appropriate periodic pressure and functional testing. This criterion addresses the requirements of the system as a whole and the individual components as well. GDC 54 applies specifically to piping systems penetrating containment. It requires that the systems be provided with leak detection, isolation, and containment capabilities having redundancy, reliability, and performance capabilities which reflect the importance to safety of isolating these piping systems. GDC 54 goes on to require capability for periodic testing of operability and the determination that valve leakage is within acceptable limits. Each injection line in the safety injection and residual heat removal systems at TEP has tandem check valves inside containment. These check valves automatically permit flow in one direction or provide a seal against flow in the other direction. Watt-Israel Testimony⁵³ at 1-2.

77. The Applicants have described in detail the procedures for testing independently each of the check valves. Applicants' Testimony of Frank Schwoerer on Contention 2C, following Tr. 1381. They are committed to periodic testing in accordance with the appropriate requirements. Watt-Israel Testimony at 3. There was no cross-examination of the Applicants' or Staff witnesses on this contention and the Intervenors neither presented witnesses nor proposed findings.

⁵¹ See Findings on Contention 2.C, *infra*.

⁵² Testimony on Contention 2.B of Randall W. Dunnette, following Tr. 1340 (hereinafter "Dunnette Testimony").

⁵³ Supplemental Testimony of NRC Staff on Contention 2.3 by James J. Watt and Sanford L. Israel, following Tr. 1386 (hereinafter "Watt-Israel Testimony").

78. On the basis of the uncontroverted evidence by Applicants and Staff, the Board finds that the isolation check valves in tandem in the safety injection and residual heat removal systems can be independently tested and that GDC 37 and 54 have been met.

CONTENTION 3.A: There is a strong probability that the TEP facility will release excessive amounts of radiation into the atmosphere in violation of 10 CFR Part 100 (CFT-S).

79. Applicants and the Staff have both analyzed the response of the plant to certain anticipated operating transients and to postulated accidents. The potential consequences of such highly unlikely postulated accidents (design basis accidents) as a loss-of-coolant accident, a steamline break accident, a steam generator tube rupture, a fuel handling accident, a rupture of a radioactive gas storage tank in the gaseous radioactive waste treatment system, and a control rod ejection accident, have been considered. Conservative analyses of these accidents by both Staff and Applicants showed that the calculated potential offsite dose that might result in the very unlikely event of their occurrence would be well within the limits established in 10 CFR Part 100. SNUPPS PSAR, §15; SER, §15; Applicants' Testimony of Eugene F. Beckett and John C. Dodds in Response to Contention 3.A, following Tr. 505. The Staff determined that, of these postulated accidents, the loss-of-coolant accident would have the largest radiological consequences. SER, §15 and particularly Table 15-4. The Staff's witness estimated that the probability of an accident with a dose consequence greater than that of the postulated loss-of-coolant accident would be approximately 10^{-7} per year. Tr. 953-54.

80. The proposed findings submitted by CFT on this contention, to the extent that they are understandable, appear to be directed mainly to matters extraneous to the contention. No other Intervenor proposed findings. The Board finds that there is not "a strong probability that the TEP facility will release excessive amounts of radiation into the atmosphere in violation of 10 CFR 100," as alleged in Contention 3.A. Further, the evidence shows that there is a strong probability that the resulting doses would be only a very small fraction of the amounts identified in 10 CFR Part 100.

CONTENTION 3.B: There is no method by which the facility may be made secure against domestic sabotage, which could result in the release of excessive amounts of radioactive materials (CFT-F).

81. The Commission's regulations, at 10 CFR §73.40, require licensees to provide protection against industrial sabotage. Applicants have provided a gener-

al description of their preliminary plans and arrangements for protection of Tyrone against potential acts of industrial sabotage. SER, §13.5; PSAR Site Addendum, §13.7. A detailed security plan is not required until the time of an operating license application, in accordance with 10 CFR §50.34(c). In a footnote to Section 50.34(c), the Commission indicates that the criteria appearing in Regulatory Guide 1.17, "Protection of Nuclear Power Plants Against Industrial Sabotage" (June 1973) (Exhibit 7), are "generally acceptable for the protection of nuclear power reactors against acts of industrial sabotage." Regulatory Guide 1.17, in turn, incorporates by reference the "requirements and recommendations" of the American National Standards Institute (ANSI) Standard N18.17, "Industrial Security for Nuclear Power Plants" (March 23, 1973) (Exhibit 6). Recognizing that §50.34(c) applies to operating license applications and that in the present case a detailed security plan is not yet required, the Board has nevertheless reviewed the record (on the protection of the proposed plant from industrial sabotage) against the principles embodied in the ANSI standards.⁵⁴

82. An important feature of a security program for a nuclear power plant is the prevention and deterrence of overt intrusions by unauthorized persons. This may be accomplished through a combination of physical systems and barriers. ANSI Standard N18.17 recommends the designation of three security areas, increasing in the degree of protection provided as one approaches the vital equipment of the plant. *See* Exhibit 6 at 2-3. Applicants have designated three security areas. Tr. 1220-21; *See* Exhibit 10. The outermost area, designated as the owner-controlled area, will be completely enclosed with a fence. Roads will be provided for general surveillance of the area. Houston 3B Testimony⁵⁵ at 2-3. The intermediate area, designated as a protected area, is completely within the owner-controlled area and will be enclosed by a physical barrier conforming to the construction requirements set forth in ANSI Standard N18.17, §2.2.4. Access to the protected area will be controlled by armed security guards. *Id.* at 3; Tr. 710-12. There will be only one access point to the protected area—at the guardhouse location. Tr. 720-21. Parking facilities will be located outside the protected area. Roadways, will be provided inside the protected area fence to permit effective surveillance of the area by security patrols. Houston 3.B Testimony at 3. The innermost area which contains the vital equipment of the plant

⁵⁴These standards were held to be the appropriate focus for a determination of the adequacy of an operating license applicant's security plan in *Consolidated Edison Company of New York, Inc.* (Indian Point Station, Unit No. 2), ALAB-243, 8 AEC 850, 852 (1974). Further, we note that although the Commission has, since this hearing, amended its rules regarding requirements for physical protection of nuclear power reactors, 42 Fed. Reg. 10836, February 24, 1977, the new rule, by its terms, is not applicable to these Applicants until submission of their application for an operating license. 10 CFR § 73.55.

⁵⁵Supplemental Testimony of NRC Staff on Contention 3.B by R. W. Houston following Tr. 1205 (hereinafter "Houston 3.B Testimony").

as defined in ANSI Standard N18.17, §2.2.8, will be enclosed by additional physical barriers, which will meet the construction requirements set forth in ANSI Standard N18.17, §3.4, and will be subject to additional access controls. Applicants have identified the vital areas at TEP which will be afforded this additional protection. *Ibid.* In vital buildings and structures, each door, window or other portal which is accessible from the ground, or any part of which is within 15 feet of the ground, will be locked and protected by an intrusion alarm. PSAR Site Addendum, §13.7.1.2.

83. The ANSI Standard provides that “[C]ontrol of access to vital areas shall include the use of one or more of the following: (1) security force personnel or designated operating personnel, (2) lock and key system, (3) electromechanical or electronic devices.” Exhibit 6 at §3.4.2. The Applicants’ witness indicated that the access controls for Tyrone would include the use of key card control systems throughout the facility which would identify where the individual may or may not go. Tr. 732. Each individual would have a coded card that would allow him in certain areas of the plant. Tr. 759. Such a card would be electronically read before entry to an area. Additionally, such a system could provide for monitoring an individual as he proceeds through the plant. The cards would be required to be kept at the plant. Tr. 760, 1278. Should a key card be lost, however, the integrity of the security system could be restored through computer programming, so that the lost card is no longer recognized to authorize entry. Tr. 1287. The Applicants’ witness also indicated that vital equipment will be contained within keylocked rooms and that the proper keys for such rooms would have to be checked out from a specified individual. Changes in vital equipment would result in the alarming of the control room by equipment status monitors. Tr. 758-60. Finally, all of the vital equipment is redundant and physically separated. Tr. 758.

84. Applicants have indicated that measures are to be used for plant personnel selection which are intended to minimize the likelihood that acts of sabotage might be performed by persons normally authorized access to the plant. These measures provide reasonable assurance that only reliable and emotionally stable personnel will be permitted to work at the plant. PSAR Site Addendum, §13.7.1.1; Houston 3B Testimony at 2. In addition, Applicants will provide continuing surveillance through periodic reviews of employee performance. *Ibid.*

85. Applicants will be required to employ an armed and trained plant security force to control access to the protected area. Security personnel will respond with force, if necessary, to unauthorized intrusion, and will communicate (through diverse instrumentation) with law enforcement authorities for their assistance if needed. Exhibit 9; Tr. 738. Applicants’ security program will include initial training and qualification of security personnel, followed by periodic testing and requalification. Tr. 733-41; Exhibit 8. Staff’s witness testified that the security force at Tyrone would be of sufficient size that the risk to the

public health and safety due to acts of industrial sabotage would be low. Tr. 1228.

86. Applicants have made provisions for continuously manned alarm stations, have designated acceptable specifications for intrusion alarms, emergency exit alarms, alarm systems and line supervisory systems, and acceptable provisions for protection of security system components. These conform to the alarm system recommendations of Regulatory Guide 1.17, §C.1.b., and to the design criteria of ANSI Standard N18.17, §5.3. Houston 3.B Testimony at 4.

87. In addition to the security measures set forth in the record, the Board notes that the massive design features of Tyrone alone enhance the likelihood of failure of any domestic sabotage attempt. For example, the safety related portions of the plant structures, systems and equipment are designed and constructed to provide protection against natural phenomena and the consequences of postulated accidents. These structures are built to resist a tornado or tornado-generated missiles, and forces due to seismic shock. Furthermore, the biological shielding provided for reducing radiation levels throughout the plant results in heavily reinforced and massive barriers. Houston 3.B Testimony at 4. The reactor vessel alone weighs 400 tons, has steel walls 11 inches thick, and typically requires a minimum of 12 hours to open using a crew of four, with special tools and knowledge. Gelle 3B Testimony⁵⁶ at 3; Tr. 841-42. Thus, the inherent design characteristics of the plant are resistant to penetration and provide a facility at which intentional damage would be extremely difficult to accomplish. These features, together with the additional security measures, provide a high degree of protection against the occurrence or effects of sabotage. Houston 3.B Testimony at 4; Gelle 3B Testimony at 3-4.

88. Intervenor Northern Thunder's proposed findings argued that the Staff's witness "admitted to the fact that a well armed terrorist group could gain entrance to TEP and could create a situation endangering the public health and safety (Tr. 1243-4)" and that such an admission supported the contention of Intervenor Citizens for Tomorrow that there is no method by which the facility may be made secure against domestic sabotage. Northern Thunder's Findings at 9.⁵⁷ The actual question posed by Northern Thunder to the Staff's witness and his responses are as follows:

- Q. If, given present guidelines, if Tyrone Nuclear Power Plant were constructed and there wasn't an upgrading of the NRC guidelines with regard to terrorist activities, would a group of persons armed with weapons such as bazookas, antitank guns, mortars, this sort of thing,

⁵⁶ Applicants' Testimony of Kenneth E. Gelle on Contention 3B, following Tr. 690 (hereinafter "Gelle 3B Testimony").

⁵⁷ "Northern Thunder's Proposed Findings of Fact and Conclusions of Law Concerning Certain Radiological Health and Safety Issues" (hereinafter Northern Thunder's Findings).

have a good chance, in your estimation, of entering and sabotaging the plant”

- A. I believe you qualified the question in such a way I could hardly answer other than yes, I believe they would have a chance.

CHAIRMAN SMITH: By your answer you are not—or are you—saying there would be a good chance for this group to enter and sabotage and cause a threat to the public health and safety?

THE WITNESS: Since so much emphasis has been put on the impression of firepower, the thrust of my response was directed primarily towards the ability in effect to gain access to the plant. I believe that the likelihood of having access that they could now create a situation which would be a cause of grave concern for the public health and safety is still relatively small.

Tr. 1243-44. Contrary to Northern Thunder’s assertion, the witness’s response to the question implies that risks to public health and safety arising from potential acts of industrial sabotage will be small. Also, it may be noted that the question posed to the witness was one of a series, Tr. 1234-45, concerning what Northern Thunder characterizes in their proposed finding 41 as an attack by a “well armed terrorist group.” In *Consolidated Edison Company of New York, Inc.* (Indian Point Station, Unit No. 2), ALAB-197R, 7 AEC 826, 830 (1974), the Appeal Board held:

... Thus, it would appear that the rationale of the Commission’s approach (in 10 CFR §50.13) in not requiring an applicant to protect against the effects of enemy attacks and destructive acts would also apply to an armed band of trained saboteurs [not an enemy of the United States]. As in the case of defending against the threat of an attack by an enemy of the United States, it seems that an applicant should be entitled to rely on settled and traditional governmental assistance in handling an attack by an armed band of trained saboteurs. Without such reliance, each facility could indeed become an armed camp.

In the view of the Board, the “well armed [*i.e.*, bazookas, antitank guns, mortars] terrorist group” to which Northern Thunder has referred in its findings is precisely the type of sabotage threat which Commission regulations do not require an Applicant on its own to counteract. Rather, in the face of such a threat, the Applicant is entitled to rely on governmental assistance. The Board therefore finds that it would be improper to apply the standard which Northern Thunder proposes in judging the inadequacy of Applicants’ preliminary security measures.

89. As noted at the outset of this discussion, a detailed security plan need

not be provided at the construction permit stage. The record, however, in this proceeding is more than adequate to lead the Board to conclude that, contrary to Contention 3.B, there are methods by which Tyrone may be made reasonably secure against acts of domestic sabotage which could result in the release of excessive amounts of radioactive materials. Applicants have committed to meet appropriate Regulatory Guides and ANSI Standard N18.17 in the development of their security plan. Gelle 3 B Testimony at 1; Tr. 761. The Board finds that security measures based upon these guides and standards, together with the inherent design characteristics of Tyrone, will provide adequate assurance that risks to the public health and safety arising from potential acts of industrial sabotage will be acceptably low.

CONTENTION 3.C: The area of the proposed plant is subject to tornadoes, the plant structures could not withstand the forces of a tornado, and the effect of a tornado would be to release excessive amounts of radioactive materials (CFT-G).

90. Both Staff and Applicants agree that the area of this proposed site (as all others) is subject to tornadoes. Staff 3.C Testimony⁵⁸ at 1; PSAR Site Addendum, §2.3.1.3.2. Because of this, Criterion 2 of the General Design Criteria⁵⁹ requires that structures, systems and components important to safety be designed to withstand the effects of tornadoes without loss of capability to perform their intended safety functions. Staff 3.C Testimony at 2. The Applicants have so designed the plant. Meyers-Taylor Testimony⁶⁰ at 1. The Staff has reviewed the design criteria and the procedures to be utilized to determine the tornado loadings on safety-related structures and has concluded that these provide an acceptable basis for satisfying the applicable requirements of Criterion 2 and that, in the unlikely event that a design basis tornado (DBT) should strike the facility, no Category I structure will suffer any damage that will impair its ability to perform its required safety function. SER, §3.3.3.8; Staff 3.C Testimony at 7.

91. The DBT characteristics, selected in accordance with the appropriate Regulatory Guide, include a tangential wind velocity of 290 miles per hour, a translational velocity of 70 miles per hour and a simultaneous atmospheric pressure drop of 3 pounds per square inch in 1-1/2 seconds. Staff 3.C Testimony at 2; SER, §3.3; Meyers-Taylor Testimony at 2-3. The probability that such a

⁵⁸ Supplemental Testimony of NRC Staff on Contention 3.C, following Tr. 424 (hereinafter "Staff 3.C Testimony").

⁵⁹ 10 CFR Part 50, Appendix A.

⁶⁰ Applicants' Testimony of B. L. Meyers and John Taylor in Response to Contention 3.C, following Tr. 400 (hereinafter "Meyers-Taylor Testimony").

tornado will strike the site is less than 10^{-7} . Meyers-Taylor Testimony at 2. The computed recurrence interval for any tornado striking the plant site is about 1000 years. Staff 3.C Testimony at 1; SER, §2.3.1; PSAR Site Addendum, §2.3.1.3.2.

92. The procedures used by the Staff in reviewing the structural design for tornado protection are described in the testimony. Staff 3.C Testimony at 3-7. The Applicants asserted, without contradiction, that the actual tornado resistance of the TEP structures exceeds that required for the DBT because of the need to satisfy other loading conditions. Meyers-Taylor Testimony at 2-3.

93. The only TEP building containing significant amounts of radioactive material or relating to safety that has not been specifically designed to resist the DBT is the rad-waste building. While the rad-waste building is not a seismic Category I structure, the above-grade portion of the structure is sufficiently massive to resist the extreme wind pressure of the DBT. Within the building the most significant sources of possible radiation release, the 8 gaseous decay tanks, are located below grade beneath a 3-foot thick concrete slab. The liquid rad-waste tanks are also located within the structure and beneath two 2-foot thick concrete slabs. All solid waste is retained within the structure in capped steel drums which cannot be lifted by the DBT winds. Meyers-Taylor Testimony at 3-4.

94. While the Staff believes that the design criteria for the rad-waste building represent requirements that will provide considerable protection against adverse environmental loading conditions, the Staff assumed, for the purpose of evaluating the consequences of postulated radioactive releases from the rad-waste building, that the building will fail as a result of exposure to the forces of the DBT. Using a series of conservative assumptions, the Staff calculated a whole body dose at the exclusion area boundary following a catastrophic failure of all waste gas decay tanks in the rad-waste building of 0.28 rem, well within the limits of 10 CFR Part 100. Staff 3.C Testimony at 9-10. A similar "worst case" calculation for the failure of all of the liquid tanks and components resulted in concentrations that are below 10 CFR Part 20 limits for unrestricted areas. *Id.* at 10-11.

95. Based on the record, as set forth above, the Board finds that the tornado design of the facility complies with the GDC requirements and that, contrary to the assertions of Contention 3.C, the safety-related plant structures are designed to withstand all effects of tornadoes and a tornado will not result in the release of excessive amounts of radioactive materials. Intervenors CFT assert in their proposed findings that the cooling towers should be designed as Category I structures. Since they are not safety-related structures, Tr. 429, 483, this is not required. The remaining proposed findings on this contention by CFT are rejected as not being supported by the record or not being necessary for this decision.

CONTENTION 3.D: **The Applicant has not developed any adequate device for monitoring or recording radioactive releases and there is no adequate independent means of monitoring radioactivity (CFT-T&A).**

96. The Staff witness testified that the regulatory requirements and guidelines applicable to the effluent radiological monitoring system for TEP includes GDC 60 and 64 and Regulatory Guide 1.21.⁶¹ Bellamy Testimony⁶² at 1-2. He further testified that all normal and potential release pathways for both liquid and gas streams will be monitored and briefly described these streams and the sensitivity of the monitors to be used, stating *inter alia* that the proposed monitors are similar to those in use and found acceptable at presently operating nuclear power plants. He concluded that the monitoring and recording program will meet the requirements of the criteria and guidelines and that it is acceptable. Bellamy Testimony at 3-4.

97. The Applicants' witness testified that Regulatory Guide 1.21 will be utilized in TEP and described in some detail the release pathways and the corresponding monitoring locations. Beckett Testimony⁶³ at 1-3, Figures 1 and 2. In addition, he described the monitoring instruments, including their sensitivity, their reliability and their control functions. Beckett Testimony at 3-6, Tables 1 and 2. He further testified regarding the routine checking and recalibration of the instruments and affirmed that the monitors are to be similar to those used in other facilities.

98. With respect to independence, the Applicant's witness testified that independence of the radiological effluent monitors is achieved in several ways. First, the diversity in each monitoring unit provides independent confirmation of individual detectors. Independent assurance as to the measurements is also achieved through analyses of blind duplicate effluent samples performed by an independent laboratory in accordance with the quality control guidelines of Regulatory Guide 1.21. The monitoring and recording of radioactive releases will be subject to independent checks through Applicants' operational quality assurance program and the surveillance of NRC inspectors to assure that radioactive releases are accurately recorded and within allowable limits. Verification is also provided by the independent measurement of radiation doses at the site boundary through Applicants' out-of-plant monitoring program. The accumulated dose at the site boundary reflects the releases from the plant and verifies that plant

⁶¹ Exhibit 4.

⁶² Supplemental Testimony of NRC Staff in Response to Contention 3.D, following Tr. 850 (hereinafter "Bellamy Testimony").

⁶³ Applicant's Testimony of Eugene F. Beckett in Response to Contention 3.D, following Tr. 451 (hereinafter "Beckett Testimony").

operation either meets or exceeds established limitations. These various levels of interaction in the radioactive monitoring programs clearly provide many levels of independence. *Id.* at 6-8.

99. The Board finds that the TEP effluent radiological monitoring systems meet GDC 64 and that, contrary to Contention 3.D, there are adequate devices and sufficiently independent means to monitor and record radioactive releases from the plant. The only proposed finding by Intervenor on this contention are those filed by CFT. Although they are captioned as relating to Contention 3.D, they do not, for the most part, relate to this contention and, to the extent that they do, are not supported by the record.

CONTENTION 4: **The Applicant has not obtained the necessary property for construction of the facility and it cannot be established that said property will ever be acquired (CFT-C).**

100. The exclusion area of the Tyrone Energy Park site has been defined by Applicants, pursuant to 10 CFR Part 100, to be the area within two circles of 1470 meters radius, with centers at the Unit 1 reactor building center and a point 134 meters directly south of that center, and within the line segments cotangent to those circles. PSAR Site Addendum, §2.1.2.

101. Intervenor CFT and Cider contend that Applicants do not own and will not be able to acquire all of the land within the exclusion area. Mr. Cider embraced Contention 4 during the course of the hearing but questions of land ownership do not appear in his intervention petition.

102. Mr. Cider and his family were owners of land included within the exclusion area. Ex. 10; Tr. 1037 *et seq.* His position on Contention 4 appears to be predicated upon a philosophical view that appropriation of private land by eminent domain is wrong and unconstitutional. Tr. 1095-1114. He also asserts apparently that, because the "Village of Tyrone"⁶⁴ lies within the exclusion area, the condemnation proceedings were flawed and therefore invalid. Tr. 1186 *et seq.*

103. Applicants presented the testimony of Mr. Jackson, a Wisconsin attorney with extensive experience in land condemnation, who handled the TEP land acquisition program. Tr. 1176-1202. Mr. Jackson identified and explained Exhibits 11 through 16 pertaining to the completed condemnation proceeding for the Cider property, including the opinion and order of the Wisconsin Circuit court and the award of the Condemnation Commissioners. Ex. 11-13. In his opinion, NSP owns the land. Ex. 14.

⁶⁴The "Village of Tyrone" has not been exactly identified in this proceeding. The evidence so far is that it has never been incorporated. Tr. 1196. Mr. Cider will have an opportunity to present evidence concerning the historical aspects of Tyrone during the environmental phase of the evidentiary hearing.

104. The State of Wisconsin has exclusive jurisdiction over the eminent domain proceedings involving the TEP site. This Board may do no more than accept evidence of the actions of the Wisconsin courts and the Condemnation Commissioners. Mr. Cider has presented no affirmative evidence in support of his position. The Applicants' have conclusively established that Northern States owns and is in possession of the Cider parcel within the exclusion area.

105. Mr. and Mrs. Bauer and Mr. and Mrs. Falkner are members of CFT. Each family owned a parcel of land extending into the exclusion area. Parcels 1 and 2, Ex. 10; Tr. 1037 *et seq.* The basis for CFT's position on Contention 4 is that the Bauer and Falkner families were resisting Applicants' condemnation efforts. Eminent domain litigation was pending in the Supreme Court of Wisconsin at the close of the hearing. CFT did not offer affirmative evidence in support of its contention. Nor did it avail itself of the opportunity to submit proposed findings on Contention 4 when that opportunity was ripe pursuant to the Board's Order of January 27, 1977.

106. Any lingering doubts about Applicants' dominion over the two parcels are resolved by Exhibit 29, the decision of the Supreme Court of Wisconsin dated January 6, 1977, affirming the condemnation judgments and orders of the lower court in favor of Northern States. Exhibit 29 was received into evidence without objection after the hearing by Order of the Board dated February 24, 1977.

107. In finding that the land is or will be owned by Northern States, the Board does not rely upon the testimony of Staff's witness, Mr. Chipman, Tr. 1025 *et seq.*, who, as an engineer with the Commission's Accident Analysis Branch, Tr. 917, is not qualified to address questions of legal title of real estate. Nor is the testimony of Applicants' witness Mr. Gelle, Tr. 554 *et seq.*, entitled to much weight on the issue of land ownership. However, as a Wisconsin registered engineer and as TEP Project Manager, Mr. Gelle's testimony as to the acquisition history, identification and relative location of the parcels involved is competent and helpful.

108. Applicants have provided reasonable assurance that those public roads which presently traverse the designated exclusion area can and will be abandoned prior to the start of construction. SER, §2.1.1; PSAR Site Addendum §2.1.2. The Board finds therefore that, contrary to Contention 4, there is reasonable assurance that by virtue of ownership Applicants will have the authority to determine all activities within the defined exclusion area as required by 10 CFR §100.3(a).

CONTENTION 5: The Applicant has not provided information to demonstrate its financial qualifications to carry out the activities for which the permit is sought, as required by sub-

paragraph 50.33(f) of 10 CFR Part 50, in the following respects:

- A. The Applicant has not to date established financial ability to find the 0.9 billion dollar cost of the facility (CFT-E).
- B. The Applicant has to date budgeted \$11,000,000 for preliminary expenditures and has spent said funds without approval of the Nuclear Regulatory Commission (CFT-E).
- C. The funds for construction will not be available (CFT-F).
- D. Although it is the intention of the Applicant to issue bonds to finance the plant, it is unlikely, considering the present condition of the economy, that said funds can be raised (CFT-F).
- E. Raising the capital needed to construct and operate the plant could conceivably put a serious strain on the ability of the Applicant to meet all of its capital commitments (NT-25);
- F. Although the plant is to be a joint venture with other Wisconsin and upper Michigan utilities, and the proposal of Applicant took into consideration such sharing of costs and usage of the proposed plant by the other utilities, the other utilities have not finally contracted or committed themselves to share in the construction costs or use of generated electrical capacity (CFT-G).

109. The standard for assessing an Applicant's financial qualifications is set forth in the regulations which prescribe the general information to be included in a license application. The provision requiring financial information states that the application shall include:

Information sufficient to demonstrate to the Commission the financial qualifications of the Applicant to carry out, in accordance with the regulations in this chapter, the activities for which the permit or license is sought. If the application is for a construction permit, such information shall show that the Applicant possesses the funds necessary to cover estimated construction

costs and related fuel cycle costs or that the Applicant has reasonable assurance of obtaining the funds, or a combination of the two.

10 CFR §50.33(f). An amplification on the extent of the financial information required is provided in Appendix C to 10 CFR Part 50 "A Guide for the Financial Data and Related Information Required to Establish Financial Qualifications for Facility Construction Permits and Operating Licenses."

110. Applicants have estimated the total capital investment in Tyrone Energy Park to be \$970 million. The estimated cost of new transmission and substation facilities associated with TEP is approximately \$45 million. The nuclear fuel inventory cost for the first core is estimated by Applicants to be \$119 million. The total cost of the TEP, then, is \$1,134 million, when associated transmission and substation facilities and nuclear fuel inventory costs are included. SER Supp. 2, §20.2. In evaluating Applicants' financial qualifications, the Staff utilized these cost estimates and the Board finds that it was reasonable to do so.

111. As we noted earlier, the Applicants in this proceeding are Northern States Power Company (Minnesota), Northern States Power Company (Wisconsin), Cooperative Power Association, Dairyland Power Cooperative and Lake Superior District Power Company. Since Northern States Power Company (Wisconsin) is a wholly owned subsidiary of Northern States Power Company (Minnesota), the financial qualifications of those two Applicants have been evaluated on a consolidated basis as a single Applicant. Ownership shares of the plant and corresponding responsibility for its cost are divided as follows, Exhibit 1 at 10:

	Percent
Northern States Power Company	67.6
Cooperative Power Association	17.4
Dairyland Power Cooperative	13.0
Lake Superior District Power Company	2.0
	<u>100.0</u>

The Board has examined the financial qualifications of each Applicant to finance its undivided interest in the costs of designing and constructing Tyrone Energy Park.

112. NSP estimates that over the next 9 years⁶⁵ \$4.1 billion will be spent for construction of new facilities to serve its customers in Minnesota, Wisconsin, North and South Dakota. Approximately 40 to 50 percent of this amount is

⁶⁵TEP is planned for commercial operation in 1984.

expected to be generated internally. Musolf Testimony at 3.⁶⁶ NSP plans to finance its share in TEP through internally generated funds, external sales of debt and equity securities, and short-term borrowings. NSP's ratio of internal funds to construction expenditures (47.5 percent in 1975), SER Supp. 2, §20.3.1, is better than the industry average. In addition, no major generating units will be added to NSP's system between 1977 and 1981. Exhibit 1 at 16; Musolf Testimony at 4.

113. Northern States Power Company's consolidated operating revenues in 1975 were \$675.4 million and net income was \$91.1 million. Invested capital on December 31, 1975, amounted to \$1,784.3 million and consisted of 52.3 percent long-term debt, 12.9 percent preferred stock and 34.8 percent common equity. SER Supp. 2, §20.3.1. The return on common equity in 1975 was 13.05 percent, while the resulting pretax coverages of long-term interest and total interest charges were 3.65 and 3.44 times, respectively. NSP's first mortgage bonds and preferred stock are rated double-A by both Moody's and Standard & Poor's, *Ibid.*; Musolf Testimony at 5, which is a rating enjoyed by less than half of all electric utilities with gross revenues exceeding \$125 million.

114. NSP's projected sources and uses of funds for the 1976-84 time period, SER Supp. 2, Table 20.1, assume a 13.4 to 14.5 percent return on common equity and a capital structure consisting of 47 to 51 percent debt, 11 to 12 percent preferred stock and 37 to 41 percent common equity. The assumptions regarding capital structure are within the range that has been typical of the electric utility industry over the years. The assumed return on common equity is somewhat above what the industry has historically earned, although regulatory agencies recently have been increasingly allowing returns around this level in apparent recognition of the higher prevailing cost of capital.⁶⁷ *Id.* at §20.3.2. The Board notes that, beyond the amounts of rate increases granted to NSP by the commissions which regulate its rates, SER Supp. 2, §20.3.2, there have been regulatory policies adopted which are consistent with NSP's future financial health. Musolf Testimony at 7-8.

115. In proposed finding 13, Northern Thunder implies that the Board must be assured that the state commissions will provide to NSP its desired return on common equity. No such assurance is possible or necessary. The underlying assumptions to NSP financing plans are reasonable and flexible. Northern Thunder fails to address the flexibility of NSP's financing plans.

116. Northern Thunder, in its proposed finding 12, asserts that NSP's latest

⁶⁶ Applicants' Testimony of William D. Musolf on Contention 5, following Tr. 269, (hereinafter "Musolf Testimony").

⁶⁷ A lower rate of return than that assumed would result in somewhat greater reliance on external financing—a contingency which is accommodated by the source of funds estimated range of 40 to 50 percent for internal generation of funds. Tr. 300-300A.

common stock offering “sold well below book value,” referring to Exhibit 2, page 43. The exhibit cited stated that issues “sold at net proceeds below book value” with no mention of Northern Thunder’s assertion of “well below.” The only stock issue for which there is evidence of price is the June 3, 1976, issue which produced to NSP 98% of the \$24 book evaluation, Musolf Testimony at 6, comparing favorably with other utilities similarly situated during that period. *Id.* at 6. The Board sees no unfavorable significance in the relatively short period during which the book value price was not returned to NSP in stock offerings. Between the June stock sale and the time of the hearing the stock rose to the \$27 to \$28 range, *Id.* at 6, and the Board notices that the 1977 price range (through April) has been about \$27 to \$30.

117. The Board finds that Northern States Power Company’s projected sources of funds and underlying assumptions for the period of TEP construction are reasonable.

118. Lake Superior District Power Company, also an investor-owned utility, plans to finance its 2.0 percent ownership share in TEP through internally generated funds, external sales of debt and equity securities, and short-term borrowings. SER Supp. 2, §20.3.1. The Board finds that Lake Superior District Power Company’s projections of sources of funds and underlying assumptions for the period of TEP construction are reasonable. *Id.* at §20.3.2; Bashara Testimony.⁶⁸

119. Applicants Cooperative Power Association and Dairyland Power Cooperative are membership rural electric cooperatives engaged in generation and transmission services. These Applicants plan to finance their interest in TEP with long-term debt guaranteed by the Rural Electrification Administration (“REA”). They plan to obtain interim, short-term financing, when and if needed, from the Cooperative Finance Corporation. Interim loans would be refunded with the proceeds of long-term debt. SER Supp. 2, §20.4.1; Carlson and Meistad Testimonies.⁶⁹

120. REA-guaranteed loans are a common method of long-term capital financing for rural electric cooperatives and have been used extensively by both cooperative Applicants. After REA has approved participation of the coopera-

⁶⁸ Applicants’ Supplemental Testimony on Contention 5 by George M. Bashara, following Tr. 305 (hereinafter “Bashara Testimony”). In proposed finding 15, Northern Thunder somewhat misreads the record. NT states that Mr. Bashara testified that Lake Superior District Power rates will have to increase “at least 7% annually” to meet its TEP financing requirements, citing page 4. Mr. Bashara’s testimony in fact was that LSDP “. . . rates will have to increase an average of 7% per year in order to achieve our financial objectives.” Bashara Testimony at 4; see Tr. 312.

⁶⁹ Applicants’ Supplemental Testimony on Contention 5 by Vernon O. Carlson and Applicants’ Supplemental Testimony of Gordon L. Meistad on Contention 5, following Tr. 305 (hereinafter “Carlson Testimony” and “Meistad Testimony,” respectively).

tives in TEP, it will issue loan commitment notices to these Applicants indicating that the guaranteed financing has been agreed to. SER Supp. 2, §20.4.2. Letters from REA to Cooperative Power Association and Dairyland Power Cooperative describing the status of REA's review of the loan commitment applications provide reasonable assurance that the REA-guaranteed loans will likely be forthcoming.⁷⁰ Tr. 319-20, 323. The Board requires, as a condition of any construction permit, that copies of the loan commitment notices, after they are executed, be submitted to the Staff no later than sixty (60) days following the issuance of a construction permit for Tyrone Energy Park. SER Supp. 2, §20.4.1, as modified at Tr. 321-23, 1986-88.

121. Contrary to contentions 5.A and 5.C, the Board finds that Applicants have established their ability to fund the \$1,134 million cost of the facility and that the funds for construction will be available.

122. Northern Thunder's contention 5.E tends to be irrelevant to the major theme of contention 5, and to the requirements of 10 CFR §50.33(f) because it assumes that the capital to construct the plant will be raised, but that *other* commitments will be affected. That contingency, of course, would be beyond the scope of this proceeding. Even so, raising the capital needed to construct the plant is not likely to put a serious strain on Applicants' abilities to meet their other capital commitments. Petersen Testimony⁷¹ at 3. Applicants' financial qualifications to operate TEP, to which contention 5.E also alludes, is not at issue here. 10 CFR §2.104(b)(1)(iii), 50.33(f) and 10 CFR 50, App. C.

123. While the record shows that Applicants had spent approximately \$23.7 million by July 31, 1976, and will have spent a total of about \$27.5 million by the end of 1976 on the Tyrone project, Ex. 3, there is no requirement, as implied in contention 5.B, that the Nuclear Regulatory Commission approve the expenditure of funds made in the prosecution of a construction permit application. These preliminary expenditures are included in the total TEP cost estimate considered by the Board. Petersen Testimony at 2.

124. Contention 5.D, which originated in CFT's intervention petition filed in October 1974, questions NSP's ability to issue bonds to finance the plant considering the condition of the economy. Utility companies with equal or lower bond ratings than NSP's, however, are generally having little difficulty selling bonds in the securities market. *Ibid.* In 1974 and 1975, NSP sold \$110 million and \$109 million of bonds, respectively. Musolf Testimony at 9. There is no evidence, then, upon which to question NSP's ability to sell the long-term debt indicated in its proposed financing plan.

⁷⁰See also letters following Tr. 307.

⁷¹Supplemental Testimony of NRC Staff on Financial Qualifications of Northern States Power Company, *et al.*, by Jim C. Petersen, following Tr. 324 (hereinafter "Petersen Testimony").

125. Contention 5.F questions whether the additional (to NSP) owners of TEP have finally contracted or committed themselves to share in the project. While the joint ownership agreement has not been finally executed by all the participants, the form of the agreement has been settled upon by the parties. The Board of Directors of Cooperative Power Association has authorized its officers to execute the agreement. Carlson Testimony at 4. The Board of Directors of Dairyland Power Cooperative has also approved the agreement, subject to the required approval of the Rural Electrification Administration. Meistad Testimony at 3. Lake Superior District Power Company's Board of Directors has likewise authorized its officers to execute the agreement. Bashara Testimony at 5. Beyond these expressions of commitment, however, the Board requires that a copy of the executed joint ownership agreement be submitted to the Staff no later than sixty (60) days following the issuance of a construction permit for Tyrone Energy Park. SER Supp. 2, §20.5, as modified at Tr. 321-323, 1986-1988. The absence of an executed agreement at this point does not, then, detract from the soundness of our findings on Applicants' financial qualifications. Moreover, we note that the financial ability to design and construct the plant does not depend entirely upon all of the additional owners fulfilling their obligations. Tr. 300-A.

126. The Board finds that there is reasonable assurance that each Applicant will be able to obtain the funds necessary to cover its share of estimated construction costs and related fuel cycle costs for Tyrone Energy Park, and that Applicants are financially qualified to design and construct the proposed facility.

IV. CONCLUSIONS OF LAW

127. The Board has considered all documentary and oral evidence presented by the parties. Based upon a review of the entire record in this proceeding and the foregoing findings of fact, the Board has concluded as follows:

a. In accordance with the provisions of 10 CFR §50.35(a):

(1) Applicants have described the proposed design of the facility including, but not limited to, the principal architectural and engineering criteria for the design, and have identified the major features or components incorporated therein for the protection of the health and safety of the public;

(2) Such further technical or design information as may be required to complete the safety analysis and which can reasonably be left for later consideration will be supplied in the final safety analysis report;

(3) Safety features or components, if any, which require research and development have been described by Applicants and Applicants have identified, and there will be conducted, a research and development program reasonably designed to resolve any safety questions associated with such features or components; and,

(4) On the basis of the foregoing, there is reasonable assurance that (a) such safety questions will be satisfactorily resolved at or before the latest date stated in the application for completion of construction of the proposed facility and (b) taking into consideration the site criteria contained in 10 CFR Part 100, the proposed facility can be constructed and operated at the proposed location without undue risk to the health and safety of the public.

b. Applicant Northern States Power Company (Minnesota) is technically qualified to design and construct the proposed facility.

c. Applicants are financially qualified to design and construct the proposed facility.

d. The issuance of a permit for construction of the facility will not be inimical to the common defense and security or to the health and safety of the public.⁷²

V. ORDER

128. IT IS ORDERED, in accordance with 10 CFR §§2.760, 2.761a, and 2.762, that this Partial Initial Decision shall constitute the final action of the Commission 30 days after the date of issuance hereof, subject to any review pursuant to the above cited rules. Exceptions to this Partial Initial Decision must be filed with 7 days after service of the decision. A brief in support of the exceptions must be filed within 15 days thereafter (20 days in the case of the NRC Staff). Within 15 days of the filing and service of the brief by the appellant (20 days in the case of the NRC Staff), any other party may file a brief in support of, or in opposition to, the exception.

IT IS SO ORDERED.

THE ATOMIC SAFETY AND LICENSING BOARD

Dr. George C. Anderson, Member
Lester Kornblith, Jr., Member
Ivan W. Smith, Chairman

Issued at Bethesda, Maryland
this 3rd day of May 1977.

[Attachment A has been omitted from this publication, but is available at the NRC Public Document Room, 1717 H Street, N.W., Washington, D.C.]

⁷²The conclusions we have reached in this Partial Initial Decision are not sufficient, of course, to authorize any licensing at this point. Our authorization, if any, of actual construction must follow our conclusions on environmental matters.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Robert M. Lazo, Chairman
Emmeth A. Luebke
David R. Schink

In the Matter of

Docket Nos. STN 50-508
STN 50-509

WASHINGTON PUBLIC POWER
SUPPLY SYSTEM

(WPPSS Nuclear Project, Nos. 3 and 5)

May 10, 1977

Upon motion by applicant for authorization to construct an offsite equipment laydown area, Licensing Board issues a Supplemental Partial Initial Decision concluding that the staff's analysis of the proposed activities pursuant to NEPA has been adequate, that the cost of proposed activities does not materially affect the cost-benefit balance previously struck, and making all findings necessary to permit amendment of an outstanding LWA.

SUPPLEMENTAL PARTIAL INITIAL DECISION

**(Authorizing Issuance of a Limited Work
Authorization Amendment)**

Appearances

Messrs. Joseph B. Knotts, Jr., and Nicholas S. Reynolds, Washington, D.C., and Mr. Richard O. Quigley, Richland, Washington, for the applicant, Washington Public Power Supply System.

Mr. Thomas F. Carr, Assistant Attorney General of Washington, Olympia, Washington, for the State of Washington.

Messrs. Daniel T. Swanson and Henry J. McGurren for the Nuclear Regulatory Commission staff.

I. INTRODUCTION

On February 16, 1977, the Washington Public Power Supply System (Applicant) filed a motion with this Atomic Safety and Licensing Board (Board) for a determination that certain limited construction activities would result in only *de minimis* environmental impacts and are therefore not precluded by the provisions of 10 CFR §50.10(c). Prelicensing authorization to immediately commence such activities was requested. On March 2, 1977, the Nuclear Regulatory Commission Staff (Staff) responded to Applicant's motion, concluding that the record supported issuance of a declaratory order authorizing a modified version of the construction activities for which authorization was requested.

The Board agreed with the Staff position and by Order dated March 4, 1977, granted Applicant authorization to develop and use three onsite laydown areas for storage of prepurchased equipment, and to upgrade an existing county road to be used for access to the plant site. With respect to the development and use of an offsite laydown area (Saginaw Spur) for which the Applicant also sought authorization, the Board noted that the Staff had not evaluated the impacts of the construction of the Saginaw Spur laydown area, which was not a part of Applicant's original proposal, and concluded that the evidentiary record was not adequate to support the relief requested.¹

Thereafter, on March 14, 1977, the Applicant filed a motion with the Board renewing its request for an order authorizing the Saginaw Spur activities. In its motion the Applicant requested that the Board treat the Saginaw Spur laydown area in a Supplemental Partial Initial Decision in the event that the Partial Initial Decision on environmental and site suitability matters was issued prior to submittal of the Staff's analysis of the environmental impacts and redressability of the proposed Saginaw Spur activities.

On April 28, 1977, the Staff submitted its Saginaw Spur analysis and moved its receipt into evidence. In its response dated May 5, 1977, Applicant has stated that it has no objection. The Board hereby receives into evidence as Staff Exhibit 14 the Staff's analysis in the form of the affidavit of Mr. Jan A. Norris. The Applicant's evidence with respect to the Saginaw Spur activities was previously received into evidence by the Board as Applicant's Exhibits 32 and 37.

During the period during which the Staff was conducting its analysis of the Saginaw Spur activities, the Board issued its "Partial Initial Decision Authorizing Limited Work Activities" dated April 8, 1977. A Limited Work Authorization was issued by the Staff on the same date (42 *Fed. Reg.* 20202 (April 18,

¹ Development of the Saginaw Spur laydown area would consist of the spreading of a six-inch gravel bed over the area and a twelve-inch gravel bed for roadways within the area. The gravel is expected to be transported from an existing local gravel quarry over existing roadways. The laydown area would be used for up to five years, then returned to its natural state.

1977)). Accordingly, the Board has treated the Saginaw Spur matter as appropriate for, and is hereby issuing, a Supplemental Partial Initial Decision which will authorize amendment of the LWA by the Staff to include the Saginaw Spur activities.

II. FINDINGS OF FACT

1. The Saginaw Spur laydown area is a 27.7 acre pasture immediately adjacent to an existing railroad spur. The area is approximately 3.7 miles east of the power plant site. Access to the plant site would be via an existing county road which would need no upgrading. The pasture is gently rolling with the highest point at 25-30 feet above the railroad spur grade. Soils and vegetation are similar to pastures on the power plant site proper.

2. The Applicant plans to plow and compact the pasture, cover it with gravel, install some drainage culverts under the several gravel roads which will cross the area, and fence the entire area. Natural contours and drainage will be maintained. Except for a minor amount of disturbance to a small lowland in the ditch between the railroad and the pasture (necessary for the construction of the unloading area), no waterways or riparian areas will be disturbed. No permanent streams drain the area. Existing wooded areas will be preserved. Minor, temporary inconveniences normally attendant to such activities will be experienced, but the incremental increase in such inconveniences relative to the overall construction project will be very small.

3. The Applicant plans to obtain a lease to the area for up to five years. The lease will provide that the Applicant at the termination of the lease will remove gravel, disc the area to turn any remaining gravel, and mulch and seed the area to facilitate its return to natural conditions.

4. The proposed activity is not expected to have significant impact on recreation, archaeological resources, or socioeconomic conditions in the area. There are no residents either north or south of the area near enough to be affected in an adverse manner.

5. The proposed activity does not significantly enlarge the scope or cost of the overall WNP-3 and WNP-5 projects. The Applicant estimates the cost of leasing, developing, and restoring of Saginaw Spur to be approximately \$300,000. The Staff, using a higher estimate for the cost of restoration of the area, estimates this total cost to be approximately \$470,000. In any event, use of either estimate will result in an incremental increase in cost of 0.02% to 0.03% relative to the total project. Such an increase does not significantly affect the overall cost-benefit balance.

6. The Board agrees with Applicant and Staff witnesses that the environmental impacts of the proposed construction and use of the Saginaw Spur area are small and acceptable and that the impacts are temporary and fully redressable.

III. CONCLUSIONS OF LAW

The Board has reviewed the evidence of record relative to the proposed Saginaw Spur activities, including the affidavits of the parties (Applicant's Exhibits 32 and 37, and Staff Exhibit 14), and the proposed findings of fact and conclusions of law submitted by the parties. On the basis of this evidence and the foregoing Findings of Fact, the Board concludes that the environmental review of the proposed Saginaw Spur activities by the Staff pursuant to the National Environmental Policy Act of 1969, 42 U.S.C. §4332, has been adequate, that the cost of these activities does not materially affect the cost-benefit balance previously struck in this proceeding in the Board's Partial Initial Decision dated April 8, 1977, and that the Board has made all of the findings necessary to permit the Director of Nuclear Reactor Regulation to amend the LWA issued on April 8, 1977, to authorize the development and use of the Saginaw Spur laydown area, as described in Applicant's Exhibits 32 and 37.

IV. ORDER

Based upon the Board's Findings of Fact and Conclusions of Law herein, and pursuant to the Atomic Energy Act, as amended, and the Commission's regulations, IT IS ORDERED that this Supplemental Partial Initial Decision shall constitute a portion of the ultimate Initial Decision to be issued upon completion of the radiological health and safety phase of this proceeding.

It is further ORDERED, in accordance with 10 CFR §§2.760, 2.762 and 2.764 of the Commission's Rules of Practice, 10 CFR Part 2, that this Supplemental Partial Initial Decision shall be effective immediately and shall constitute the final action of the Commission thirty (30) days after the date of issuance hereof, subject to any review pursuant to the Rules of Practice. Exceptions to this Supplemental Partial Initial Decision may be filed by any party within seven (7) days after service of this Supplemental Partial Initial Decision. A brief in support of the exceptions shall be filed within fifteen (15) days thereafter (twenty (20) days in the case of the NRC Staff). Within fifteen (15) days after the service of the Brief of Appellant (twenty (20) days in the case of the NRC Staff), any other party may file a brief in support of, or in opposition to, the exceptions.

ATOMIC SAFETY AND LICENSING BOARD

Dr. Emmeth A. Luebke, Member
Dr. David R. Schink, Member
Robert M. Lazo, Chairman

Dated at Bethesda, Maryland,
this 10th day of May 1977.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Samual W. Jensch, Chairman
George C. Anderson
Lester Kornblith, Jr.

In the Matter of

Docket No. STN 50-482

KANSAS GAS AND ELECTRIC COMPANY
KANSAS CITY POWER AND LIGHT COMPANY

(Wolf Creek Generating Station,
Unit No. 1)

May 11, 1977

Upon application for construction permit, Licensing Board issues an Initial Decision resolving the only remaining outstanding matter (applicants' financial qualifications) upon which the record had been reopened after resolution of all other issues, and authorizing issuance of a construction permit.

INITIAL DECISION
AUTHORIZING CONSTRUCTION PERMIT

Appearances

Gerald Charnoff, Esq., Thomas A. Baxter, Esq., Michael T. Harris, Esq., Jay E. Silberg, Esq., Ralph Foster, Esq., John Healzer, Esq., Arthur Doyle, Esq., on behalf of Kansas Gas and Electric Company and Kansas City Power and Light Company, Applicants.

William H. Griffin, Esq., on behalf of the State of Kansas,
Intervenor

James T. Wiglesworth, Esq., William H. Ward, Esq., on
behalf of Mid-America Coalition for Energy Alternatives,
Intervenor

Edward G. Collister, Jr., Esq., on behalf of Wolf Creek Nuclear Opposition, Intervenor

Glen Ortman, Esq., of the Federal Power Commission

Albert V. Carr, Jr., Esq., Auburn Mitchell, Esq., Michael A. Riddle, Esq., Myron Karman, Esq., Stephen Lewis, Esq., Milton Grossman, Esq., on behalf of the Regulatory Staff of the Nuclear Regulatory Commission

Majority Opinion by George W. Anderson and Lester Kornblith, Jr.:*

I. PRELIMINARY STATEMENT AND DESCRIPTION OF RECORD

1. On January 18, 1977, this Licensing Board issued a Partial Initial Decision in this case, making all of the findings necessary to authorize a Construction Permit except those reserved for later decision in accordance with our Order Granting Motion to Reopen Proceedings of February 4, 1977. In this decision we decide those remaining issues and authorize issuance of the Construction Permit.

2. On December 13, 1976, Intervenor Mid-America Coalition for Energy Alternatives (hereinafter "MACEA") filed a Motion to Reopen Hearings With Respect to Cost of Capital and Related Issues. Following responses by the NRC Staff and by Applicants Kansas Gas and Electric Company and Kansas City Power & Light Company (hereinafter "Applicants"), the Atomic Safety and Licensing Board (hereinafter "Licensing Board") reopened the record in this proceeding in order to receive further evidence on the financial qualifications of the Applicants to construct the Wolf Creek Generating Station, Unit No. 1 (hereinafter "WCGS"). Order Granting Motion to Reopen Proceedings and Convening Evidentiary Hearing, dated February 4, 1977.

3. The basis for the reopening was the supposed conflict which the Licensing Board perceived between statements made in this proceeding by Kansas City Power & Light Company (hereinafter "KCPL") on its financial capability and statements made by KCPL in rate proceedings before the Missouri Public Service Commission (hereinafter "MPSC") and the Kansas State Corporation Commission (hereinafter "KCC"). These statements involved KCPL's position as to the need for including construction work in progress (hereinafter "CWIP") in its rate

*Separate opinion of Mr. Samuel W. Jensch concurring in part and dissenting in part follows the majority opinion.

base.¹ Inclusion of some CWIP had been authorized by MPSC for KCPL in April 1976.² However, the adoption of so-called Proposition No. 1 in the November 2, 1976, general election added a section to the Missouri Statutes, operative on February 1, 1977, which prohibited the inclusion of CWIP in the rate bases of electric utilities for rate making purposes.³ On August 17, 1976, the KCC ruled that as a matter of law it was prohibited from including CWIP in KCPL's rate base.⁴ While this KCC order has been held by the District Court of Linn County, Kansas, to be "unlawful and unreasonable in excluding CWIP, as a matter of law,"⁵ the matter is currently on appeal in the Kansas courts.

4. In its testimony before the Licensing Board during the 1976 hearings, KCPL justified its financial qualifications without reliance upon including CWIP in its rate base.⁶ Nonetheless, the Licensing Board's review of portions of the records before the MPSC and KCC left it sufficiently confused as the KCPL's position on CWIP to warrant reopening of the proceeding to determine KCPL's ability to finance its portion of the construction of WCGS.

5. Notice of the evidentiary hearing was issued by the Licensing Board on February 4, 1977. 42 Fed. Reg. 8443 (1977). The evidentiary hearing was held on March 22-23, 1977, in Kansas City, Missouri. The record of the hearing includes the testimony of witnesses for Applicants and the Staff and of two of KCPL's officers who appeared by subpoena as witnesses for MACEA. The record also includes exhibits offered by MACEA and Applicants and received in evidence. These exhibits are identified in Attachment A to this Initial Decision.

II. FINDINGS OF FACT

6. This initial decision contains our findings on the issue set forth in the Commission's Notice of Hearing⁷ of "[W]hether the Applicants are financially

¹Inclusion of CWIP in the rate base allows a utility to earn a current cash return on monies invested in construction projects. One alternative to CWIP is "allowance for funds used during construction" or "AFDC" which currently credits the income of the utility with noncash earnings and, upon completion of the plant, permits a cash return on the CWIP plus the accrued AFDC as capitalized carrying costs.

²MPSC Report and Order, Case Nos. 18,433, 18,463, 18,494 and 18,495 (April 23, 1976), Exhibit 21.

³See Affidavit of Kenneth G. Hovland, dated December 17, 1976, para. 4, attached to Applicants' Answer to MACEA's Motion to Reopen Hearings With Respect to Cost of Capital and Related Issues, dated December 20, 1976; see also Tr. 5576-5577.

⁴Affidavit of Kenneth G. Hovland, n. 3, *supra*, para. 5.

⁵Order dated December 29, 1976, *Kansas City Power & Light Co. v. The State Corporation Commission of the State of Kansas*, No. 13,249, transmitted by Applicants' letter dated January 4, 1977.

⁶Testimony of Kenneth G. Hovland on Contention II-1, following Tr. 4354-4416. See Order Granting Motion to Reopen Proceedings, p. 2.

⁷39 Fed. Reg. 31684 (August 30, 1974).

qualified to design and construct the proposed facility.” It also contains our findings on Intervenors’ Contention II-1 which alleged that “Applicants are not financially qualified to construct and operate the WCGS in light of the fact that Applicants have delayed its construction for one year.” The Board found that the allegation is not supported by the record.

7. The Board notes two matters initially with respect to the statement of the contention. First, although the contention refers to a causal relationship between financial qualifications and the one-year delay, the Board has considered the financial qualifications of the Applicants on a broader basis. We note that the Applicants have testified that the announced delay was caused by the Applicants’ reduced rate of load growth. Hovland Testimony,⁸ p. 10. Second, we note that although the contention asserts that the Applicants are not financially qualified “to construct and operate” the proposed facility, the provisions of the Commission’s Notice of Hearing require us only to determine whether they are financially qualified to “design and construct” the facility. With regard to that question, the Applicants presented testimony at the original hearing by Kenneth Hovland, Senior Vice President and Chief Financial Officer of KCPL, and by W. B. Walker, Vice President, Secretary and Controller of KG&E. The Staff evaluation of Applicant’s financial qualifications is set forth in Supplement 1 to the Staff Safety Evaluation Report. Intervenors presented no testimony.

8. At the reopened hearing testimony for the Applicant KCPL was again presented by Mr. Hovland. Additional KCPL witnesses were H. Russell Fraser, Vice President and Director of Fixed Income Research of Paine, Webber, Jackson and Curtis, Inc., and former Vice President of the Corporate Finance Department of Standard & Poor’s Corporation, and Robert H. Hanson, Vice President of Merrill Lynch, Pierce, Fenner & Smith, Incorporated. Jim C. Peterson, Financial Analyst in the Division of Project Management, USNRC, testified on behalf of the Regulatory Staff. Robert K. Zimmerman, President of KCPL and Louis C. Rasmussen, Vice President of Corporate Planning and Economic Control of KCPL, testified under subpoena on behalf of Intervenors MACEA. Intervenor State of Kansas presented no testimony.

a. Kansas City Power & Light Company

9. Mr. Hovland testified to KCPL’s financial circumstances and plans for financing Wolf Creek in the April 1976 hearing.⁹ He updated certain of this information in his March 1977 testimony.¹⁰ In 1976 he testified that during

⁸ Testimony of Kenneth G. Hovland on Contention II-1, following Tr. 4356 (hereinafter “Hovland Testimony”).

⁹ Hovland Testimony (see n. 6) and Supplement to Testimony of Kenneth G. Hovland on Contention II-1, following Tr. 4356 (hereinafter “Hovland Supplement”).

¹⁰ Direct Testimony of Kenneth G. Hovland, following Tr. 5750 (hereinafter “Hovland 1977 Testimony”).

the period 1975-1982 KCPL is estimated to have construction expenditures of \$1.225 billion of which \$163 million represents allowance for funds used during construction (AFDC). KCPL's share of WCGS construction expenditures will be about \$385 million plus \$85 million in allowance for funds used during construction. To fund the construction budget, \$570 million will be generated from internal sources (retained earnings, tax deferrals, depreciation, sales of property, etc.) and \$492 million from external sources (common and preferred stock, long and short-term debt). Hovland Testimony, pp. 1-2; Hovland Supplement, p. 1 and Exhibit 2, Tr. 4366. The ability to generate this amount internally is reasonable in light of KCPL's ability over the past 10 years to generate 42% of the funds internally notwithstanding flow-through of tax deferrals on Missouri properties until 1972. Hovland Supplement, p. 1. KCPL's ability to raise external funds is borne out by the "AA" rating on its first mortgage bonds by both Moody's and Standard and Poor's, a rating which has been reaffirmed as recently as April 1976. Hovland Testimony, p. 7; Supp. 1 to SER, p. 20-5; Tr. 4361. KCPL enjoys similar high ratings on preferred and common stock and commercial paper. Hovland Testimony, p. 7. KCPL has also maintained a high level of coverage of interest requirements, thus enabling it to issue additional first mortgage bonds. Supp. 1 to SER, p. 20-6; Hovland Testimony, p. 4.

10. Mr. Hovland's 1977 testimony estimated that the construction expenditures for the shorter 1977-1982 period would be about \$974 million, including \$184 million of AFDC, a reduction of cash expenditures for this period of about \$74 million. Hovland 1977 Testimony, KGH Exhibit #1 (Revised); compare with Hovland Testimony, KGH Exhibit #1. These expenditures assume the expected sale of a portion of WCGS to Kansas Electric Cooperatives, Inc. If that sale is not consummated, KCPL's construction expenditures over the period would increase by about \$63.5 million, excluding AFDC. Tr. 5849. The present schedule, while calling for increased construction expenditures during 1977-1979, shows meaningful relief from a heavy financing program after that period. Hovland Testimony, pp. 1-2; Tr. 5761-5765. While the delay that has been experienced in the start of site work for WCGS could delay commercial operations until 1983, construction expenditures for WCGS in 1983 would be small, totalling less than \$2 million. Tr. 5752, 5827.

11. KCPL is subject to the regulatory jurisdiction of the Missouri Public Service Commission and the Kansas Corporation Commission for retail rates, and the Federal Power Commission for wholesale rates. The Missouri Commission, which has jurisdiction over about 75% of KCPL sales, has adopted rational regulatory policies, including a forward looking test year and the inclusion in the rate base of construction work in progress. Hovland Testimony, pp. 7-9; Supp. 1 to SER, pp. 20-6 - 20-7. In an April 23, 1976, order on KCPL's filed rate application, the Missouri Commission granted about 60% of the revenue increase requested (closely approximating the percentage increase in KCPL's projections),

continued the 100% fuel adjustment clause, and allowed the inclusion of major CWIP in the rate base. Although CWIP was not allowed on WCGS at that time because of the lack of regulatory approvals, the Commission established criteria for its inclusion. Report and Order of the Missouri Public Service Commission, dated April 23, 1976 (Exhibit 21); Tr. 4357-4360, 4393. The inclusion of CWIP in the rate base has now been negated, of course, by the adoption of Proposition No. 1, effective February 1, 1977. *See* paragraph 3, *supra*. Mr. Hovland testified in 1976, however, that the financing plans set forth in his testimony did not include any CWIP in the rate base. Tr. 4402. He reaffirmed this in 1977. Hovland 1977 Testimony, p. 2.

12. The ability of KCPL to finance its construction program, including WCGS, was affirmed by KCPL's Chief Financial Officer Hovland, by the NRC Staff witness,¹¹ and by Vice Presidents of Merrill Lynch, Pierce, Fenner & Smith¹² and Paine, Webber, Jackson & Curtis.¹³

13. Robert C. Hanson of Merrill Lynch, based upon his firm's familiarity with KCPL's financial condition as a managing underwriter for recent KCPL security offerings, concluded that KCPL has the ability to finance its construction program, including WCGS. Mr. Hanson recognized that the exclusion of CWIP from rate base forces a utility to rely more heavily on capital markets for cash construction funds and that AFDC, as it becomes an increasingly larger portion of earnings, may result in the lowering of ratings for senior securities and in downward pressure on the price of equity securities, with consequent higher financing costs. Hanson Testimony, pp. 5-6. He testified that, even though KCPL is now prohibited from including CWIP in its rate base by the adoption of Proposition No. 1 KCPL can viably finance its construction program, including WCGS, because of KCPL's relatively good financial condition at the beginning of 1977; its pending rate increase applications in both Missouri and Kansas; the prompt hearing schedules which will provide KCPL with rate relief shortly after completion of La Cygne Unit #2 in May 1977; and the demonstrated responsiveness of the regulatory commissions to which KCPL is subject. *Id.*, pp. 7-11. Mr. Hanson noted that KCPL should be able to finance some 40% to 50% of its cash construction requirements from internal sources, which compares with the recent electric utility average of 30% to 35% and will be viewed favorably by investors. It was his opinion that KCPL, therefore could secure its construction financing on a reasonable basis, assuming continued realistic regulatory treat-

¹¹ Supplemental Testimony of NRC Staff on Financial Qualifications by Jim C. Petersen, following Tr. 5885 (hereinafter "Petersen Testimony").

¹² Direct Testimony of Robert H. Hanson, following Tr. 5675 (hereinafter "Hanson Testimony").

¹³ Direct Testimony of H. Russell Fraser, following Tr. 5465 (hereinafter "Fraser Testimony").

ment. *Id.*, p. 9. Mr. Hanson testified that, although KCPL will be required to sell securities often and may suffer downward ratings of its senior securities, it will not be denied access to the capital markets. *Id.*, pp. 12-13. He concluded that, based on his analysis of KCPL's current and prospective financial condition, KCPL can successfully finance its construction program, including WCGS, even though the exclusion of CWIP from its rate base increases the chances of downward ratings of its senior securities. He based that conclusion on KCPL's relatively good present financial condition, its pending rate applications, the reasonable responses of the regulatory commission to its rate relief requests and KCPL's continuing access to capital markets notwithstanding any derating as may be a consequence of the loss of CWIP in its rate base. *Id.*, pp. 13-14.

14. H. Russell Fraser, Vice President and Director of Fixed Income Research for the Fixed Income Division of Paine, Webber, Jackson & Curtis, testified that KCPL can reasonably finance its construction program, including WCGS, assuming reasonable regulation. Fraser Testimony, p. 14. He reviewed the elements considered in security ratings, noting that higher security ratings afford a utility the opportunity to obtain lower cost of money and a greater availability of capital which increases financial flexibility. *Id.*, pp. 7-9; Tr. 5469-5478. He testified that KCPL's Aa/AA bond ratings are among the highest in the industry and appear to be quite secure. Fraser Testimony, p. 11; Tr. 5488, 5568-5570. He further testified that KCPL's projected internal generation of 44% of its construction expenditures is a higher percentage than the industry as a whole and than KCPL's average over the previous 10 years, factors which also point toward an improving credit position for KCPL. Fraser Testimony, pp. 11-12; Tr. 5492, 5583. He opined that while adoption of Proposition No. 1 excluding CWIP from KCPL's rate base will increase KCPL's financing costs somewhat, it will not cause a significant deterioration in the credit worthiness of KCPL. Fraser Testimony, pp. 14-15. Mr. Fraser testified that the regulatory climate in which KCPL exists has been fairly reasonable, although it could be improved upon. Fraser Testimony, p. 15; Tr. 5519-5520.

15. Mr. Hovland testified that with responsible action on the part of those agencies charged with regulating its rates, KCPL would be able to maintain its earnings and coverages and continue its construction program. Hovland Testimony, p. 5. With adequate cash earnings, KCPL's construction program will not be limited. *Id.*, p. 9. Of importance is KCPL's capitalization structure which, because of the very low amount of short-term debt, gives the company significant flexibility for financing. Tr. 5775. Mr. Hovland's testimony also showed that KCPL's positions on the need for CWIP and the effect of relying on alternative regulatory practices, as expressed in this proceeding and in the KCC and MPSC proceedings have been consistent. Hovland Testimony, pp. 4-11.

16. NRC Staff witness Petersen also found that KCPL was financially qualified to design and construct WCGS. Petersen Testimony, p. 5. The increases in

the capital and fuel costs for WCGS did not change his conclusion. Tr. 5888, 5944-5947. It was his assumption that over the period of construction the regulatory environment provided by the KCC and MPSC would continue to be rational. Tr. 5907-5908, 5939-5940; SER Supp. 1, p. 20-7.

17. MACEA's evidentiary presentation took the form of portions of KCPL's testimony in three recent KCC and MPSC rate cases¹⁴ and limited questioning of two of the four KCPL officers whom it had subpoenaed. Based on this presentation and its cross-examination, MACEA appeared to be urging two major arguments. First, MACEA appears to believe that KCPL is likely to suffer a derating of its first mortgage bonds which will in turn cause an unreasonable increase in financing costs to KCPL and the costs of KCPL's construction program, including WCGS. Second, MACEA attempted to show that KCPL cannot now finance its construction program. MACEA bases this second argument on testimony before MPSC and KCC which assertedly shows KCPL's belief that it could not finance its construction program without CWIP. An examination of both of these arguments shows that they are without merit.

18. As to the likelihood of derating, Mr. Fraser, whose background included the responsibility for all corporate bond rating with one of the two major ratings companies, testified that in his opinion KCPL's Aa/AA ratings appeared to be quite secure. Para. 13, *supra*. KCPL's witnesses took a more conservative view. Both Mr. Hovland and Mr. Rasmussen stated that there was a good likelihood that the heavy financing program during 1977-1979 could lead to a derating for KCPL's first mortgage bonds to single A. Tr. 5835-5836, 5966-5969.

19. Even if KCPL's first mortgage bonds should be derated to single A, the impact would not be significant in terms of KCPL's construction program. The uncontradicted evidence shows that KCPL would continue to have access to the capital markets to sell securities necessary to augment internally generated funds. Hanson Testimony, pp. 12-13; Tr. 5839. Based on the current differential between single A and Aa/AA securities of 18 basic points, the increased annual interest cost if KCPL's bonds were derated to single A would be less than \$500,000. Exhibit F-2, p. 20; Tr. 5782, 5836-5838. Even at a differential of 50 basic points, the annual cost could be about \$1.3 million. *Id.* These incremental costs, if they were to be incurred, are very small compared to the overall construction program and would not interfere with KCPL's ability to finance that program. Hanson Testimony, pp. 11-12, Tr. 5839. Although a derating to single A could cause an adverse "snowballing" effect during long periods of heavy utility construction, this is unlikely to happen in KCPL's case because KCPL is aggressively seeking rate relief and the level of KCPL's construction expenditures

¹⁴See Exhibits F-1 to F-17. MPSC Case Nos. ER77-118 and 18,433, KCC Docket No. 105,000-U. Applicants introduced some additional testimony from these same proceedings which relates to the portions introduced by MACEA. See Exhibits F-3A, 7A, 7B and 7C.

will decline sharply after the 1977-1979 period. Tr. 5560, 5839-5840, 5853-5854; *see* Hovland Testimony, KGH Exhibit #1 (Revised). Furthermore, if there were a derating in the 1977-1979 period, there could be an uprating thereafter based upon the more limited construction expenditures and continued good cash flow. Tr. 5856-5857.

20. MACEA's second argument involves the necessity for CWIP. The KCPL testimony introduced by MACEA from the pre-Proposition 1 rate cases presented a forceful case for the inclusion of CWIP in KCPL's rate base. *See* Exhibits F-5 – F-11. There was general agreement that CWIP in the rate base is very desirable, as it enhances earnings, cash flow and credit standings, and minimizes financing costs. Fraser Testimony, p. 13; Hanson Testimony, pp. 5-6; Hovland Testimony, pp. 6-7, 11; Tr. 5515, 5532, 5791. The higher financing costs imposed by the absence of CWIP were characterized as an unreasonable burden on the consumer because they could have been avoided by including CWIP in the rate base. Hanson Testimony, p. 6. There was also general agreement that CWIP, while desirable, is not a prerequisite for KCPL to be able to carry out its projected construction program. Fraser Testimony, p. 13; Hanson Testimony, pp. 6-7; Hovland Testimony, pp. 4-11; Petersen Testimony, pp. 1-2, 5; Tr. 5515, 5711-5713, 5801-5806. The key requirement is that KCPL receive adequate cash flow, whether from CWIP or from alternative regulatory practices. Hovland Testimony, pp. 8-11; Tr. 5596, 5801-5806, 5903. There was no dispute that adequate cash flow can be achieved through such alternatives as increased rates of return, increased depreciation rates and tax deferrals. Hovland Testimony, pp. 7, 9; Tr. 5801-5806, 5814-5815. When read in the perspective of KCPL's entire presentation, its testimony before the KCC and MPSC presents a theme which is consistent with its testimony in this proceeding:

- a. To carry out its construction program, KCPL needs an adequate cash flow;
- b. The most desirable method to provide such a cash flow is by including CWIP in the rate base;
- c. In the absence of such adequate earnings and cash flow, there would be deratings of KCPL's securities which would impose an unreasonable cost of its ratepayers because it is an avoidable cost. But KCPL will continue to have access to capital markets to finance its construction program at a reasonable cost to KCPL;
- d. In the absence of CWIP, alternative regulatory methods are available to provide a utility adequate earnings and cash flow to maintain its security credit ratings and finance its construction program and that KCPL's testimony in this proceeding has been based on those alternatives.

See generally, Hovland Testimony, pp. 3-11; Tr. 5712.

21. MACEA's Proposed Findings¹⁵ attempt to support the two arguments set forth above and, further, presents an argument entitled "Analysis of Regulatory Environment" to show that the MPSC is not likely to grant a rate of return high enough to provide adequate cash flow. MACEA's Proposed Findings, paragraphs 17-19. Our views on this have been set forth above. Proposed Finding 5 deals with KCPL's projected construction expenditures in 1977 through 1982. It is cast in a manner parallel to Applicant's Proposed Finding 7¹⁶ but with different details. We find no conflict between the two proposed findings and have adopted in paragraph 10, *supra*, the elements of both that we view as material. We have also adopted above (paragraphs 12-15) the essential facts in MACEA's Proposed Findings 6 through 9. Proposed Findings 10 through 14 deal with the testimony of KCPL officials before the MPSC and KCC and before us and comparisons of the two sets of evidence. Various aspects of this have been dealt with above. As noted earlier, the reopening of this case was based, for the most part, on possible inconsistencies between the NRC evidence and the evidence presented to the state regulatory commissions. Our review of the evidence persuades us that no real and significant contradictions exist. The apparent inconsistencies arise as a result of the different time periods covered by the various presentations and, more importantly, by the different factors that were emphasized by the witnesses in the several sets of proceedings. We have based our decision on the evidence presented to us and find no basis in the KCC and MPSC evidence to change it. MACEA's Proposed Findings 15 and 16 we reject, the former as a conclusionary statement with which we disagree and the latter as argumentative. The Preliminary Statement and Description of Record, MACEA's Proposed Findings 1 through 4, are essentially the same as set forth herein. MACEA's Proposed Conclusions of Law and Order were rejected as not supported by the record.

b. Kansas Gas and Electric Company

22. During the period 1975-1982, KG&E's estimated construction expenditures, including its share of WCGS, are about \$1.0 billion. Although Rural Electric Cooperatives and municipals have indicated an interest in buying part of WCGS, thus reducing the amount which KG&E needs to finance, KG&E's planning is based on maximum ownership of WCGS. Walker II-1 Testimony,¹⁷ p. 4. About \$690 million of the construction program is proposed to be financed from external funds (common and preferred stock, first mortgage bonds, other

¹⁵Mid-America Coalition for Energy Alternatives' Proposed Findings of Fact and Conclusions of Law, dated May 1, 1977 (hereinafter "MACEA's Proposed Findings").

¹⁶Applicants' Proposed Findings of Fact and Conclusions of Law, dated April 11, 1977.

¹⁷Testimony of W. B. Walker on Contention II-1, following Tr. 4680 (hereinafter "Walker II-1 Testimony").

long-term debt and short-term borrowing) and about \$390 million through internal generation (retained earnings, depreciation, tax deferrals and salvage). Walker Supplement,¹⁸ Exhibit 2. KG&E's ability to finance its construction program has been conservatively estimated by using a 4% investment tax credit (rather than continuation of the present 10% rate), present depreciation rates (notwithstanding plans to increase these rates), and assumed high interest rates for future offerings. Tr. 4682, 4688. KG&E's coverage of interest requirements and its bondable property will be sufficient to justify issuance of the securities necessary to fund the construction program. Walker Testimony, p. 5; Supp. 1 to SER, p. 20-3. KG&E's first mortgage bond ratings are Aa (Moody's) and AA - (Standard & Poor's), both high grade ratings. Walker Testimony, p. 5; Supp. 1 to SER, p. 20-2. KG&E has similar high ratings for preferred stock, commercial paper, and common stock.

23. KG&E is subject to the regulatory jurisdiction of the Kansas Corporation Commission for its retail rates and the Federal Power Commission for its wholesale rates. The Kansas Commission has recognized the capital expenditures which will be entailed in converting KG&E's principal fuel from natural gas to coal and nuclear and has also recognized KG&E's right to a fair rate of return which will provide sufficient revenues to maintain KG&E's credit and to attract capital at a rate of return commensurate with other investments and enterprises having corresponding risks, and to preserve its financial integrity. Walker Testimony, p. 6; Supp. 1 to SER, p. 20-5.

24. The Licensing Board finds that the financing projections submitted by the Applicants, including the underlying assumptions, constitute reasonable financing plans, and that the evidence provides sufficient basis for concluding that there is reasonable assurance of obtaining the necessary funds to cover estimated construction costs and related fuel cycle costs. Consequently, the Board finds, based upon the uncontradicted evidence, that the Applicants are financially qualified to design and construct WCGS.

25. Before closing, the majority members of the Board feel that a comment regarding the dissenting opinion is in order. We do not agree that waste management costs have been omitted. Although it does appear that Witnesses Fraser and Hanson may have excluded these costs from their considerations, the Board has not, as they are included in the fuel cost estimates of the Staff and Applicants. The precise allowance used by Applicants cannot be readily ascertained from the record, but can only be inferred from certain percentage references in their witness's testimony, the statement that their estimates are largely based on AEC and ERDA studies, and the statement that, in considering the effect of lack of

¹⁸Supplement to Testimony of W. B. Walker on Contention II-1, following Tr. 4682 (hereinafter "Walker Supplement"). In addition to construction expenditures, about \$75 million for working capital, debt retirement, and sinking funds would be derived from these externally and internally generated funds.

reprocessing facilities, a charge was made for disposal which accounted in part for an overall increase in the levelized fuel cycle costs of 0.8 mills per KWH for the throw-away cycle. See Jaye Testimony following Tr. 3159, pp. 17-19. The Staff is somewhat more explicit. Its witness estimated a 1982 cost for waste management of 0.17 mills per KWH (equivalent to a levelized cost of about 0.3 mills per KWH) for the case with reprocessing and a levelized cost of 1.38 mills per KWH for the throw-away cycle. Nash Testimony following Tr. 3130, Tables 4 and 11. For the life of the plant, approximately 200 billion KWH, this would amount to about \$275 million. Although we have no basis in the record for assessing the adequacy of this allowance, it appears to be ample. As to why Witnesses Fraser and Hanson may have not considered this cost, we can only speculate. It seems reasonable to surmise, however, that they might not have focussed specifically on it because they considered it to be only one of several components of the fuel cycle cost which, in turn, was a cost allowed by rate making bodies before calculating rate of return. The latter, of course, is the principal item of concern from an investment point of view.

III. CONCLUSIONS OF LAW

26. All conclusions of law required to permit the Director of Nuclear Reactor Regulation to issue a construction permit for WCGS, with the exception of the financial qualifications issue, were made by the Licensing Board in its Partial Initial Decision Authorizing Limited Work Authorization, dated January 18, 1977. With respect to the issue of financial qualifications, the Licensing Board has reviewed the entire record including the proposed findings of fact submitted by the parties and the Applicants' response thereto. Those proposed findings submitted by the parties which are not incorporated directly or inferentially or specifically discussed elsewhere in this Partial Initial Decision are herewith rejected as not being supported by reliable, probative and substantial evidence.

27. Based on its review of the record and the foregoing findings of fact, the Licensing Board has concluded that Applicants are financially qualified to design and construct the proposed facility.

IV. ORDER

WHEREFORE, IT IS ORDERED, in accordance with the Atomic Energy Act of 1954, as amended, and the rules and regulations of the Commission, that the Director of Nuclear Reactor Regulation is authorized to issue to Applicants a permit to construct the Wolf Creek Generating Station, Unit No. 1, consistent with the terms of this Initial Decision and the Partial Initial Decision Authorizing Limited Work Authorization, and substantially in the form of Attachment B hereto.

IT IS FURTHER ORDERED, in accordance with 10 CFR Sections 2.760, 2.762, and 2.764 that this Initial Decision shall be effective immediately and shall constitute the final action of the Commission forty-five days after the date of issuance hereof, subject to any review pursuant to the above referenced rules. Exceptions to this Initial Decision must be filed within seven days after service of the decision. A brief in support of the exceptions must be filed within fifteen days thereafter (twenty days in the case of the NRC Staff). Within fifteen days of the filing and service of the brief by the appellant (twenty days in the case of the Staff), any other party may file a brief in support of, or in opposition to, the exceptions.

IT IS SO ORDERED.

THE ATOMIC SAFETY AND
LICENSING BOARD

Lester Kornblith, Jr., Member
George C. Anderson, Member

Dated at Bethesda, Maryland
this 11th day of May 1977

[Appendices A and B have been omitted from this publication but are available in the NRC Public Document Room, 1717 H Street, N.W., Washington, D.C.]

Samuel W. Jensch, Concurring in Part and Dissenting in Part:

My disagreement with the majority opinion is not with the premises and assumptions utilized, nor with the result reached on those premises and assumptions, but rather the disagreement is respecting the omission of a likely substantial cost factor, that I believe should be considered in the capital and/or operating expenses for a nuclear power plant.

Waste management expenses have not been considered by the Applicants' qualified financial witnesses who expressed opinions¹⁹ that the Applicants here are financially capable to construct and operate the proposed plant.

¹⁹The record in this phase of the proceeding also includes opinions respecting fuel prices. The Applicants here initially relied upon the Westinghouse contractual commitment to provide a 20-year supply of fuel. That commitment is sought to be excused by Westinghouse. It is likely that the issue will not be tried in court in public proceedings, since the parties to the proceedings in two separate jurisdictions do not appear to be sufficiently litigation-minded. The parties seem prepared, rather, to rely upon stipulations reached through negotiations, which, with replacement fuel costs, will result in substantial factors to be passed through for rate increases, over the costs provided by the fuel supply contracts. The parties to the proceedings are Westinghouse, on the one side, and the utilities, on the other side. Thus, the opinions respecting fuel prices for this project must be considered somewhat speculative.

Since at least 1958, the subject of waste management and its cost has been in the background of considerations of feasibility of nuclear power facilities. At this date, almost 20 years later, nothing definite respecting methods or costs has been established. The technical journals continue to recite the litany that there is no need for prompt resolution of these matters. The reasons for such hopeful postponement are not clearly presented. In fact, in view of the indicated ease by which solutions assertedly could be found, it is cause for more concern than the delay involved, for it results in doubt respecting the credibility of the technicians and their scientific attainment and economic feasibility.

In comparison with fossil fuel plant problems, where the waste management operations involve more than fly ash accumulations, the current theme is that electric rates have heretofore not reflected all of the capital and operating expenses, including costs for scrubbers, precipitators, fly ash, and nitric oxides. In view of those omissions, it is now decreed that revisions must be made to accommodate expenditures for such items. It is not clear that nuclear power plants should be excused from inclusion of the back-end costs related to waste management.

The determination to be made in this phase of the proceeding is whether the Applicants can construct and operate the nuclear power plant with adequate financial capability. The omission of the substantial waste management costs renders the determination an easy one. To turn away and not look at all the costs renders the feasibility of the project an economic delight. The argument that exact costs cannot be measured until the advisable waste disposal method has been selected only compounds the uncertainty of the economic feasibility of the plant. Even with that consideration, however, in view of the indicated several methods that could be selected for waste disposal, costs related to several of the more promising or hopeful methods could be computed.

The majority opinion herein has relied upon two separate presentations respecting waste management costs: one, by an estimator of fuel prices who made some percentage calculations derived from an undisclosed source; and second, by a Staff witness who used a mills-per-kilowatt calculation. The source of that mills-per-kilowatt calculation, likewise, was not disclosed. The majority opinion has made some calculations with factors that do not readily appear in the evidence. Certain it is, however, that the witnesses who expressed opinions on financial capability had not looked at any of the possible costs of waste management.

The purpose of this dissent is to seek a policy determination by the Nuclear Regulatory Commission whether waste management costs, based upon realistic bases, should be included in the consideration of financial capability of applicants to construct and operate a nuclear power plant. This policy determination would be helpful in a consideration of financial requirements to be fulfilled by applicants. The policy determination is important to the nuclear power pro-

gram, and it is believed necessarily to be made by the Commission and not by subordinate adjudicatory groups.

A study of the legislative history respecting endeavors to establish appeal boards at the eight major independent regulatory agencies reveals that the Congress scrutinizes attempts with great care. All endeavors for intermediate appeal boards have been presented in specific and detailed proposals to the Judiciary Committees of the House and Senate. The Congress seems desirous of learning whether an appeal board is, in fact, needed, or whether the Presidential appointees are shuffling off the expected Commissioner decisions to a group of subordinate employees not directly responsible to the President or the Congress. For instance, the FCC and ICC appeal boards have been authorized only in very definite and limiting terms, with four or five paragraphs having been used in the legislation to create and specify the power of appeal boards. In other words, Congress is interested in knowing how a Commission will do the work assigned to it, and upon that basis, detailed and fully informative legislation is enacted to accommodate a need.

The amendment constituting Section 191 of the Atomic Energy Act was developed before the Joint Committee on Atomic Energy, and refers only to Licensing Boards, and those are related to hearings. The next sentence in Section 191 provides for Commission authority to assign additional duties to "a" board. In the Reports to the Congress by the Joint Committee, the provisions for Atomic Safety and Licensing Boards were described in some detail. The so-called second sentence of now Section 191 of the Act was explained as authorizing the Commission to delegate other regulatory functions to "the" Board. With that identification, it is clear that *the* Board is the Atomic Safety and Licensing Board.

Senator Pastore, as Chairman of the Joint Committee, undertook the major role in presenting the proposed legislation to the Congress. In his endorsement, the Senator²⁰ stated, in general, that the Commission "... was given wide flexibility ... in deciding which cases to use *the* Board and in deciding on the amount of authority to be delegated to it" (emphasis is added) (82nd Cong., Sec. Session, page 15746). Again, it is clear that the only Board being considered by the legislators was the Atomic Safety and Licensing Board. Helpful to some for clarity that *the* Board and *a* Board are the same are the descriptions *ejusdem generis* and *expressio unius est exclusio alterius*. In none of the presentations made to either the House of Representatives or the Senate was contemplation

²⁰It may not be amiss to add to the identification of Senator Pastore, as Chairman of the Joint Committee, that he also was one of the most respected members of the Congress. The authority of his expressions is not to be lightly disregarded.

indicated for an Appeal Board.²¹ Furthermore, the continuance of a practice does not establish the validity thereof nor overcome the intention of the entire Congress.

It is often concluded that the objectives and meaning of legislation can be more readily discerned by an examination of the record which reflects the intentions and expressions of the legislators. The legislative history of Section 191 is without exception that in the hearings considering the legislation, the reports made and submitted to the Congress after consideration of the presentations before the Committee, and in the discussions on the floor of both the House and Senate, that only Licensing Boards were considered to be established and to which would be assigned additional regulatory duties as determined by the Commission. Thus, not only the legislative process, but the language of the legislation and the Congressional reports, limit Section 191 to the Licensing Boards. This conclusion is doubly supported by recognition of the needed form of legislation providing specifically for appeal boards, as for instance, at the ICC and FCC.

In view of the care that the Congress has exercised in legislation regarding appeal boards at the major independent regulatory agencies, doubt may exist whether the statutory organizational structure for the Nuclear Regulatory Commission provides for an appeal board, *i.e.*, whether it is considered *de facto* or *de jure*. While NRC subordinate adjudicatory groups should not determine the scope of the NRC organizational structure, the recital is made here only to indicate the belief that policy decisions should be made only by the Commission. No judicial authority supports the view that a subdelegatee can formulate a general statement of policy for a Commission.

Samuel W. Jensch, Chairman

²¹Section 201 of the Energy Reorganization Act (1975) provides only that the functions of the Appeal Board be transferred to the Nuclear Regulatory Commission, which may require the Commission to undertake a larger role than theretofore. The Licensing Board is a statutory unit established by Section 191 and is unaffected since the Atomic Energy Act was not repealed. Section 301 of the Energy Reorganization Act provides further that when the functions have been transferred from a component established by the agency, the "... component shall lapse." Furthermore, "If... any component... lapses... each position and office... shall lapse." The portions from the quoted legislation are the only references by the entire Congress to the Appeal Board at the Nuclear Regulatory Commission.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Edward Luton, Chairman
Dr. Oscar H. Paris
Mr. Frederick J. Shon

In the Matter of

Docket Nos. 50-282
50-306

NORTHERN STATES POWER COMPANY

(Spent Fuel Pool Modification)

(Prairie Island Nuclear Generating
Plant, Units 1 and 2)

May 13, 1977

Upon licensee's motion for interim authority to increase the capacity of its spent fuel pool pending completion of a contested proceeding looking to a permanent increase in capacity of the pool, Licensing Board issues an order denying the requested relief.

LICENSING BOARD: DELEGATED AUTHORITY

Licensing Boards have not been delegated authority, pursuant to 10 CFR §50.57(c), to permit interim expansion of spent fuel storage capacity pending completion of a contested proceeding looking to permanent expansion.

ORDER

Before us is the Licensee's motion for interim authority to install new spent fuel storage racks in the spent fuel pool to increase the capacity for storage of spent fuel assemblies. Expansion of the capacity of the spent fuel pool at the Prairie Island plant is the very subject of an ongoing contested proceeding before this Licensing Board, and the motion is made in that context.

The Licensee points out that the Commission's Rules of Practice "neither explicitly preclude nor provide for this type of a request." It urges nevertheless that, "in accordance with the analogous policy embodied in 10 CFR §50.57(c)," the Board authorize the issuance of a license permitting the work requested by the motion. The Regulatory Staff presses the applicability of Section 50.57(c) not by analogy, but directly. The argument is as follows:

10 CFR §50.91 of the Commission's regulations provides that the determination on an amendment to an operating license will be guided by the considerations governing the issuance of initial licenses, to the extent applicable and appropriate. The considerations governing the issuance of operating licenses are set forth in 10 CFR §50.57. Thus, 10 CFR §50.57 applies to license amendment proceedings, to the extent that the required findings are applicable to the activities covered by the amendment application.

In cases where a request such as that made by NSP is uncontested, the Board may issue an order under §50.57(c) authorizing the Director of Nuclear Reactor Regulation to make appropriate findings on those issues specified in §50.57(c) which are applicable, and to issue a license for the *requested action*. (Emphasis supplied.)

Since the Licensee's motion is opposed by the Intervenor Minnesota Pollution Control Agency (MPCA), however, the Staff concludes that "under §50.57(c)," before the Board can issue a license for the "requested action," it must make findings of fact on any pertinent matters that have been put in controversy by the contentions being asserted by the Intervenor MPCA. Thus, the Staff opposes the granting of the motion at this time because of its position that, at present, there is insufficient information before the Board to enable us to make findings of fact on the matters in controversy.

Section 50.57(c) provides that where a hearing is held on a pending operating license application, an applicant may make a motion in writing, pursuant to this paragraph (c), for an operating license authorizing low-power testing (operation at not more than 1 percent of full power for the purpose of testing the facility), and further operations short of full power operation.

We think the Staff reads §50.57(c) too broadly. In our view that section, by its express terms, does not apply to simply any "requested action" involving an operating license that a licensee or an applicant might seek by way of motion to a licensing board. The section literally applies only to requests to *operate* a reactor at power levels up to 1 percent of full power for testing purposes, and "further operations short of full power operation" for purposes that are not specified. No *operating* authority is here being sought. As we said recently in our May 6, 1977, "Order Following Prehearing Conference," we view the present application, and, hence, the present motion, as "seeking nothing other than Commission authorization to increase the capacity of the place where spent fuel" is to be kept. We conclude that §50.57(c) provides no express authority to this Board to act on the present motion.

Nor are we able, in the face of the plain language of Section 50.57(c), to

derive the necessary authority by reasonable implication. As referred to above, the Licensee takes the position that §50.57(c) provides "by analogy... a mechanism for acting on this motion." In our view, however, more than a "mechanism" is needed here. The Commission itself *may* have the legal authority to grant this motion. Even assuming that the Commission does have the authority, and agreeing that the §50.57(c) mechanism is "analogous" to what is being sought here, we remain satisfied that the analogy does not constitute a *delegation of authority* from the Commission to this Board to act upon a motion such as this.

In the absence of a Commission regulation expressly or by reasonable implication authorizing us to grant the present motion the motion must be, and it hereby is, denied.

SO ORDERED.

**THE ATOMIC SAFETY AND
LICENSING BOARD**

Edward Luton, Chairman

Dated at Bethesda, Maryland
this 13th day of May 1977.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Michael L. Glaser, Chairman

Lester Kornblith, Jr.

Franklin C. Daiber

In the Matter of

Docket Nos. 50-361
50-362

SOUTHERN CALIFORNIA EDISON COMPANY
SAN DIEGO GAS & ELECTRIC COMPANY

(San Onofre Nuclear Generating Station,
Units 2 and 3)

May 20, 1977

Pursuant to remand from the Appeal Board (ALAB-308, 3 NRC 20), Licensing Board issues an Initial Decision finding that applicants' proposed reduced exclusion area satisfies the requirements of 10 CFR §100.3(a) and that applicants' lack of control over the tidal beach within their proposed reduced exclusion area is *de minimus*, posing no significant hazards to the public health and safety.

INITIAL DECISION

Appearances

David R. Pigott, Esq., James A. Boeletto, Esq., and Charles R. Kocher, Esq., On Behalf of the Applicants

Brent N. Rushforth, Esq., and James Geocarlis, Esq., On Behalf of Consolidated Intervenors

Henry J. McGurren, Esq., Lawrence J. Chandler, Esq., and Robert J. Ross, Esq., On Behalf of the Nuclear Regulatory Commission

This proceeding arises from a decision¹ of the Atomic Safety and Licensing Appeal Board (Appeal Board) which resulted in an order remanding this construction permit case to this Atomic Safety and Licensing Board (Licensing Board) for further proceedings to determine whether the Applicants' (Southern California Edison Company and San Diego Gas and Electric Company) lack of full control over the tidal beach in front of the San Onofre Nuclear Station, Units 2 and 3, has no safety implications in terms of users on the beach, and, in addition, in terms of the nuclear facility itself. More specifically, the Appeal Board directed this Licensing Board to consider the question of whether a reduced exclusion area, proposed by Applicants for the San Onofre Nuclear Generating Station, Units 2 and 3, satisfied the requirements of Section 100.3(a)² of the regulations of the United States Nuclear Regulatory Commission. This regulation reads as follows:

"Exclusion area" means that area surrounding the reactor, in which the reactor licensee has the authority to determine all activities including exclusion or removal of personnel and property from the area. This area may be traversed by a highway, railroad, or waterway, provided these are not so close to the facility as to interfere with normal operations of the facility and provided appropriate and effective arrangements are made to control traffic on the highway, railroad, or waterway, in case of emergency, to protect the public health and safety. Residence within the exclusion area shall normally be prohibited. In any event, residents shall be subject to ready removal in case of necessity. Activities unrelated to operation of the reactor may be permitted in an exclusion area under appropriate limitations, provided that no significant hazards to the public health and safety will result.

Thus, this Licensing Board has been directed to determine, after ascertaining the facts, whether Applicants have met their burden of establishing that their lack of control over the tidal beach within the alternative exclusion area of the San Onofre Nuclear Generating Station, Units 2 and 3, is *de minimus*, so as to pose no significant hazards to the public health and safety.

This Licensing Board convened a prehearing conference on March 9, 1976, for the purpose of considering the manner in which the remanded proceedings would be conducted. In its decision remanding this case, the Appeal Board instructed us to decide whether an additional hearing must be held or whether, instead, the questions pertaining to the tidal beach use are amenable to disposition upon the bases of affidavits. Applicants, the Consolidated Intervenors, and the Regulatory Staff (Staff) of the Nuclear Regulatory Commission entered appearances, and participated in the remanded proceedings. At the prehearing

¹ ALAB-308, 3 NRC 20 (1976).

² 10 CFR §100.3(a) (1977).

conference held on March 9, 1976, we determined that the questions relating to tidal beach use could not be resolved by affidavits, and that a further evidentiary hearing would be held.

We issued an Order on April 9, 1976, specifying the issues on which evidence would be taken at the hearing. The issues we specified are as follows:

A. The anticipated size and characteristics from time to time of the tidal beach within the reduced exclusion area delineated by Applicants in Amendment No. 22 to their Preliminary Safety Analysis Report;

B. The anticipated public use from time to time of the tidal beach within Applicants' exclusion area;

C. The physical features and administrative controls proposed by Applicants to minimize public use of the tidal beach within Applicants' exclusion area; and

D. The anticipated amount of radiation exposure that might be received by a user of the tidal beach within Applicants' exclusion area during occupancy and subsequent evacuation of the beach in the event of an accident (a postulated fission product release as provided in 10 CFR §100.11).

Evidentiary hearings were held in Los Angeles, California, on May 19, 20 and 21, 1976, during which evidence was received on an issue by issue basis in the order in which the issues were specified in our April 9, 1976, Order.

This Licensing Board directed the Applicants, Consolidated Intervenor, and Staff to file proposed findings of fact and conclusions of law. Applicants timely filed their findings and conclusions on June 10, 1976,³ Consolidated Intervenor timely filed their findings and conclusions on June 15, 1976, and the Staff filed its findings and conclusions on June 21, 1976. Applicants filed Reply to Consolidated Intervenor's findings and conclusions on June 28, 1976.

On January 6, 1977 we issued an Order scheduling oral argument in this remanded proceeding in Los Angeles, California, on February 1, 1977. We also directed the parties to this remanded proceeding to address several subjects outlined in our Order during the course of oral argument. Such oral argument was held on the specified date.

This Licensing Board has fully considered all of the evidence of record. We conclude on the basis of such evidence that Applicants have met their burden of establishing that their lack of control over the tidal beach within their proposed reduced exclusion area of the San Onofre Generating Station, Units 2 and 3, is *de minimus*, so as to pose no significant hazards to the public health and safety. Our findings of fact and conclusions drawn from these findings follow.

³ On the same date, Applicants also filed a Motion with a memorandum of points and authorities in support attached, requesting this Licensing Board to certify to the Commission the question of whether Applicants are entitled to an exemption, pursuant to 10 CFR §50.12(a), from the requirements of the Commission's licensing regulations. By Memorandum and Order released simultaneously with this Initial Decision, we have denied Applicant's Motion.

FINDINGS OF FACT

A. The Anticipated Size and Characteristics From Time to Time of the Tidal Beach Within the Reduced Exclusion Area Delineated By Applicants in Amendment No. 22 to the Preliminary Safety Analysis Report

Applicants and Staff offered witnesses to give testimony on the anticipated size and characteristics from time to time of the tidal beach within the reduced exclusion area as delineated by Applicants in Amendment No. 22 to their Preliminary Safety Analysis Report for San Onofre Nuclear Generating Station, Units 2 and 3. The Consolidated Intervenors did not offer any witnesses on this issue.

The evidence shows that at the present time, a temporary sheetpiling laydown area has been constructed in front of the site of the San Onofre Nuclear Generating Station, Units 2 and 3. The beach in front of the San Onofre Nuclear Generating Station is divided into areas which are north and south of the temporary sheetpiling construction laydown area.⁴ The natural configuration of the beach has been changed due to littoral drift which has caused accretion of sand to the north and erosion of sand to the south of the temporary construction laydown area.⁵ Consequently, the beach to the north of the Generating Station has been widened due to sand accretion, and the beach to the south has narrowed due to sand erosion. The accretion of sand to the north of the construction laydown area has displaced the mean high water line in this area by approximately 100 feet seaward of the mean high water line as it was established in a January 1963 survey conducted by Applicants.⁶

Mr. Omar J. Lillevang, a civil engineer who specializes in coastal processes, harbors, cooling water systems and breakwaters, beach preservation, and wave phenomena, offered expert testimony on behalf of Applicants as to the anticipated size and characteristics of the tidal beach within Applicants' reduced exclusion area. Mr. Lillevang testified that within two to three years after removal of the temporary sheetpiling construction laydown area presently in front of the Generating Station, the alignment of the shoreline at the San Onofre site will be substantially as it was prior to the construction of the temporary sea wall and placement of excavated sand on the beach, which occurred in 1964. This work was undertaken in connection with Applicants' construction of the San Onofre Nuclear Generating Station, Unit 1. Mr. Lillevang also expressed his opinion that at the end of this two to three-year period the shoreline would lie

⁴ Testimony of Lillevang, p. 7 following Tr. 85; Testimony of Hawkins, pp. 1-2, following Tr. 155.

⁵ *Id.*

⁶ Testimony of Hawkins, p. 2 following Tr. 155, Tr. 168.

somewhat seaward but generally parallel with the shoreline's location prior to 1964. Mr. Lillevang further testified that within four to five years, the beach area north of the San Onofre site would return to substantially the same condition as existed prior to the construction of the temporary sheetpiling construction laydown area in front of Units 2 and 3, and that the rest of the beach area would return to its natural configuration over an additional period of approximately five years.⁷

Mr. Edward F. Hawkins, a hydraulic engineer on the Staff of the Commission, testified that the beach in front of San Onofre, Units 2 and 3, would return to its preconstruction configuration within one to two years following removal of the temporary construction laydown area, assuming normal sea and wave conditions, and that the beach area north of the construction laydown area would return to its natural configuration within four to five years.⁸

The tidal beach at the San Onofre site consists of the area seaward of the mean high water line to the mean lower low water line. This tidal beach is characterized by relatively flat slopes during the summer and fall seasons of the year, and by steeper slopes in the winter and spring seasons of the year. During the winter months, the tidal beach has exposed areas covered by cobbles, some of which are quite large, particularly south of the construction laydown area. A thick blanket of sand covers the cobbles during the summer and fall months.⁹

Mr. Lillevang made observations of the width of the tidal beach at a location south of Units 2 and 3 on March 15, 1976. These observations consisted of surveys of the beach profiles at various times during the day and, concurrently, twelve hours of continuous time-lapse photography. From the measured profiles, Mr. Lillevang calculated that the width of the tidal beach, whether washed by waves or not, between mean high tide and the stillwater level of the lower low tide predicted for that day (a range of 6.4 feet) was 35 feet. From the photography, he determined that at the lowest tide stage the width not intermittently washed by waves was 30 feet and that the average width unwashed by waves during the five hours that the wave runup did not reach the mean high tide line was 18.5 feet. (During the remaining hours of the tidal cycle the entire tidal beach was washed by waves.) Further, Mr. Lillevang determined that the sand below mean high tide was wet during the entire time.¹⁰

Mr. Hawkins estimated the width of the tidal beach based upon beach profiles at four different locations which were taken at quarterly intervals for Applicants by Marine Advisors, Inc., between the years 1964 and 1970, and at infrequent intervals thereafter. Mr. Hawkins found that the average width of the tidal beach ranged from a minimum of 50 feet to a maximum of 180 feet during

⁷ Testimony of Lillevang, pp. 8-9, following Tr. 85.

⁸ Testimony of Hawkins, p. 5, following Tr. 155.

⁹ Testimony of Hawkins, p. 2, following Tr. 155.

¹⁰ Testimony of Lillevang, pp. 9-10, Exhibits OJL-4, -5, and -6, following Rep. Tr. 85.

the winter months, and from a minimum of 100 feet to a maximum of 220 feet during the summer months.¹¹ Mr. Hawkins indicated that his estimates of the average tidal beach width did not consider or include the effects of the waves washing the beach. If wave action were considered, Mr. Hawkins estimated that the average width of the tidal beach would be reduced by approximately one-half of the estimates which he made without regard to wave action.¹²

Mr. Hawkins opined that the width of the tidal beach in front of a sea wall which will eventually be constructed¹³ at the San Onofre site would be somewhat narrower than the average width of the tidal beach which he estimated based on the beach profiles taken by Marine Advisors, Inc.¹⁴

The Licensing Board finds that the tidal beach within the reduced exclusion area now proposed by Applicants has a minimum average width of approximately 50 feet and a maximum average width of approximately 220 feet, depending on the time of year, but that natural action of the waves washing the beach reduces these widths by approximately one-half, or a minimum average width of 25 feet and a maximum average width of 100 feet. We further find that it is not possible to predict with precision the width of the tidal beach because of constantly changing circumstances such as tides, size of waves, and weather conditions.

The Licensing Board notes, however, that the figures above can be misleading. The relevant area with respect to the number of people who might have to be evacuated is, for most occupants, the dry area upon which beach users may repose. The width of this dry area will be substantially less. The figures cited above are the distances measured from the mean high tide line to the mean lower low water line. This entire distance, in the event of still water, would be exposed for only a few minutes during each tidal cycle. Even during this few minutes, the unwashed width, as stated above, would be only about half of the total. Since the implications of this phenomena for a full tidal cycle are not immediately obvious, we consider a specific example. Assume that on a particular day the distance from lower water to the mean high tide line is a typical distance of one hundred feet and that the waves are normal and result in a runup of 50 feet above the line at which the still water intersects the beach, as suggested by Mr. Hawkins. At low tide, then, the width of unwashed beach below the high tide line would be about 50 feet. At a time about half way between low and high tides (about three hours after low tide) the still water level would have risen so that it would intersect the shore at about 50 feet from the high tide line, the runup would wash that 50 feet of beach and there would be no unwashed beach

¹¹ Testimony of Hawkins, pp. 5-6, following Rep. Tr. 155; Tr. 163.

¹² Testimony of Hawkins, p. 7, following Rep. Tr. 155; Tr. 175.

¹³ Applicants' Exhibit KPB-1, Figure 1.8-B; See also Amendment No. 22 to Preliminary Safety Analysis Report, Figure 1.8-B, following p. 1.8-2by.

¹⁴ Tr. 166-167.

below the high tide line. This situation would exist for the next six hours while the tide continued to rise and then fell back to the half way point. Then for the remaining three hours of the tidal cycle, some or all of the first 50 feet below the high tide line would be unwashed. Summarizing then for the whole tidal cycle, during half of the cycle there would be no unwashed tidal beach; during the other half of the cycle there would be a width of unwashed beach ranging from zero to half of the total tidal beach width. Averaged over the cycle, then, the average unwashed width would only be about one-sixth (assuming a sinusoidal tidal pattern) of the tidal beach width. Although these calculations are idealized, they represent reasonable expectations and ignore the wetness of the portions of beach that have recently been awash.

B. The Anticipated Public Use From Time To Time of the Tidal Beach Within Applicants' Exclusion Area

The tidal beach within Applicants' exclusion area is surrounded by the San Onofre State Beach, a recreation facility maintained by the State of California. The State Beach consists of three parcels of land within the United States Marine Corps Base, Camp Pendleton, California, which have been leased by the State of California from the United States Navy, for development. Parcel 1 is located north of, and not contiguous to, the San Onofre site and extends inland from U.S. Interstate Highway 5. This highway runs to, parallel and eastward of, the Generating Station site. Parcel 2 is located immediately northwest of the Generating Station site between the Pacific Ocean and Interstate Highway 5. Parcel 3 is located immediately southeast of the Generating Station site between the Pacific Ocean and Interstate Highway 5.¹⁵ The tidal beach within the Applicants' exclusion area is bounded on the north by Parcel 2 of the San Onofre State Beach, and is bounded on the south by Parcel 3 of the San Onofre State Beach.¹⁶ The tidal beach is .8 of a mile long.

Parcel 2 has been described in the environmental impact statement of the California Department of Parks and Recreation Plan for the San Onofre State Beach, dated September 22, 1972, as being rocky in character which causes better than average surfing conditions. Parcel 2 in the past has been used primarily for surfboarding, and the California Department of Parks and Recreation proposes to restrict this area for use by surfers in the future. The nearest access path to the State Beach from the north is approximately 2,500 feet north of San Onofre Nuclear Generating Station, Unit 2.¹⁷

Parcel 3 is located immediately adjacent to the southern boundary of Appli-

¹⁵ Exhibit KPB-1, Fig. 1.8-A.

¹⁶ Exhibit KPB-1, p. 1.8-2u; testimony of Sears, p. 1-2, following Tr. 263.

¹⁷ Testimony of Sears, pp. 1-2, following Tr. 263.

cants' reduced exclusion area. This parcel will have a camp store and day-use parking spaces which will be located on abandoned Highway 101 south of the Generating Station site. The nearest access path to the State Beach from the south is approximately 4,100 feet south of the San Onofre Nuclear Generating Station, Unit 2.¹⁸

On Parcel 2, the California Department of Parks and Recreation plans a maximum overnight camping use of 525 people, and a maximum day use of 1,050. The total number of automobiles which would be parked in Parcel 2 for people using the beach would be 450. The total number of people expected to use the Parcel 2 for overnight camping and day use is 1,575.¹⁹

The California Department of Parks and Recreation has designed Parcel 3 to contain a maximum of 1,150 people for overnight stay, and a maximum of 2,290 for day use of the facilities. Parcel 3 will have a parking capacity of 1,000 automobiles. The total number of people expected to use Parcel 3 would be 3,440. The maximum capacity of Parcels 2 and 3, including overnight campers and day use is 5,015 people, and the capacity for automobiles parked in Parcels 2 and 3 is 1,450.²⁰

Applicants proffered two witnesses on the issue of the anticipated public use from time to time of the tidal beach within Applicants' exclusion area. Applicants' first witness was Dr. Donald F. Sinn, who holds a Doctorate in education and is an expert in recreation and park planning and management. Dr. Sinn is a professor of recreation and leisure studies at California State University at San Jose. Dr. Sinn also serves as a consultant to the firm of Ellis, Arndt & Truesdell, Inc., of Flint, Michigan. This firm specializes in recreation and park planning and management. Applicants also proffered Mr. William V. Sheppard, a principal in the firm Wilbur, Smith & Associates, Inc. Mr. Sheppard is an expert in traffic planning and analysis, and has substantial experience in projecting the number of persons within public areas.

Dr. Sinn conducted an investigation to identify and project the nature and extent of recreational activities occurring within the beach areas in the vicinity of the San Onofre Nuclear Generating Station. His investigation included an analysis of activities at beaches in the vicinity of the San Onofre Nuclear Generating and at other southern California beaches; consultation with Federal, state and local agency personnel and business and recreational professionals concerning factors affecting beach activities in the vicinity of the San Onofre Nuclear Generating Station; and review of literature and other studies related to factors affecting beach activity in the vicinity of the San Onofre Nuclear Generating Station.²¹ Dr. Sinn also observed the beach and its use in front of

¹⁸ *Id.*

¹⁹ Tr. 57.

²⁰ *Id.*

²¹ Testimony of Sinn, pp. 1-3, following Tr. 180.

the Generating Station site, the beach in front of the nearby United States Marine Corps Enlisted Men's Club, and beach areas north of the Station site. He interviewed a number of persons using these beaches to determine the activities, habits, use patterns, attitudes and extent of movement of beach users. In addition, Dr. Sinn photographed the beach areas, bluffs, trails, barrancas, parking facilities and beach users, and consulted with staff and management personnel of the San Onofre State Beach Park.²²

As a result of his investigation, Dr. Sinn reached three basic conclusions with respect to the activities within the beach areas in the vicinity of the San Onofre Nuclear Generating Station. First, Dr. Sinn concluded that distances from parking and beach access points to the area in front of the Generating Station are such that there will be a low level of activity on beaches within the reduced exclusion area as compared to other beach areas in the San Onofre State Beach. This conclusion is premised on Dr. Sinn's determination that the level of activity on a beach decreases with the distance from parking and beach access points. Dr. Sinn observed that beach users attempt to drive and park as close as possible to areas of their planned recreation. Dr. Sinn stated that beach users select a fixed location for blankets, gear and the like, close to their vehicles for security for their property and to limit the distance to carry beach gear. Moreover, Dr. Sinn testified that the distance to restrooms and drinking water, especially for families with children, is also a factor which limits the distribution of persons on a beach. Dr. Sinn concluded that at San Onofre, beach users who have entered the beach by the trails down the bluff will tend to remain relatively close to their point of beach access.²³

Secondly, Dr. Sinn concluded that restriction of access to the dry-sand beach in front of the San Onofre Generating Station will result in a relatively lower level of activity in the wet sand and water areas in front of the Generating Station than on other beach areas in the vicinity of the Generating Station. Dr. Sinn's conclusion is founded on his determination that the level of beach activity in wet sand and water areas of a beach is dependent upon the availability of an adjacent dry sand beach. Dr. Sinn pointed out that beach users do not choose wet sand areas for the location of beach stays as a matter of personal comfort. Because wet sand areas are colder and less comfortable, they are not normally chosen as the location of beach stay. As a result, beach users generally select a dry sand area for the location of their beach stay. Dr. Sinn stated that beach users tend to engage in wet sand and water recreational activities only in close proximity to the point chosen for the beach stay. This results from a desire to remain relatively near beach gear for convenience and security purposes and the

²² Testimony of Sinn, pp. 3-4, following Tr. 180.

²³ Testimony of Sinn, pp. 7-8, following Tr. 180.

desire to remain close to other persons, particularly children, in the same party.²⁴

Finally, Dr. Sinn concluded that beach areas within Applicants' reduced exclusion area do not offer any particular attraction for any recreational activities. Dr. Sinn, in the course of his investigation, identified the predominant, as well as the less predominant, beach activities in the vicinity of the San Onofre Nuclear Generating Station. He found the principal activities consist of general beach use, including sun bathing and beach play, and surfing. Dr. Sinn concluded that restricted access to the dry sand beach within the Applicants' reduced exclusion area would limit, if not completely eliminate, general beach use there because beach users prefer dry sand areas for their beach stay and because beach users engage in recreation in close proximity to their selected area. Dr. Sinn further found that good surfing conditions do not exist in the areas offshore from the beach in front of the Generating Station, whereas better surfing conditions are found outside the reduced exclusion area beginning in Parcel 2 north of the Station site. Dr. Sinn found, however, that other beach uses in the reduced exclusion area include swimming and fishing, and clamming. Dr. Sinn pointed out, however, that beach conditions would not be particularly attractive for swimming after completion of San Onofre Units 2 and 3, because of the existence of cobble beds in shallow water, and because the beach slopes in shallow water areas are steep. Dr. Sinn did admit that surf fishing along San Onofre State Beach is considered good. Dr. Sinn noted that better clamming areas are located north of the reduced exclusion area.²⁵

On behalf of Applicants, Mr. Sheppard statistically projected the number of persons who might occupy the beaches within Applicants' reduced exclusion area. Mr. Sheppard considered the nature, size, location, and capacity of the facilities planned by the California Department of Parks and Recreation in the development of San Onofre State Beach in making his statistical projections. In his projections Mr. Sheppard assumed that the total number of persons who could be accommodated by all facilities developed to their maximum capacity would be present and would occupy the beach and the facilities at one time. Mr. Sheppard then modeled the distribution of such persons on the beach based upon the Poisson probability distribution function. Mr. Sheppard used this function to predict the probability of finding a given number of persons on a given segment of the beach predicated upon an assumed average walking distance. In the model, persons were distributed on the beach beginning with segments closest to the beach access points until a maximum density was achieved. Additional persons were then located in adjacent segments of the beach. The maximum density used in the model of 1 person per 400 square feet of beach results in the

²⁴ Testimony of Sinn, pp. 7-9, following Tr. 180.

²⁵ Testimony of Sinn, p. 10, following Tr. 180.

distribution of persons on the beach further from the points of access, and therefore, closer to Applicants' reduced exclusion area.²⁶ The maximum density is much greater on other California beaches. At San Monica Beach, for example, Mr. Sheppard indicated that the density is 1 person per 75 square feet.²⁷

Mr. Sheppard also evaluated information developed by the California Department of Parks and Recreation concerning the use of the San Onofre State Beach Park in order to predict the maximum and average use of the facilities by persons in the vicinity of the reduced exclusion area.²⁸

Mr. Sheppard projected a capacity use within the reduced exclusion area of 35 people assuming camp sites are not developed within Parcel 2, and a capacity use within the reduced exclusion area of 100 people with the development of the camp sites. The maximum and average use predicted by Mr. Sheppard without camp sites being developed were 31 and 7 persons, respectively, and with the development of camp sites in Parcel 2, the capacities were 89 persons and 17 persons, respectively.²⁹

Mr. Sheppard's projections were based on park development plans which have since been revised. Mr. Sheppard testified that had he considered the most recent revisions to the plans for the development of the San Onofre State Beach, which were described for the record by Dr. Marvin H. Hampton, an associate civil engineer employed by the California Department of Parks and Recreation and project manager and project engineer for the San Onofre State Beach project, the estimates of the beach capacity and maximum and average use of the state beach facilities within the reduced exclusion area would have been smaller by about ten percent. The most recent revisions to park development plans reduced the number of camp sites and the number of vehicle parking spaces in both Parcels 2 and 3, which, in turn, reduced the capacity use of the beach facilities within the reduced exclusion area. Mr. Sheppard's estimates in his testimony were predicated on park plans as of March 1976, whereas the most recent revisions were made after that date.³⁰

As indicated above, Mr. Sheppard's projections of the number of persons occupying the beach assumed a maximum density of 1 person per 400 square feet, rather than the density of 1 person per 100 square feet which is normally used by the California Department of Parks and Recreation for planning of beach development. Mr. Sheppard stated he would not have statistically projected any persons to occupy the beach facilities within Applicants' reduced exclusion area if he had used the density of 1 person per 100 square feet.³¹ Mr.

²⁶ Testimony of Sheppard, pp. 3-7, following Tr. 231.

²⁷ Tr. 247.

²⁸ Testimony of Sheppard, pp. 9-10, following Rep. Tr. 231.

²⁹ Testimony of Sheppard, pp. 7-8 and 10; Exhibit WVS-2.

³⁰ Tr. 232-233; 241-242; Exhibit MHH-1A-1E.

³¹ Testimony of Sheppard, pp. 8-9, following Rep. Tr. 231.

Sheppard testified that assuming a density of 1 person per 100 square feet rather than 1 person per 400 square feet, the distribution of persons along the beach would not extend as far from points of access to the beach. Consequently, Mr. Sheppard would not expect to project any persons to be found within the reduced exclusion area using a density of 1 person per 100 square feet.³²

Applicant also conducted daily counts of persons within the beach area and bluff portions of the reduced exclusion area, beginning on February 6, 1976, and ending on September 29, 1976.³³ The count data were not submitted in evidence at the hearing, but were ordered produced by the Board prior to oral argument on February 1, 1977. The daily counts represent observations made by security personnel at San Onofre Unit 1 at 10:00 a.m. and 3:00 p.m. of the number of persons and their activities within the reduced exclusion area and adjacent areas. For purposes of making these observations, the reduced exclusion area and adjacent area were divided into seven designated areas; only five fall within the reduced exclusion area.³⁴ The activities observed were classified as stationary, transit, swimming and surfing.³⁵ The observations consist of the number of persons and their activity for each of the seven designated areas.

The daily count data show that the peak number of persons actually in the reduced exclusion area occurred on Sunday, June 13, 1976, at 3:00 p.m. when 108 persons were observed. Of these 108 persons, 43 were observed as stationary, 20 were observed in transit, 22 were seen swimming and 23 were surfing.³⁶

The count data also show for in excess of one half of the observations between February 6 and September 29, 1976 less than 10 persons were observed in the reduced exclusion area. The observations establish that public use of the tidal beach is insignificant.³⁷ Most persons were seen in the area adjacent to the reduced exclusion area.³⁸ The Licensing Board finds the count data to be reflective of the anticipated public use from time to time of the tidal beach within the reduced exclusion area.

The Staff contends that the users of the tidal beach in front of the San Onofre Nuclear Generating Station will consist of occasional beach visitors and surfers who will park their cars south of the exclusion area and who will walk along the exclusion area beach to reach the good surf area in Parcel 2 north of the Generating Station. The Staff's inspection of the site has indicated that the beach immediately north of the plant is cluttered with rock, whereas south of the plant the beach is relatively free of rock. The Staff believes that the area directly

³² Testimony of Sheppard, pp. 8-9, following Rep. Tr. 231.

³³ Exhibit SCE-1, Exhibit SCE-2.

³⁴ Exhibit SCE-1, figure 1.

³⁵ Exhibit SCE-1.

³⁶ Exhibit SCE-1, Attachment 1, (p. 9).

³⁷ Exhibit SCE-1; Exhibit SCE-2.

³⁸ Exhibit SCE-1, Attachment 1.

in front of the Generating Station is the least desirable area, from an asthetic point of view and for swimming, surfing or sun bathing. The Staff also asserts that beach users will congregate relatively close to the access paths to the San Onofre State Beach, and for this reason will be discouraged from migrating up and down the beach, and entering the tidal beach area. Thus, the Staff ultimately concludes that the anticipated use of the tidal beach within the Applicants' reduced exclusion area will be primarily as a beach passageway between Parcels 2 and 3.³⁹

v

C. The Physical Features and Administrative Controls Proposed by Applicants to Minimize Public Use Of The Tidal Beach Within Applicants' Exclusion Area

Applicants plan to install various physical features and administrative controls to improve their ability to exercise control over the landward portion of the reduced exclusion area. Applicants have obtained an amendment to their grant of easement from the United States for use of the San Onofre site, which is located on the grounds of the United States Marine Corps Base, Camp Pendleton. The amendment reduces the size of the original exclusion area and delineates more clearly Applicants' authority to determine all activities within the area. The amendment was entered into in late September 1975, and actually grants to Applicants the authority to determine all activities in the reduced exclusion area, including exclusion or removal of personnel and property.⁴⁰

The physical features proposed by Applicants include the following: (1) a walkway adjacent to the seawall which will be constructed in front of Units 2 and 3. The walkway is intended to facilitate pedestrian transit between the open beach areas on either side of Applicants' reduced exclusion area, and will be wide enough to accommodate emergency vehicle and pedestrian traffic simultaneously; (2) an eight-foot chain link fence along the seaward side of the walkway and extending to the mean high tide line along the northern and southern ends of the reduced exclusion area. A chain link fence will also be provided along the northern, eastern and southern site perimeters; and (3) signs warning that access to the beach area within the reduced exclusion area is restricted to passage between the beach areas up-coast and down-coast of the San Onofre Nuclear Generating Station. The signs will be posted along the beach and on the walkway within the reduced exclusion area.⁴¹

The administrative controls planned by Applicants include installation of

³⁹ Testimony of Sears, pp. 2-3, following Tr. 263.

⁴⁰ Applicants' Exhibit KPB-1, p. 1.8.2hzzk - 1.8.2hzzn; testimony of Baskin, following Tr. 275, p. 5.

⁴¹ Testimony of Baskin, following Tr. 275, pp. 6-8; testimony of Sears, following Tr. 289, p. 2.

remotely operated television cameras to permit surveillance of beach use, periodic patrols of the beach area by Applicants' security personnel, and a public address system capable of communicating instructions to persons in the reduced exclusion area.⁴²

In addition, Applicants propose to dispatch plant security personnel and/or enlist the assistance of United States Marine Corps personnel at Camp Pendelton, as may be necessary, to disperse people within the reduced exclusion area in the event their activities are observed not to be substantially transient in character.⁴³ The public address system will also be equipped with an emergency siren which will be automatically sounded when the containment pressure in the San Onofre Nuclear Generating Station, Units 2 and 3, becomes high enough to activate the safety injection system and before the release of any radioactive material.⁴⁴

The walkway will be concrete or hard surfaced. Applicants plan to have signs along the walkway and at its northern and southern boundaries, as well as in the beach area indicating that the walkway is for access only and that the area is an exclusion area. The walkway will be between the seawall and the mean high tide line in the reduced exclusion area.⁴⁵ It is estimated that the walkway will be approximately a few feet to about 50 feet from the mean high tide line.⁴⁶

Applicants tentatively propose to place the following language on the signs posted along the improved walkway:

Use of this walkway is limited to passage between open beach areas north and south of the nuclear power plant.⁴⁷

Applicants propose to place the following language on the signs to be posted at the northern and southern ends of the improved walkway:

Please use walkway for access to south (north) San Onofre State Beach.⁴⁸

⁴² Testimony of Sears following Tr. 289, p. 2; testimony of Baskin following Tr. 275, pp. 8-9.

⁴³ Testimony of Baskin following Tr. 275, pp. 8-9; Applicants' Exhibit KPB-1, pp. 1.8-2bzb-bzq.

⁴⁴ Testimony of Baskin, p. 10 following Tr. 275; testimony of Sears, p. 3 following Tr. 289. Applicants' testimony claims that its security personnel and/or the United States Marine Corps will also remove persons from the tidal beach in the reduced exclusion area. The Board finds, however, that neither Applicants' security personnel nor the Marine Corps can effect removal of persons on the tidal beach in the event their activities are observed to be substantially nontransient in character. The California Public Resources Code, Section 6302, only empowers the State Lands Commission to effect removal of persons from the tidal beach, except in emergency circumstances.

⁴⁵ Tr. 278.

⁴⁶ *Id.*

⁴⁷ Applicants' Exhibit KPB-1, pp. 1.8-2AZO.

⁴⁸ *Id.*

In addition, Applicants propose to post signs in the area of approximately 5 acres in the southwest corner of the Generating Station site which will indicate the following:

Access to this area is permitted for the purpose of viewing the scenic bluffs and barrancas.⁴⁹

At the present time Applicants have not made a decision as to the precise number of signs which would be posted.

Applicants have had discussions with the United States Marine Corps regarding the availability of their personnel to assist Applicants in the event it were necessary to remove persons in the reduced exclusion area, including the tidal beach.⁵⁰ In addition, the Staff has had discussions with the Legal Coordinator for the Office of Emergency Service, State of California, located in Sacramento, about the legality of Applicants removing persons from the exclusion area in the event of an emergency.⁵¹ The Legal Coordinator indicated to the Staff that, under Section 409.5 of the California Penal Code,⁵² in the event of an emergency, a peace officer, including a State Park Ranger, has authority to close an area and prevent persons from entering or remaining within that area. The Staff has concluded that this provision will allow Applicants to summon sufficient aid to remove the beach users from the tidal beach in the event of an emergency. Section 409.5 of the California Penal Code is not operative in the event of nonemergencies.

Applicants have also arranged to have their security personnel provided with Special Deputy status by the San Diego County Sheriff's Department, which will authorize the security personnel to enforce Section 409.5 of the California Penal Code within the tidal beach in the reduced exclusion area during emergencies.⁵³

D. The Anticipated Amount Of Radiation Exposure That Might Be Received By A User Of The Tidal Beach Within Applicants' Exclusion Area During Occupancy And Subsequent Evacuation Of The Beach In The Event Of An Accident (A Postulated Fission Release Product As Provided In 10 CFR Section 100.11)

Doctor Morton I. Goldman, Senior Vice President and Technical Director of

⁴⁹ *Id.*

⁵⁰ Tr. 283.

⁵¹ Tr. 292-293.

⁵² California Penal Code Section 409.5.

⁵³ Tr. 42-43 (oral argument, February 1, 1977). Applicants' amplification of Citations Referenced During Oral Argument And Authenticating Affidavits, dated February 18, 1977, Section V, letters dated February 7, 1977, from San Diego County Sheriff's Department to Mr. David R. Piggott.

NUS Corporation, Rockville, Maryland, and an expert in nuclear reactor siting, safeguards, radioactive waste disposal and environmental surveillance and monitoring programs for nuclear facilities, testified on behalf of Applicants respecting the anticipated amount of radiation exposure which might be received by a user of the tidal beach in the exclusion area during occupancy and subsequent evacuation in the event of a postulated fission product release.⁵⁴ Testimony on the same issue was presented for the Staff by John T. Goll and Earl H. Markee, Jr.,⁵⁵ on meteorological aspects and by Charles M. Ferrell⁵⁶ and Delbert F. Burich on radiological aspects. Consolidated Intervenor's testimony was presented by Dr. Roland A. Finston, Acting Director of the Health Physics, Safety and Health Office and Lecturer in Nuclear Medicine, Department of Radiology, School of Medicine, Stanford University.⁵⁷ Applicants' and Staff's witnesses presented calculations of the anticipated amount of radiation exposure which might be received by a user of the tidal beach in the exclusion area in the event of a postulated fission product release, both during an evacuation and while remaining stationary on the beach. Consolidated Intervenor's witness commented on the calculations by the other parties, but presented no independent calculations.

The principal difference between the bases used for dose estimation now and during earlier phases of this hearing is that the current calculations, both by Applicants and by Staff, are based on meteorological data (primarily turbulence values) obtained from smoke tracer tests conducted at San Onofre Nuclear Generating Station in January and February 1976.⁵⁸ These smoke tracer tests, which were undertaken primarily to determine the effect of the bluffs on dispersion, showed the turbulence wake factor to be approximately three times what it would be based solely on Regulatory Guide 1.4 type calculations. The Staff agreed with the Applicants that the tracer test-derived meteorological parameters provided a suitable basis for evaluating the radiation doses on the beach.⁵⁹

A comparison of the dispersion calculation results of Staff and Applicant is in general difficult because of the differences in the ways probabilities were calculated (we discuss these differences below), but we can make a comparison on the basis of the comparative calculations of plume centerline exposures of stationary receptors. Although even in this case some small differences in methodologies remain, they are relatively insignificant. From Figure 5 of Dr. Goldman's testimony, we find that the five-minute thyroid dose to a stationary individual 100 meters down wind would be about 58 rem for the fifth percentile

⁵⁴ Testimony of Goldman, following Tr. 300.

⁵⁵ Testimony of Markee and Goll, following Tr. 414.

⁵⁶ Testimony of Ferrell, following Tr. 419.

⁵⁷ Testimony of Finston, following Tr. 360.

⁵⁸ Testimony of Goldman at 3-5; Testimony of Markee and Goll at 2-3.

⁵⁹ Testimony of Markee and Goll at 2.

meteorology and 27 rem for the 25th percentile meteorology. The doses calculated from the Staff testimony⁶⁰ for the same situation are 51 and 21 rems, respectively. Considering the methodological differences, the Board considers the agreement to be excellent. A more detailed examination of the calculations by the Board, the inclusion of which here would serve no useful purpose, indicates that this agreement is not fortuitous.

The principal difference in the ways the Applicants and Staff calculated the doses to individuals crossing the plume was in the application of meteorological probabilities. Take as an example the fifth percentile case. The Staff calculated concentration factors that would not be exceeded on the beach five percent of the time during which the wind was offshore (the wind is offshore 42% of the time).⁶¹ Applicants, on the other hand, divided the beach area into sixteen 22-½ degree sectors (centered on the cardinal directions) and calculated the fifth percentile concentration factors for each offshore sector individually. They made such calculations both for all hours combined and for only daylight hours (7 a.m. to 8 p.m.). In the first case (all hours) two sectors (SW and SSW) virtually perpendicular to the shoreline had wind direction frequencies of 9.0% and 14.7% respectively and all others were less than five percent. For the second case, one sector (SE) along the beach had a direction frequency of 6.1% and the others were all less than 5.0%.⁶² Thus, Applicants' and Staff's analysis determines that "x" percent (95 in our example) of the time, the maximum dose received by *anyone on the beach* crossing the plume would be less than "a" rems while the Applicants' analysis determines that "y" percent of the time the maximum dose received by *anyone in a particular sector* crossing the plume would be less than "b" rems. Crudely averaging the wind data indicates that the doses ("a") resulting from the Staff's 5th percentile (1-"x") calculation should fall between the Applicants' calculated doses ("b") for the first and 0.2 percentile cases. They do. The Staff's analysis for the 5% case shows doses ranging from about 15 rems at 100 meters to about 12-1/2 rems at 200 meters.⁶³ Applicants' analysis shows doses ranging from 12 to 26 rems in the various sectors (average—15-1/2) for the first percentile and ranging from 21 to 65 rems (averaging 36) for the 0.2 percentile.⁶⁴ Applicants did not make separate calculations for different distances because their model showed this effect to be small.⁶⁵ As a result of this comparison, the Board finds that the results of the Applicants' and Staff's dose calculations are consistent.⁶⁶

Having established the general equivalence of the Staff's and Applicants'

⁶⁰ Testimony of Charles E. Ferrell, following Tr. 419, at Table 2.

⁶¹ Testimony of Markee and Goll, following Tr. 414, at 3-4.

⁶² Goldman Testimony at 7-8.

⁶³ Ferrell Testimony at Figure 2.

⁶⁴ Goldman Testimony at Table 2.

⁶⁵ Goldman Testimony at 11.

⁶⁶ See also Exhibit MIG-2.

results, the Board will use the Staff's testimony in the rest of its considerations of this issue. This course is justified because the accuracy of either set of results does not warrant a detailed discussion or comparison of the minutiae of the very complex calculations. The assumptions used by the two parties are essentially the same in all important aspects, except where we point out differences in our discussion.

The two important results of the Staff calculations are the following:⁶⁷

(1) The maximum thyroid dose received by a standard man walking at a speed of one meter per second across the plume at the seawall⁶⁸ during meteorological conditions which would exist 95% or more of the time would be about 15 rems;

(2) The maximum thyroid dose that a standard man might receive if he remained stationary on the plume centerline at a point on the seawall closest to the reactors for a two-hour period following the postulated accident, under the same meteorological conditions, would be about 190 rems.

These doses are within the guidelines of 10 CFR Part 100.⁶⁹

One of the assumptions used by both Staff and Applicants was the walking speed used during crossing of the plume and subsequent phases of the evacuation. Applicants used a speed of 2 miles per hour;⁷⁰ the Staff used 2.2 miles per hour (1 meter per second);⁷¹ Consolidated Intervenor's witness Finston testified that this was unrealistic and that experience shows that, for evacuations of one mile or less, evacuation speeds are one-half mile per hour.⁷² On cross-examination, however, it was shown that his data were not applicable to this case.⁷³ The validity of the speed used was supported by testimony of other witnesses of all three parties.⁷⁴

Another assumption challenged by Witness Finston was the use by Applicants and Staff of the Regulatory Guide 1.4 breathing rates for the so-called "standard man." He asserted that these breathing rates were inappropriate for the types of activities associated with beach users and that the Regulatory Guide dose conversion factors were inappropriate for 5- and 10-year old children. He asserted that proper use of these factors would increase the calculated doses received by adults by about a factor of five and by children about a factor of

⁶⁷Testimony of Ferrell at 5-6.

⁶⁸The Staff chose to make its calculations at the seawall, to maximize the exposure. Actually, the seawall is closer to the reactors than the tidal beach under consideration here. Doses on the tidal beach would be slightly less. Testimony of Ferrell at Figure 1.

⁶⁹Testimony of Ferrell at 7.

⁷⁰Testimony of Goldman at 12.

⁷¹Testimony of Ferrell at 5.

⁷²Testimony of Finston at 6-7.

⁷³Tr. 393-402.

⁷⁴Tr. 233-234, 331; Testimony of Sears at 4.

eight.⁷⁵ Subsequent examination and testimony indicated that the breathing rates selected by the witness from ICRP 23⁷⁶ were not properly selected.⁷⁷ The Board finds that there are indeed variations in doses that would be calculated depending on age and activity of the individual involved, but that these are not nearly as large as claimed by Dr. Finston. In fact, they are smaller than a factor of two.⁷⁸

Dr. Finston also testified that in the event of exposure of a pregnant beach user, the fetal thyroid dose would be five times greater than the maternal thyroid dose.⁷⁹ A Staff witness testified a reasonable estimate for this factor, based on reported literature, was 2, rather than 5, and that this was only applicable during the third trimester of the pregnancy, the factor being lower during the first two-thirds of the pregnancy.⁸⁰

In summary, the Board finds that the anticipated amount of radiation exposure that might be received by a user, regardless of age or sex, of the tidal beach within Applicants' exclusion area during occupancy and subsequent evacuation of the beach in the event of an accident involving a fission product release as provided in 10 CFR §100.11 is significantly less than the guidelines set forth in 10 CFR §100.11.⁸¹

CONCLUSIONS

The Licensing Board concludes that Applicants have met their burden of establishing that their lack of full control over the tidal beach has no safety implications with respect to users of the tidal beach as well as the San Onofre Nuclear Generating Station. The record evidence persuades us that the size and characteristics of the tidal beach do not lend the tidal beach to use by a significant and unmanageable number of people. The tidal beach for the most part will be awash with waves, leaving very little in the way of dry sand to attract users. In addition, the tidal beach within the reduced exclusion area does not appear to offer any particular recreational attraction for users. Finally, the data in the record showing the number of users of the tidal beach clearly establish that its use will be insubstantial. Applicants propose a number of physical features and administrative controls to minimize public use of the tidal beach within the

⁷⁵ Testimony of Finston at 2-5.

⁷⁶ Applicants' Exhibit MIG-4.

⁷⁷ Tr. 363-372, 457-458.

⁷⁸ Tr. 434.

⁷⁹ Testimony of Finston at 5.

⁸⁰ Tr. 493-494.

⁸¹ Furthermore, although we need not consider it here, evidence in the record indicates that with the use of more realistic assumptions, the estimated evacuation doses would be less than those discussed herein.

reduced exclusion area. The Board is satisfied that these physical features and administrative controls will discourage recreational activities beyond the limit shown to be taking place on the tidal beach at the present time. In any event, users of the tidal beach will not experience any dangerous or harmful radiation exposure if an accident were to occur at the San Onofre facilities.

In all of the circumstances, we conclude that the noncontrolled segment of the reduced exclusion area—the tidal beach—will be used sparingly because of its size and character, and that such limited use will pose no threat to the health and safety of the public, either during normal operation of the San Onofre reactors or in the event of an accident. The Licensing Board, therefore, orders that Applicants' construction permits for San Onofre Nuclear Generating Station, Units 2 and 3, shall be continued in effect.⁸²

IT IS SO ORDERED.

THE ATOMIC SAFETY AND
LICENSING BOARD

Lester Kornblith, Jr., Member
Michael L. Glaser, Chairman

Dated at Bethesda, Maryland
this 20th day of May 1977.

⁸²Dr. Franklin C. Daiber, a member of this Licensing Board, did not participate in this decision.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Michael L. Glaser, Chairman
Lester Kornblith, Jr.
Franklin C. Daiber

In the Matter of

Docket Nos. 50-361
50-362

SOUTHERN CALIFORNIA EDISON COMPANY
SAN DIEGO GAS & ELECTRIC COMPANY

(San Onofre Nuclear Generating Station,
Units 2 and 3)

May 20, 1977

Upon motion by applicants requesting Licensing Board to certify a question to the NRC, Licensing Board issues a Memorandum and Order denying certification.

REGULATIONS: EXEMPTIONS

NRC has not delegated authority to issue exemptions to Licensing Boards.

MEMORANDUM AND ORDER

This Board has before it a motion of Southern California Edison Company and San Diego Gas & Electric Company, Applicants in the above-captioned proceeding, requesting this Board to exercise its discretion to certify to the Nuclear Regulatory Commission for its determination, the following question:

Whether, on the basis of the entire record of this proceeding, this Board may, in addition to ruling that applicant's lack of control over the tidal beach within their exclusion area is *de minimus*, rule that applicant's lack of control over the tidal beach within their exclusion area is entitled to exemption, pursuant to 10 CFR §50.12(a), from the requirements of the Commission's licensing regulations.

In support of its motion, Applicants argue that 10 CFR §50.12(a) constitutes a general exemption mechanism, and if this Board rules that Applicants' lack of control over the tidal beach within their exclusion area is *de minimus*,

then an exemption is also warranted, because of Applicants' established need for power.

The Staff opposes Applicants' motion, urging that the granting of an exemption is a function of the Commission which has also been delegated to the Commission's Director of Nuclear Reactor Regulation, and is not a matter for a Licensing Board.

The Board will deny Applicants' motion. We find no authority in the Atomic Energy Act or in any of the Commission's regulations which empowers us to grant the exemption requested by Applicants. In the circumstances, we see no reason to certify the question of whether we can grant Applicants an exemption to the Commission for a determination.

IT IS SO ORDERED.

**THE ATOMIC SAFETY AND
LICENSING BOARD**

Michael L. Glaser, Chairman

**Dated at Bethesda, Maryland
this 20th day of May 1977.**

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Marshall E. Miller, Chairman
Dr. Richard F. Cole
Lester Kornblith, Jr.

In the Matter of

Docket Nos. 50-390
50-391

TENNESSEE VALLEY AUTHORITY

(Watts Bar Nuclear Plant,
Units 1 and 2)

May 25, 1977

Upon petition to intervene filed pursuant to notice of opportunity for hearing on operating license application, petitions board rules that (1) petitioner does not meet standards governing judicial standing, and (2) petitioner does not meet standards governing board's authority to admit petitioner as a matter of discretion. Petition to intervene denied.

RULES OF PRACTICE: STANDING TO INTERVENE

The interest of a ratepayer and taxpayer, standing by itself, is not arguably within the zone of interests to be protected or regulated by the Atomic Energy Act.

RULES OF PRACTICE: STANDING TO INTERVENE

The presence of a member of petitioner's immediate family in proximity to the plant is not sufficient to bring petitioner's interest within the zone of interests protected or regulated by the Atomic Energy Act.

RULES OF PRACTICE: STANDING TO INTERVENE

The failure of petitioner to state one or more viable contentions militates against grant of discretionary intervention.

RULES OF PRACTICE: STANDING TO INTERVENE

Some justification must be advanced if matters considered in the construction permit proceeding are to be admitted as contentions in an operating license hearing under petitions board's discretionary authority.

ORDER DENYING PETITION FOR LEAVE TO INTERVENE OF JEANNINE W. HONICKER

This proceeding involves consideration of the issuance of facility operating licenses to Applicant, Tennessee Valley Authority (TVA), for the Watts Bar Nuclear Plant in Rhea County, Tennessee. In a notice of opportunity to file petitions for leave to intervene published by the Nuclear Regulatory Commission (NRC) in the *Federal Register* (41 FR 56244) on December 27, 1976, it was provided that any person whose interest may be affected by this proceeding may file a petition for leave to intervene by January 26, 1977, in accordance with the provisions of 10 CFR §2.714.

In response to this notice, a timely petition was filed by Jeannine W. Honicker of Nashville, Tennessee, appearing *pro se*. Oppositions to this petition were filed by Applicant and by the NRC Staff. On May 12, 1977, pursuant to notice duly published in the *Federal Register*, a special prehearing conference, pursuant to the provisions of §2.751a of the Commission's Rules of Practice (10 CFR §2.751a), was held at Dayton, Tennessee. The Petitioner and the parties appeared and were heard by the Board at this special prehearing conference.

The Petitioner alleges that she is a purchaser of power from TVA, that she is a taxpayer living in Tennessee, and that she is the mother of a student who is attending the University of Tennessee at Knoxville, Tennessee. One seeking to intervene as a matter of right in a licensing proceeding must comply with the applicable interest or standing requirements. The Commission has discussed intervention as a matter of right as follows:

To have "standing" in court, one must satisfy two tests. First, one must allege some injury that has occurred or will probably result from the action involved. Under this "injury in fact test" a mere academic interest in a matter, without any real impact on the person asserting it, will not confer standing. One must, in addition, allege an interest "arguably within the zone of interest" protected by the statute . . . Our administrative process benefits from the concrete adverseness brought to a proceeding by a party who may suffer injury in fact by Commission licensing action, and whose interest is arguably within the "zone of interests" protected by the statutes administered by the Commission. Accordingly, in determining whether a petitioner for intervention in NRC domestic licensing proceedings has alleged an "interest [which] may be affected by the proceeding" within the meaning

of Section 189a of the Atomic Energy Act and Section 2.714(a) of NRC's Rules of Practice, contemporaneous judicial concepts of standing should be used. *Portland General Electric Co.* (Pebble Springs Nuclear Plant, Units 1 and 2), CLI-76-27, NRCI-76/12 610, 613-14 (December 23, 1976).

Petitioner first alleges that she is a customer of Nashville Electric Service, which buys its power from TVA. It has been held that status as a ratepayer of an applicant does not bring one within the "zone of interests" protected by the Atomic Energy Act.¹ Similarly, allegations of interest as a taxpayer do not confer standing. Petitioner alleges no different interest than all other taxpayers in the State of Tennessee, and such a "generalized grievance" does not constitute a cognizable interest. *Warth v. Seldin*, 422 U. S. 490, 499 (1975).

Petitioner also alleges that she is the mother of a son attending the University of Tennessee in Knoxville, Tennessee. This interest is too remote to establish standing. Petitioner's natural interest in the well being of her son is understandable, but this is not within the statutory "zone of interest" test. Because of the transitory nature of the son's residence in Knoxville as a student at a distance of approximately 50 air miles from the nuclear plant, with no showing that he could not attempt to intervene in his own behalf, the alleged interest is too tenuous to predicate intervention. *Mississippi Power and Light Co.* (Grand Gulf Nuclear Station, Units 1 and 2), ALAB-130, 6 AEC 423, 425 (1973). Accordingly, intervention as a matter of right must be denied.

The Commission has also considered the availability of intervention as a matter of discretion, in circumstances where judicial standing is lacking. In *Pebble Springs*, the following guidelines were established for the exercise of discretion:

In determining in a particular case whether or not to permit intervention by petitioners who do not meet the tests for intervention as a matter of right, adjudicatory boards should exercise their discretion based on an assessment of all the facts and circumstances of the particular case. Some factors bearing on the exercise of this discretion are suggested by our regulations, notably those governing the analogous case where the petition for intervention has been filed late, 10 CFR §2.714(a), but also the factors set forth in 10 CFR §2.714(d) governing intervention generally:

- (a) Weighing in favor of allowing intervention—
 - (1) The extent to which the petitioner's participation may reasonably be expected to assist in developing a sound record.
 - (2) The nature and extent of the petitioner's property, financial, or other interest in the proceeding.
 - (3) The possible effect of any order which may be entered in the proceeding on the petitioner's interest.

¹*Pebble Springs*, *supra*, at 614; *Public Service Company of Oklahoma, et al.* (Black Fox Station, Units 1 and 2), ALAB-397, 5 NRC at 1147 (May 9, 1977).

(b) Weighing against allowing intervention—

- (4) The availability of other means whereby petitioner's interest will be protected.
- (5) The extent to which the petitioner's interest will be represented by existing parties.
- (6) The extent to which petitioner's participation will inappropriately broaden or delay the proceeding. NRCI-76/12 at 616.

The Appeal Board has also observed that foremost among the factors applied to allowing participation as a matter of discretion, is whether such participation would likely produce "a valuable contribution. . . to our decision-making process. In the words of the Commission in *Pebble Springs*, 'permission to intervene should prove more readily available where petitioners show significant ability to contribute on substantial issues of law or fact which will not otherwise be properly raised or presented, set forth these matters with suitable specificity to allow evaluation, and demonstrate their importance and immediacy, justifying the time necessary to consider them.' NRCI-76/12 at 614-17."²

Applying these guidelines to the Petitioner's pleadings as fleshed out by the statements made at the special prehearing conference, we find no basis for granting discretionary intervention. For the most part, the 57 purported contentions are merely general conclusions, unsupported by facts stated with requisite specificity. They constitute generalized concerns regarding nuclear power, or the expression of "views of what applicable policies ought to be."³ For example, paragraphs 1, 2, 7, 8 and 55 concern alleged alternatives to the Watts Bar project or to nuclear power. These alternatives were considered in the Initial Decision, and no reasons are advanced why they should not be rejected. There are no particularized facts pleaded which differ from those considered or reflect new or additional information from those discussed in the final environmental impact statement prepared in connection with the construction permit (Appendix D to 10 CFR Part 50; 10 CFR §51.21).

Paragraphs 3, 4 and 44 seek to have such costs as the breeder reactor, uranium exploration or another plant added to Watts Bar costs, but these costs are independently funded. Paragraphs 11 and 14 refer to unnamed costs of the taxpayers of Tennessee, but the Licensing Board took into account the in-lieu-of-tax payments. Similarly, paragraphs 9, 10, 15, 17-18, 25-27, 29, 39, 40, 49 and 51 contain conclusory statements regarding costs but contain insufficient factual allegations to challenge the findings at the construction permit stage, or to add new information or changes in the facts. Paragraphs 6, 33-34, 41-43 and

²*Public Service Company of Oklahoma, et al., supra*, 5 NRC at 1145.

³*Duke Power Co. (William B. McGuire Nuclear Station, Units 1 and 2), ALAB-128, 6 AEC 399, 401 (1973).*

52-57 are mere generalized statements or conclusions, not contentions. Paragraphs 21-24 refer to accidents requiring evacuation of areas up to and including the entire state. The effects of accidents have been considered and found acceptable in the Initial Decision, and no new or different facts are stated. To the extent that these contentions refer to Class 9 accidents, such accidents need not be considered (*Carolina Environmental Study Group v. United States*, 510 F.2d 796, 799 (D. C. Cir. 1975)). Paragraphs 36-37 and 46-48 contain a series of conclusory statements regarding cooling towers. The environmental effects of cooling towers were fully considered in the environmental report and at the construction permit stage, and no additional facts or changes are stated. Paragraphs 35 and 45 allude to synergistic effects and combined environmental effects, but without particularization or statement of facts. Paragraphs 12-13 and 16 contain conclusory statements that the State of Tennessee does not have a safe drinking water plan. The Initial Decision considered both normal and accidental releases of radioactive liquids and found that suitable measures were planned to reduce such releases, and no additional information is pleaded. Paragraphs 19 and 20 state as a conclusion that additional monitoring should be done, but allege no facts concerning the inadequacy of the planned monitoring. Paragraph 5 states as a conclusion that TVA is incompetent to operate a nuclear plant, but alleges no facts or specific contentions in that regard. TVA has been held technically qualified to operate the Browns Ferry plant, for which it has three operating licenses (*Tennessee Valley Authority (Browns Ferry Nuclear Plant, Units 1 and 2)*, ALAB-351, NRCI-76/10, 368 (October 6, 1976)). Paragraph 50 refers to unspecified changes in the ecosystem, but this too was previously considered and no additional information is pleaded. Paragraph 38 refers generally to decommissioning, but this does not qualify as a valid contention under *Vermont Yankee Nuclear Power Corp.* (Vermont Yankee Nuclear Power Station), ALAB-179, 7 AEC 159, 178 (1974). Paragraphs 28, 31 and 32 refer to reprocessing and disposal of high level wastes, and state that an operating license should be denied until these questions have been resolved. There is no such requirement in the Atomic Energy Act or in the Commission's regulations. Paragraph 30 states that TVA has not adequately considered alternative uses of land necessary for the storage of waste. This apparently refers to the preceding paragraph concerning low level waste. Storage of such wastes would be in duly licensed areas approved by NRC, which would consider such alternatives as part of its NEPA responsibilities.

In weighing the factors involved in granting discretionary intervention, we are mindful that foremost among those factors is whether such participation would likely produce a valuable contribution to the decision-making process. The failure of the Petitioner's contentions to state one or more viable contention with the requisite specificity and an adequate delineation of the basis therefor, makes it unlikely that there would be a valuable contribution to decision-mak-

ing. The first factor weighing in favor of allowing intervention under the Commission's guidelines (*Pebble Springs, supra*) is the extent to which participation may reasonably be expected to assist in developing a sound record. While the Petitioner is an intelligent person who takes a commendable interest in civic matters, she is not a lawyer nor possessed of scientific or technical training. She does not have available to her some type of professional assistance in connection with the evidentiary presentation, as was the case in *Public Service Company of Oklahoma, et al., supra*. The first factor must therefore be decided in the negative.

The second factor in favor of intervention is the nature and extent of the Petitioner's property, financial or other interest in the proceeding. The tenuous connection of the Petitioner to the proceeding in these respects, discussed above, makes this consideration negative. Such a result also follows from a consideration of the third factor; namely, the possible effect of any order which might be entered on the Petitioner's interest. A generalized, undifferentiated interest could not result in any adverse effects to person or property.

We are mindful of the admonition of the Appeal Board that before granting an intervention petition in an operating license proceeding and thus triggering a hearing, a board should "take the utmost care to satisfy itself fully that there is at least one contention advanced in the petition which, on its face, raises an issue clearly open to adjudication in the proceeding."⁴ Accordingly, the petition for leave to intervene in this proceeding is denied.

In accordance with §2.714a of the Commission's Rules of Practice (10 CFR §2.714a), the foregoing Order may be appealed to the Atomic Safety and Licensing Appeal Board within five (5) days after service of the order. The appeal shall be asserted by the filing of a notice of appeal and accompanying supporting brief. Any other party may file a brief in support of or in opposition to the appeal within five (5) days after service of the appeal. No other appeals from rulings on petitions and/or requests for hearing shall be allowed.

IT IS SO ORDERED.

FOR THE ATOMIC SAFETY AND
LICENSING BOARD

Marshall E. Miller, Chairman

Dated at Bethesda, Maryland
this 25th day of May 1977

⁴*Cincinnati Gas & Electric Co., et al.* (William H. Zimmer Nuclear Power Station), ALAB-305, 3 NRC 8, 12 (1976).

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Ivan W. Smith, Chairman
Dr. George C. Anderson
Lester Kornblith, Jr.

In the Matter of

Docket No. STN 50-484

NORTHERN STATES POWER COMPANY
(MINNESOTA)
NORTHERN STATES POWER COMPANY
(WISCONSIN), et al.

(Tyrone Energy Park, Unit 1)

May 31, 1977

Upon Staff's motion to dismiss three intervenors and Applicant's motion to dismiss two intervenors and limit the participation of the third intervenor, Licensing Board, after propounding questions regarding participation to intervenors which were not answered, rules that (1) to permit intervenors to make skeletal contentions, keep their bases secret, and require adversaries to meet any conceivable thrust at hearing is patently unfair and inconsistent with a sound record, and (2) intervenors participation indicates that they are unlikely to contribute to a reliable record.

Motions to dismiss granted.

RULES OF PRACTICE: RESPONSIBILITIES OF PARTIES

Status as a party to a Nuclear Regulatory Commission proceeding affords certain rights and involves certain obligations. Parties have an affirmative obligation to comply with discovery requests in order to contribute to the development of a sound record.

**ORDER DISMISSING INTERVENTION PETITIONS OF
HELEN KEES, CITIZENS AGAINST UNSAFE SOURCES
OF ENERGY AND CITIZENS FOR TOMORROW, et al.**

The background of this consideration is set forth in detail in the Board's Order dated May 13, 1977, directing intervenors, Helen Kees, Citizens Against

Unsafe Sources of Energy (CAUSE), and Citizens for Tomorrow (CFT) to answer certain questions posed by the Board.

To summarize, pursuant to the Rules of Practice and the Board's prehearing orders, the Applicants and the NRC Staff each submitted discovery requests to Ms. Kees, CAUSE and CFT. All three ignored the Staff. Ms. Kees and CAUSE ignored the Applicants' discovery requests. CFT responded to Applicants, but in an inadequate manner. Accordingly, the Board granted the separate motions of Applicants and Staff to compel discovery, and issued orders to each of the intervenors directing them to respond to the respective discovery requests pursuant to 10 CFR §2.740(f). All of the Board's orders were ignored. Applicants then moved to dismiss Ms. Kees and CAUSE as intervenors, and to limit the participation of CFT. Staff moved to dismiss all three intervenors but urged that they be given an opportunity to be reinstated upon compliance with the orders compelling discovery.

The Board was reluctant to dismiss the intervenors without providing them with an additional opportunity to present their views, and to submit to the Board's control over the proceeding. Therefore we directed the intervenors to answer on or before May 20, 1977, the following questions:

1. Do you want to remain as a party intervenor in this proceeding?
2. Do you want to pursue each of your contentions? If not, which contentions do you want to pursue?
3. What were your reasons for not complying with the Board's order to you compelling you to respond to discovery?
4. If given the opportunity, would you comply promptly with the Board's orders to you compelling responses to discovery requests?

The intervenors subject to the May 13 order were warned that any who failed to submit satisfactory answers to the Board's questions would be dismissed. The Board has received no responses to its order.

Moreover, neither Ms. Kees nor CAUSE oppose the motions seeking their dismissal. However, after the Board issued its order of May 13, CFT filed an untimely "response" to Applicants' motion¹ but no answer to Staff's motion. CFT reports that because of a shortage of money, lack of legal counsel, and the complexities of the rules and the Board's orders, it does not have the ability to cooperate further. CFT seeks "the Board's indulgence for us to be intervenors as best we know how or provide us with a way to get the help we need."

The controlling regulation is 10 CFR §2.707 which provides:

On failure of a party to file an answer or pleading within the time prescribed in this part or as specified in the notice of hearing or pleading; to

¹The answer to Applicants' motion was due no later than May 12. CFT's response to the motion was postmarked May 16.

appear at a hearing or prehearing conference, to comply with any prehearing order entered pursuant to §2.751a or §2.752, or to comply with any discovery order entered by the presiding officer pursuant to §2.740, the Commission or the presiding officer [footnote omitted] may make such orders in regard to the failure as are just, including, among others, the following:

(a) Without further notice, find the facts as to the matters regarding which the order was made in accordance with the claim of the party obtaining the order, and enter such order as may be appropriate; or

(b) Proceed without further notice to take proof on the issues specified.

Ms. Kees, CAUSE and CFT are in default of the Board's discovery orders issued pursuant to §2.740, and the Board's order directing them to answer questions. A just remedy under §2.707 is required.

Another licensing board in *Offshore Power Systems* (Manufacturing License For Floating Nuclear Plants), 2 NRC 813 (1975), dismissed a *pro se* intervenor for failing to respond to discovery requests. An intervenor was dismissed by a licensing board under §2.707 for failure to comply with a direct order of the Board in *Public Service Electric and Gas Company* (Atlantic Nuclear Generating Station, Units 1 and 2), 2 NRC 702 (1975). An Atomic Safety and Licensing Appeal Board dismissed an intervenor for failure to have assumed a significant participational role in the proceeding in *Gulf States Utility Company* (River Bend Station, Units 1 and 2), ALAB-358, NRCI-76/11,558. All three of these circumstances prevail here.

In *Emerick v. Fenick Industries, Inc.* 539 F.2d 1379, (Fifth Cir. 1976) the Circuit Court of Appeals affirmed the dismissal of a defendant's pleadings and entry of judgment in favor of the plaintiffs solely because of the defendant's default in discovery under the analogous Rule 37(b)(2) of the *Federal Rules of Civil Procedure*.

Our action in dismissing the intervenors is not punitive nor have we arrived at this decision by a mechanistic process. We have carefully considered their contentions, the discovery requests directed to them, their potentials for making a contribution to the proceeding, and the requirements of a fair hearing, and have concluded that all of these factors require their dismissal.

We consider first the discovery requests. The Board notes that, without discernible exception, the interrogatories and document requests were attempts by the Applicants and the Staff to learn about the bases for each intervenor's own affirmative contentions. The Applicants in particular carry an unrelieved burden of proof in Commission proceedings.² Unless they can effectively inquire into the positions of the intervenors, discharging that burden may be impossible.

² See *Consumers Power Company* (Midland Plant, Units 1 and 2), ALAB-315, 3 NRC 101(1976) and ALAB-282, 2 NRC 11 (1975).

To permit a party to make skeletal contentions, keep the bases for them secret, then require its adversaries to meet any conceivable thrust at hearing would be patently unfair, and inconsistent with a sound record.

We consider also whether these intervenors will make a useful contribution to the proceeding. *Gulf States, supra*, NRCI-76/11 at 560; *Public Service Company of Oklahoma, et al.* (Black Fox Station, Units 1 and 2), ALAB-397, 5 NRC at 1150 (May 9, 1977). None of these intervenors have made discovery requests of any other party; none have submitted direct written testimony according to the prehearing schedule, and presumably have none to offer; CFT reports that it has no documents; and each has failed to yield information about their positions on the issues in controversy;³ and CAUSE and Ms. Kees show no interest in participation. We conclude that there is little likelihood that any of these intervenors will be prepared to contribute to a reliable record. In this respect we are commenting upon a contribution by a party to an adversary, quasi-judicial, adjudicatory hearing frequently involving technical evidence. We speak more about the possibility of another contribution by a CFT member below.

In considering the motion to dismiss the contentions, the Board is aware of the admonition of *Aeschliman v. United States Nuclear Reg. Comm.*, 547 F.2d 622 (D.C. Cir. 1976), that a colorable contention need only be sufficient to stimulate the Commission's consideration of it. But where the contention (energy alternatives in *Aeschliman*) is already being considered in an environmental impact statement, more detailed comments might be required to focus the Commission's attention to specifics. *Id.* at 629. In this instance each of the issues raised by the contentions dismissed by the Board are, in our view, adequately considered in the Final Environmental Statement and will be otherwise covered in the evidentiary hearings. Without discovery responses from the intervenors little more can be done by the remaining parties to alleviate the defaulting intervenors' concerns about the impact of the proposed plant.

Accordingly the Board dismisses the interventions of Ms. Helen Kees, Citizens Against Unsafe Sources of Energy, Citizens for Tomorrow, Inc., and CFT members, Harold C. and Lucille Bauer, and Henry and Clara Falkner. They may no longer participate as parties to this proceeding.

CFT has been represented at the evidentiary hearings and in papers filed with the Commission by its President, Mrs. Lucille Bauer. Mrs. Bauer has demonstrated a continuing interest in the proceeding. She attended all of the evidentiary sessions. The Board has observed that Mrs. Bauer has always appeared to be cooperative, and considering all of the factors, we believe that she has

³It is true that an intervenor may make its entire case on cross-examination without affirmative evidence, but here the intervenors are improperly frustrating their adversaries' legitimate efforts to prepare for the cross-examination.

performed as an intervenor as well as her abilities permit. She is, as she states, untrained in the law, and she finds these proceedings complex and difficult.⁴

Mrs. Bauer has a special interest and knowledge which may be useful to the Board and parties in the remaining portion of the proceedings. She and her family lived and farmed at the plant site for several years, and she is familiar with the area. Tr. 1133-1146. The Board would welcome Mrs. Bauer's continued voluntary attendance at the hearings so that she may be available as a Board witness. Also, she will be permitted to make statements and recommendations to the Board on the record about matters within her special competence as provided under 10 CFR §2.715(a).

Some of the contentions initiated by the dismissed intervenors were consolidated with contentions initiated by the remaining intervenors and will remain as issues in the proceeding, except that they will no longer be designated as proposed by the dismissed intervenors.

The Board dismisses as contentions in this proceeding the following:

6.A.(1); 6.A.(2); 6.A.(3); 6.B.; 13.D. and 13.F.

The Board retains Contention 11.A.(2) as its own contention. Contention 11.B.(7), initiated solely by CFT, will remain because of its relationship to surviving Contentions 12 and 13.

This order is appealable within five (5) days of its service pursuant to the provisions of 10 CFR §2.714a.

IT IS SO ORDERED.

FOR THE ATOMIC SAFETY AND
LICENSING BOARD

Ivan W. Smith, Chairman

¶
Dated at Bethesda, Maryland,
this 31st day of May 1977.

⁴After this order was signed and submitted for service the Board received CFT's late response (postmarked May 24, 1977) to the Board's order of May 13. Mrs. Bauer on behalf of CFT reports that CFT intends to remain as an intervenor and that all of its contentions are important. With respect to default of the Board's orders compelling discovery, CFT states:

4. We would comply as promptly and as sensibly with the Boards' order compelling responses to discovery requests if, these requests are of the capacity wherein by which our own ability could comprehend the meaning of such orders etc. Do you understand we have no way to compensate an attorney and therefore these certain discovery requests etc. must be written in the verbal context of our intelligence. [sic].

The orders and requests are no more technical than CFT's contentions. Some are quite simple. For instance, CFT was requested by the Applicants and directed by the Board to relate each of its named witnesses to the contentions he or she will address. We are reinforced in our opinion that if CFT's representatives cannot understand reasonable inquiries about its own contentions, its contribution as a party to the proceeding would be negligible. Nothing in CFT's response to the Board's May 13 order justifies retaining it as an intervenor.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

COMMISSIONERS:

Marcus A. Rowden, Chairman

Victor Gilinsky

Richard T. Kennedy.

In the Matter of

Docket Nos. 50-498A
50-499AHOUSTON LIGHTING & POWER COMPANY
THE CITY OF SAN ANTONIO
THE CITY OF AUSTIN and
CENTRAL POWER AND LIGHT COMPANY(South Texas Project, Unit Nos.
1 and 2)

June 15, 1977

Under 10 CFR § 2.758, co-applicant Houston Lighting and Power Company moved the Commission to waive the requirement that initiation of operating license antitrust review procedures await submission of the FSAR, which, by Commission rules, must accompany the filing of an application for an operating license. The Commission, in an opinion delineating its antitrust jurisdiction, authorizes the Director of Nuclear Reactor Regulation to accept the application for the operating license without the FSAR and directs the Nuclear Regulatory Commission staff to seek the Attorney General's advice on whether changed circumstances have occurred within the meaning of Section 105c(2), which would warrant the holding of an operating license antitrust hearing.

ATOMIC ENERGY ACT: ANTITRUST JURISDICTION

Section 105 of the Atomic Energy Act defines the Commission's antitrust responsibilities; the broad powers that the Commission has by virtue of Section 186 to revoke or to modify existing licenses is subordinate in regards to antitrust matters to the regime set out in Section 105.

ATOMIC ENERGY ACT: ANTITRUST JURISDICTION

The Commission's authority to initiate an antitrust review is limited to the scheme of precensuring antitrust review established by Section 105c. That section

requires all applications for a construction permit to undergo antitrust scrutiny and allows a second review at the operating license stage if in the interim significant changes have occurred in the licensee's proposed activities.

ATOMIC ENERGY ACT: OPERATING LICENSE ANTITRUST REVIEW

In contrast to the more thorough antitrust review at the construction permit stage, the scope of antitrust review at the operating license stage is more limited, focusing on significant changes, if any, that have occurred in the licensee's activities since the construction permit antitrust review; however, in analyzing allegations of significant changes, some account may be taken of the unchanged features of the proposal as a whole.

Mr. J. A. Bouknight, Jr. (with whom Messrs. **Robert Lowenstein, Finis E. Cowan, Charles G. Thrash, Jr., J. Gregory Copeland, R. Gordon Gooch, and John P. Mathis** were on the brief) for the **Houston Lighting & Power Company.**

Mr. Jon C. Wood (with whom **Mr. W. Roger Wilson** was on the brief) for the **City of San Antonio.**

Mr. George K. Elbrecht (with whom Messrs. **Jerry L. Harris and Don R. Butler** were on the brief) for the **City of Austin.**

Mr. Michael I. Miller (with whom Messrs. **Richard D. Cudahy, Joseph Gallo, and Robert F. Loeffler** were on the brief) for the **Central Power and Light Company.**

Mr. Jay M. Galt for **Committee for Power for the Southwest, Inc.**

Mr. Raymond W. Phillips (with whom **Mr. John D. Whitler** was on the brief) for the **United States Department of Justice.**

Mr. Martin G. Malsch (with whom Messrs. **Joseph Rutberg and Michael B. Blume** were on the brief) for the **Nuclear Regulatory Commission staff.**¹

¹ Pursuant to the Commission's order of April 27, 1977, the parties to certain proceedings involving Florida Power & Light Co. nuclear facilities were granted leave to file amicus curiae briefs and reply briefs in this proceeding. A brief from a group of Florida municipal utilities and reply briefs from the regulatory staff and Florida Power & Light Co. were subsequently received and have been considered in our disposition of this matter.

MEMORANDUM AND ORDER

The Houston Lighting & Power Company (Houston), Central Power and Light Company (Central), and the Cities of San Antonio and Austin, Texas, are joint holders of construction permits for the proposed South Texas Project, Unit Nos. 1 and 2. When the application for construction permits was filed in May 1974, a copy was transmitted to the Attorney General seeking his advice whether a hearing should be held to consider possible antitrust implications, as required by Section 105c(1) of the Atomic Energy Act. By letter of October 22, 1974, the Attorney General responded in the negative. His letter was duly published in the *Federal Register*, with a notice of opportunity for any interested person to file a petition for leave to intervene and to request a hearing on the antitrust aspects of the proposed project. No such petition was filed and, consistent with the Attorney General's advice, no antitrust proceeding was initiated.

During that same period of time, the health, safety and environmental review of the South Texas Project went forward. An initial decision favorable to the applicants was issued in late 1975 (LBP-75-71, 2 NRC 894), construction permits were duly issued, and the Atomic Safety and Licensing Appeal Board affirmed the initial decision in early 1976. ALAB-306, 3 NRC 14. The Commission chose not to review the Appeal Board's decision, and judicial review was not sought within the prescribed time. At that point, the construction permit proceeding, including its antitrust review aspect, had come to an end.

The events recited hereafter are those upon which the parties appear to be in general agreement. In May 1976, following the time when judicial review of the construction permit proceeding might have been sought, Houston broke off interconnections between its distribution system and the systems of certain other utilities, including its co-licensee here, Central Power and Light. This action occurred after Central had established an interconnection between its distribution facilities and those of certain out-of-state utilities.^{1a} Prior to the establishment of this interconnection, the distribution system of which Houston and Central were part had served only Texas intrastate commerce. We understand that, for this reason, Houston and other intrastate Texas utilities have not in the past been, and are not now, regulated by the Federal Power Commission — a situation Houston would apparently prefer to maintain. Central is owned by a parent holding company subject to the Public Utility Holding Company Act of

^{1a}Central's brief indicates that this took place "as a result of interstate transmission of electricity by [West Texas Utilities]," a wholly owned subsidiary of Central's holding company, Central and Southwest Corporation. Brief at p.6.

1935, and the requirements of that Act² may have been a factor in Central's apparent decision to enter interstate commerce and thus to subject aspects of its operations to regulation by the Federal Power Commission. Houston casts its disconnection of Central in a defensive mold, as a means of avoiding its being caught in the net of interstate commerce and, thus, Federal regulation.

These apparently interrelated actions have been matched by a complex set of judicial and administrative actions. Houston responded to Central's interstate connection by seeking an order from the Texas Public Utility Commission to require Central to sever that connection. Houston's claim, also made in the judicial action shortly to be described, is that Central is contractually and legally bound to preserve the intrastate character of the "Texas Interconnected System," of which both it and Central are a part and which the South Texas Project was intended to serve. By a submission dated May 4, 1977, Houston has brought to our attention an "interim order" of the Public Utility Commission, issued on May 2, 1977, directing resumption of interconnections between Houston and Central and disconnection by Central of interstate ties.³ Houston further informs us that "physical reconnection of the Texas Interconnected Systems in accordance with the interim order has been completed." On May 18, 1977, Central requested that the United States District Court for the Western District of Texas declare invalid and set aside the interim order of the Utilities Commission.

Central's interconnections with out-of-state utilities are under scrutiny in a proceeding pending before the Securities and Exchange Commission under the Public Utility Holding Company Act of 1935, involving Central's parent holding company. Houston tells us (Brief p. 26) that the SEC proceeding could moot

²The Act, 15 U.S.C. 79 *et seq.*, allows registered holding companies to "continue to control one or more additional integrated public utility systems," in certain circumstances. To be so allowed, the SEC must find that

(A) Each of such additional systems cannot be operated as an independent system without the loss of substantial economies which can be secured by the retention of control by such holding company of such system;

(B) All of such additional systems are located in one state, or in adjoining states, or in a contiguous foreign country; and

(C) The continued combination of such systems under the control of such holding company is not so large (considering the state of the art and the area or region affected) as to impair the advantages of localized management, efficient operation, or the effectiveness of regulation.

15 U.S.C. 79K.

³That order provides in part

It is therefore the ORDER of this Commission that the parties hereto immediately reestablish the Texas Interconnected System as it existed on May 3, 1976, and as contractually agreed to by such parties and that any and all disconnects which must be made to remove the contract impediments to such reconnection be made immediately.

In late May, the Utility Commission issued a "final order" confirming and approving the above cited interim order.

any NRC antitrust proceeding, but Central disputes this (Brief pp. 21-23). Central's pursuit of interstate regulation⁴ had led it, with other subsidiaries in its system, to file a petition with the Federal Power Commission seeking Commission exercise of regulatory authority over it. The results of that proceeding are conjectural at this point, but it appears that one possible result would be to establish FPC jurisdiction over Houston, on account of its interconnections with Central.

In response to Houston's breaking off of interconnections, Central has also filed a civil action in Federal district court in Texas alleging violations of the Sherman Act, and seeking an injunction against interruptions of interconnected service. Houston has counterclaimed in this suit, denying any antitrust violations and seeking an order compelling performance of Central's obligations under its contractual arrangements for the construction of the South Texas Project.

We come now to the proceedings raising these issues before the Commission. The matter first came formally to our attention in June 1976, when Central filed a petition which styled itself a response to the notice of opportunity for antitrust hearing which had been published some 19 months earlier. Central, a co-applicant, had received the earlier notice, but it maintained that "good cause" now existed for allowing it to intervene and obtain an antitrust hearing. It contended that Houston's breaking off of interconnections was a supervening development which warranted the imposition of antitrust conditions. The disposition of that petition is outlined in detail in the Appeal Board's decision in ALAB-381, 5 NRC 582 (March 18, 1977), and need not be restated here. Central prevailed before the licensing board to which its petition had been routinely referred, despite our staff's opposition on jurisdictional grounds — that the construction permit proceeding having been terminated, the antitrust issues associated with it could not be reopened. On appeal by our staff the Appeal Board reversed (ALAB-381), agreeing with the staff that the construction permit proceeding had formally come to an end with the expiration of time to seek judicial review, and that the licensing boards lacked delegated authority to reopen such proceedings.

As matters developed before the Appeal Board, all parties agreed that an antitrust hearing should be held at the earliest opportunity, differing only on the appropriate procedure for accomplishing that objective. Following argument before the Appeal Board, Houston suggested that we permit an early beginning to the statutory antitrust review provided for in certain cases at the operating license stage, by waiving the requirement that initiation of staff operating license review procedures await the applicant's submission of a Final Safety Analysis

⁴The facts recited are those upon which the parties appear to be in general agreement. We do not mean to ascribe a motive to this conduct. Central and Houston each aver that its actions are intended to benefit its consumers through obtaining more reliable, lower cost electricity under a more efficient regulatory system. We need not decide at this juncture whether this or some other purpose drives either in the present jurisdictional dispute.

Report (FSAR). This suggestion was placed before us on February 10, 1977, in a formal motion for waiver of Commission rules pursuant to 10 CFR §2.758.⁵ Our staff believes that, as a joint licensee, Central's intervention petition may be treated as a request for construction permit amendments, under 10 CFR §50.90, requiring Houston to interconnect with it, and that the Commission may thereupon direct, pursuant to 10 CFR §2.104, that an antitrust hearing be held on the request. The Staff also believes that initiation of a show cause proceeding under 10 CFR §2.202 would be "legally permissible." In February 1977, the first staff suggestion was placed before us in a staff paper which we caused to be served on the participants herein, with an invitation for response. The Department of Justice, which did not appear before the Appeal Board, suggested in a January 25, 1977, letter to the Executive Legal Director that "the Department can see no reason why the hearing should not proceed at this time, rather than awaiting the filing of the application for an operating license," but it proffered no specific legal basis for that view. Finally, the Appeal Board suggested, in *dictum*, in its opinion of March 18, ALAB-381, that the Commission had the authority to order a hearing at this time. Alternatively, the Board believed that the Director of Nuclear Reactor Regulation could order an anti-trust hearing through the issuance of an order to show cause under 10 CFR §2.202.

In our order of March 31, 1977, we announced our decision not to review ALAB-381 and our intention to rule on the Houston motion and the staff suggestion following briefing and oral argument, in which we invited the Department of Justice to participate. In declining to review ALAB-381, of course, we are not to be taken as having agreed with everything that the Appeal Board had said in that opinion.

It might appear that a dispute over the procedure to be followed for initiating a hearing, where the parties largely agree that a hearing should be held,⁶

⁵The procedure prescribed by 10 CFR §2.758 for seeking waiver of a Commission rule is by its terms literally applicable to ongoing adjudicatory proceedings, not to a request for waiver for the purpose of facilitating initiation of a proceeding. Nevertheless, we believe that under the circumstances Houston properly invoked this rule and that its request for waiver was properly addressed directly to the Commission. Although requests under the rule are normally addressed to the presiding officer in the ongoing proceeding, such requests must be certified to the Commission for decision if a *prima facie* showing is made. No party objected to Houston's invocation of the 10 CFR §2.758 waiver procedure.

⁶Central, the regulatory staff and the Department of Justice agree that a hearing should be held. In its brief, Houston took the position that it did not object to determining whether there had been a "significant change" in the South Texas proposal since the construction permit review. At oral argument, Houston asked as its first preference that we rule that no hearing would be necessary now or, barring other changes with antitrust implications, at the operating license stage. San Antonio and Austin are opposed to a hearing but agree with Houston that if a hearing is necessary, it should begin now to prevent possible delay in issuance of an operating license.

should not have major implications for the regulatory process. However, the sharp divergences among the parties over the appropriate legal basis for holding a hearing now have surfaced significant issues for resolution. The legal basis for going forward now will determine the scope of the proceeding – whether the entire proposal will be open to scrutiny *de novo*, as during the construction permit proceeding, or whether it is only the antitrust implications of significantly changed circumstances that are relevant. And there may be questions of finality in the event that further changes should occur before operating licenses are ready for issuance. More fundamentally, as developed in our analysis of the statutory language and its legislative history, resolution of this dispute requires a definition of the scope of our responsibility in enforcing the antitrust laws and the policies underlying them in relation to the enforcement responsibilities of other agencies, particularly the Department of Justice. Some of the parties' arguments would assign to us a broad and ongoing antitrust enforcement role; they envision that we would have a continuing policing responsibility over the activities of licensees throughout the lives of operating licenses. As we shall show, we believe that the Congress envisioned a narrower role for this agency, with the responsibility for initiating antitrust review focused at the two-step licensing process.

Section 105 of the Atomic Energy Act, as amended, defines the Commission's antitrust responsibilities. That section, as most recently amended in 1970, establishes a particularized regime for the consideration and accommodation of possible antitrust concerns arising in connection with the licensing of nuclear power plants. The statute contemplates imposition of conditions in connection with our issuance of construction permits and, in some circumstances, at the operating license stage where necessary to remedy situations inconsistent with the antitrust laws.

The section's three subdivisions reflect three distinct forms of Commission responsibility. Thus, subsection (a) provides for enforcement of antitrust judgments reached elsewhere. It expressly confirms that nothing in the Act "shall relieve any person from operation" of the full range of the antitrust laws including the Sherman, Clayton and Federal Trade Commission Acts:

In the event a licensee is found by a court of competent jurisdiction, either in an original action in that court or in a proceeding to enforce or review the findings or orders of any Government agency having jurisdiction under the laws cited above, to have violated any of the provision of such law *in the conduct of the licensed activity*, the Commission may suspend, revoke, or take such other action as it may deem necessary with respect to any license issued by the Commission under the provisions of this Act. (Emphasis added.)

Subsection (b) requires the Commission to report promptly to the Attorney

General any information it may have with respect to any "utilization of special nuclear material or atomic energy which appears to violate or tend toward the violation" of any of the listed antitrust laws, or to restrict free competition in private enterprise, but provides no enforcement or hearing initiation responsibility with respect to this information.

A responsibility for initiating and conducting a hearing process is set out in Section 105. Subsection (c) spells out an intricate procedure by which the Commission solicits the views of the Attorney General on possible antitrust implications of each application for permission to construct a commercial power reactor. Any such license application shall "promptly" be transmitted to the Attorney General who shall, "within a reasonable time, but in no event to exceed 180 days after receiving a copy of such application . . . render such advice to the Commission as he determines to be appropriate in regard to the finding to be made by the Commission pursuant to paragraph (5) of this subsection." Paragraph (5) of subsection (c) requires the Commission to determine, in cases where an antitrust proceeding is held, "whether the activities under the license would create or maintain a situation inconsistent with the antitrust laws. . . ."

Upon receipt of the Attorney General's advice, the Commission must publish the advice in the *Federal Register*. The Attorney General may advise that there will be adverse antitrust aspects to the licensee's proposal, and recommend a hearing. In such a case, the Attorney General may participate "as a party in the proceedings thereafter held by the Commission on such licensing matter in connection with the subject matter of his advice." Thus, the Act provides for in-depth antitrust review, with the assistance and advice of the Attorney General and the possibility of a full scale adjudicatory hearing at his request or the request of a private party, at the construction permit stage.

For reactors which have undergone subsection (c) antitrust review in connection with a construction permit application, paragraph (c)(2) governs the question of antitrust review at the operating license stage. It requires the Commission to make a threshold determination before the Attorney General's advice concerning a possible second antitrust proceeding can be sought - namely a finding that the licensee's activities have significantly changed subsequent to the construction permit antitrust review. The language of paragraph (c)(2) is explicit:

. . . paragraph (1) [which sets forth construction permit antitrust review procedures] shall not apply to an application for a license to operate a utilization or production facility . . . unless the Commission determines such review is advisable on the ground that *significant changes in the licensee's activities* or proposed activities have occurred subsequent to the previous review by the Attorney General and the Commission under this subsection in connection with the construction permit for the facility. (Emphasis added.)

No part of the Atomic Energy Act other than Section 105 explicitly deals with antitrust matters. Under Section 186 of the Act, however, the Commission has general authority to revoke licenses for any reason which would have warranted the Commission in refusing to grant a license on an original application. The power to revoke would normally imply the lesser power to modify licenses to incorporate conditions which would have been imposed at the time of initial licensing had subsequently developed circumstances then been known. If this reasoning applies to our antitrust responsibilities, Commission initiated antitrust hearings would be possible beyond the limited circumstances set forth in Section 105. Indeed, all concede that other language in Section 186 gives the Commission authority to initiate a postlicensing enforcement proceeding in the event of violation of a specific antitrust licensing condition.⁷ For like reasons, we would not be limited to mere reference to the Attorney General if a license applicant had falsified pertinent antitrust review information or had otherwise obtained an unconditioned license by some sort of fraud or concealment, but no such allegation is contained in the matter before us now. It is the further question whether Section 186 expands the antitrust hearing settings defined in Section 105, however, that drives the current debate. For the reasons that follow, we find that the generality of Section 186 should be treated as subordinate to the specific, limited regime adopted by Congress as recently as the 1970 amendments to the Act.

Houston argues that, with narrow exceptions not relevant here, our authority to initiate antitrust review is limited to the Section 105 licensing context. In the present circumstances they contend that a hearing at this juncture could only be an operating license hearing based on "changed circumstances" and suggest that we waive the FSAR filing requirement for proceeding with such a hearing if we believe a hearing otherwise appropriate. Our staff, Central Power and Light Company, the Department of Justice and the Florida Cities in an amicus filing argue that the Commission is empowered to consider antitrust matters at any time, regardless of the pendency of an operating license or construction permit application, under Section 186 of the Act. The Department also finds authority in Section 161 of the Act, empowering the Commission to "hold such meetings or hearings as the Commission may deem necessary or proper to assist it in exercising any authority provided in this chapter or in the administration or enforcement of this chapter. . ." The Florida Cities amicus filing argues that "the Act nowhere states that Section 105 alone provides the Commission with the means it may use to enforce the procompetitive policies of the Act." Brief amicus curiae of Florida Cities at 34. Finally, we are

⁷The section authorizes initiation of proceedings in several specific circumstances, including a "failure to . . . operate a facility in accordance with the terms of the . . . license."

asked by Central and the staff to construe Central Power and Light Company's antitrust allegations as an application for a "modification" of the construction permits which if granted would "constitute a new or substantially different facility," triggering antitrust review under 10 CFR §50.90.

These are ingenious and in some respects appealing arguments. Especially significant in our view, however, is the extent to which these arguments avoid or strain the language of Section 105.

We find the specificity and completeness of Section 105 striking. The section is comprehensive; it addresses each occasion on which allegations of anti-competitive behavior in the commercial nuclear power industry may be raised, and provides a procedure to be followed in each instance. The Act links Commission antitrust review with the licensing process, demanding a thorough antitrust review at the stage of application for the construction permit and allowing a narrower second review at the operating license stage, if such a review is deemed advisable on the basis that significant changes have occurred in the licensee's activities. The clear implication of the "significant change" language is that the holder of a construction permit is not subject to a second antitrust review at the operating license stage unless "significant changes" in the proposed project with antitrust implications have occurred in the interim. Nor can it reasonably be argued that Congress did not foresee that antitrust allegations might be raised outside the license review context. Subsequent allegations that licenses are being used in such a way as to violate the antitrust laws are to be referred to the Department of Justice for investigation and possible enforcement action, and if violations are found by a court, the Commission is given express statutory authority to take such license-related remedial action as is necessary.⁸

This reading of the statute is supported by its legislative history. The present language of Section 105 was fashioned in the 1970 amendments to the Atomic

⁸It is important to remember that the Atomic Energy Act permits licensing only if specific findings are made that "the utilization or production of special nuclear material will be in accord with the common defense and security and will provide adequate protection to the health and safety of the public." Section 181. This standard is unlike one which authorizes licensing (or rate setting) under a broad "public interest" standard. In the latter case, agencies pursuing the objectives of the regulatory statute weigh a multitude of factors, including the effect of the proposed action on competitors and the general competitive situation, see e.g. *McLean Trucking Co. v. U.S.*, 321 U.S. 67 (1974). It is not surprising, therefore, that the antitrust jurisdiction of the Commission is specific, rather than general. This reflects the nature of the Commission's other responsibilities with respect to nuclear plants — a responsibility that is not plenary but specific. For example, under Section 271 of the Atomic Energy Act this Commission has no authority to regulate certain economic aspects of nuclear power plants, such as rates. Thus, cases decided in the context of broad regulatory statutes, cited to us primarily by the Florida Cities amicus brief, are less persuasive than might otherwise be the case. See *City of Lafayette v. SEC*, 454 F. 2d 941, 948 (D.C. Cir. 1971).

Energy Act. Concern with the competitive aspects of licensing in the nuclear area, however, goes back to the original legislation enacted in 1946; anticipatory antitrust review in the licensing context, coupled with referrals to the Attorney General, began then.⁹ In 1954, the Congress rewrote the Atomic Energy Act to provide for domestic development of atomic energy, with a two-stage licensing process for privately owned reactors. Under Section 104(b) of the Act, licenses could be obtained for the construction of reactors involved in the conduct of research and development activities without antitrust review. Not until a demonstration of the "practical value" of such facilities for industrial or commercial use, or in the event of licensing under Section 103 of the Act, would the then-Section 105(c) provisions, requiring antitrust review and possible conditioning of licenses come into play.

Such a "practical value" finding was never made,¹⁰ but in 1970 Congress found nuclear power to have acquired "commercial value," and amended the Act to remove the "anachronism" requiring an AEC finding of commercial value. 116 Cong. Rec. H. 9447 (daily ed., September 30, 1970). Changes in the two-step licensing procedure made clarification of the provisions governing antitrust review necessary. The legislation that emerged was characterized by Senator Pastore, a member of the Joint Committee on Atomic Energy, as a "carefully perfected compromise" and a "balanced, moderate framework for a reasonable licensing review procedure." 116 Cong. Rec. 19253 (daily ed., December 2, 1970).

⁹ Section 7(c) of the Atomic Energy Act of 1946 provided that

Where activities under any license might serve to foster the growth of monopoly, restraint of trade, unlawful competition, or other trade position inimical to the entry of new, freely competitive enterprises in the field, the Commission is authorized and directed to refuse to issue such license or to establish such conditions to prevent these results as the Commission, in consultation with the Attorney General, may determine. The Commission shall report promptly to the Attorney General any information which it may have with respect to any utilization of fissionable material or atomic energy which appears to have these results.

¹⁰ *Cities of Statesville v. AEC*, 441 F.2d 962 (D.C. Cir., 1969) represents an effort by certain municipalities and others to have the Commission consider, in the context of Section 104(b) public health and safety and national security licensing, whether issuance of the license would violate provisions of the antitrust laws. In an *en banc* decision, the D.C. Circuit found that Congress had not intended that the 105(c) antitrust provisions of the then-Act be injected into 104(b) licensing. Rather, Congress had intended that Section 105(c) be "patently restricted to Section 103 licensing. . . . In effect then, the Commission is barred, with certain exceptions (such as § 103 licensing) from considering *affirmative anticipatory* antitrust sanctions" (emphasis in the original). With respect to 104(b) licenses, the Commission could only suspend, revoke, or take other such action with respect to a license as it deemed necessary after a court finding of monopoly.

It is significant that in discussing the Commission's duties under Section 105(c), the Court several times referred to its duty there to consider "*anticipatory* antitrust impact."

Throughout the hearings and debates runs a consistent thread. What was at stake was "prelicensing" or "anticipatory" antitrust review. This theme was emphasized by Congressman Hosmer, who stated

By like token, this bill in no way enlarges the substance of the antitrust review in any respect over the provisions of the existing law for commercial licenses. What we are trying to do is clear away procedural uncertainties in the manner in which both the Justice Department and the AEC are to proceed. 116 Cong. Rec. H 9447 (daily ed., September 30, 1970)¹¹

On the one hand, the Congress was urged "not to burden nuclear plants with a special prelicensing antitrust review." Testimony of Carl Horn, Jr., for Edison Electric Institute, Hearings on Prelicense Antitrust Review of Nuclear Power Plants before the Joint Committee on Atomic Energy, 91st Cong., 2d Sess., (hereinafter "Hearings") at p. 328. Opponents of any agency antitrust review argued strenuously that applicants for nuclear facility licenses were subject to the antitrust laws "all the time, and if we are violating them in any way, it is not in building any specific plant; it would be in the marketing of our total system power." *Id.*

But even among those who argued in favor of prelicense review, no evidence emerges that anything more than license connected review was considered. There is no hint in the legislative history that anyone — advocate or foe of prelicensing review — anticipated anything more. Indeed, the reasons underlying support for the bill as enacted indicate the importance of *anticipatory* review to its advocates. *See e.g.*, statement of Charles A. Robinson, Jr., Staff Counsel to the General Manager, National Rural Electric Cooperative Association, *Hearings* at 420:

The big advantage of antitrust review at the prelicensing stage is, in our view, its remedial practicality. Briefly stated, it shifts the procedural burden to the applicant, where it rightfully belongs. He is not stigmatized as a wrongdoer. And he has, during the licensing procedure, a time-related incentive to expedite the entire process and to comply with reasonable antitrust safeguards before any competitor is damaged. Problem areas can be anticipated and avoided with minimum disturbance to all parties.

None of these advantages accrue to the classical, after-the-fact antitrust prosecution, wherein the defendant's interest lies in delay while competitors suffer during years of frequently inconclusive litigation.

¹¹Congressman Hosmer took care to emphasize as well that "...this whole antitrust review in the Commission's licensing procedure in no way extends, impairs, amends, or affects any of the antitrust laws or prevents their application. This major point is underwritten by subsection 105(a) of the Atomic Energy Act, which remains unchanged." *Id.*

Similar reasons were cited by the Acting Assistant Attorney General for the Antitrust Division who contrasted preclicensing review with more general antitrust enforcement, stating "facing [these questions] at the outset of the licensing proceeding, and obtaining the Attorney General's advice on the issues, can permit an early and orderly resolution of antitrust problems before much money and time has been spent." Statement of Walker B. Comegys, *Hearings* at 121. And in response to urgings by Congressman Hosmer to employ traditional antitrust remedies in the nuclear field, the Assistant Attorney General stated: "As to those matters which are closed, namely both licenses having been granted, that is the only recourse available to us." *Hearings* at 140. It is difficult to reconcile these statements on the part of the active supporters of preclicensing review with the view that the Congress was considering placing a general antitrust policing authority in the Commission.

An area of special concern during consideration of the 1970 amendments centered on whether antitrust review should take place at both the construction permit and operating license stages. The AEC proposed that review take place at both stages, with a mechanism to "exclude from consideration at the operating license stage cases that had been handled at the construction permit stage to the satisfaction of the Justice Department" at 38.

Chairman Holifield expressed considerable concern about this suggestion (*Hearings* at 37-38):

I am concerned with the mandatory requirement in the AEC bill review at both the construction and operating license stages. It seems to me that the Joint Committee's bill which requires mandatory review on the antitrust problem at the construction stage is a practical and sound way to approach it. I think if you hold over the head of any investor of \$100 million in a plant, let us say, the fact that he builds the plant to channel the power into his own system of distribution, at that point he should be made aware of any diversion from that plant to another source. He should not be put in a position, it seems to me, of double jeopardy in that he is given the construction permit to proceed without antitrust review and then suddenly 6 years later, or 7 years, whenever his plant is finished, he is faced with an intervenor or a legal situation in which he has to go again through the process of antitrust review.

. . . here again you have a permissive act on your part, and a benevolent act on your part, or an antagonistic act at this time, 5 or 6 or 7 years later, after the investment has been made and the plans of the utility, regardless of who they might be, were made at the time of construction as to the feed-in of that power into their systems.

Suddenly they are faced with a diversion, let us say, of 25 or 30 or 40 percent of their power into another system. So, it seems to me that the Joint Committee's position of mandatory review before construction as far

as the antitrust problem is concerned ought to be final in fairness to the investors. They go in then with their eyes open and they are treating the problem on the basis of a determined fact which does not damage their prior planning and the reason for investing in the first place.

It seems to me that this should be mandatory rather than depending upon an act of permissiveness or benevolence.

Chairman Holifield's concerns were reflected in the final language of the section, providing for thorough review at the construction permit stage, and a second review only upon the finding of "significant changes." The section-by-section analysis of the bill, presented on the floor of the Congress by Chairman Holifield, stated ". The committee sees no sense in two such [antitrust review] exercises unless there have been significant intervening changes." This limitation on the scope of antitrust review at the operating license stage is inconsistent with the notion of ongoing antitrust enforcement responsibility being lodged in this agency.

Thus, we think Congress contemplated that this Commission would review antitrust allegations primarily, if not exclusively, in the context of licensing, and that such review would take place in a two-step review process, the second such review of a more limited scope than the first.

In addition to the statutory language and its legislative history, such a legislative scheme is most consistent with this Commission's special responsibilities. There are strong policy reasons why this Commission has expansive health and safety jurisdiction, which continues through the lives of outstanding licenses. Nuclear power is an area of considerable technical complexity. Its governance should be entrusted to an agency which embodies that particular expertise. But in the field of antitrust, our expertise is not unique. We merely apply principles, developed by the Antitrust Division, the Federal Trade Commission, and the Federal courts, to a particular industry. Through the licensing process, we can effectuate the special concern of Congress that anticompetitive influences be identified and corrected in their incipiency. No nuclear power can be generated without an NRC license and the licensing process thereby allows us to act in a unique way to fashion remedies, if we find that an applicant's plans may be inconsistent with the antitrust laws or their underlying policies.

But in the postlicensing posture, this Commission's capacity to act is not unique. There is no longer any question of "lock[ing] the barn door before the horse is stolen. . . ." Statement of Senator Pastore, III Legislative History of the Atomic Energy Act of 1954, at 3107 (1955). When nuclear power plants have been constructed and are operating, anticompetitive behavior can be remedied only by modifying or conditioning existing behavior. Whatever form of remedy the agency can offer is not appreciably different from that which may be fashioned by the traditional antitrust forums. In this posture, we recognize, as

did the Congress, that there are more suitable forums for antitrust enforcement.

Nevertheless, relying on dictum from the *Cities of Statesville* case, Central and others argue that we have general antitrust police powers in the nuclear industry pursuant to Section 186 of the Act, and that we may thereby reopen license proceedings for cause in the event that there are allegations that a licensee's activities are anticompetitive.

The *Statesville* case actually held that Congress intended Commission antitrust review only in certain limited circumstances. N. 10, *supra*. In the course of the opinion, however, the Court reviewed briefly the Commission's antitrust responsibilities as they then existed and made the statement relied on here:

This section [186] invests the Commission with a continuing "police" power over the activity of its licensees and provides it with the ability to take remedial action if a license is being used to restrain trade.

This *dictum* is a weak foundation upon which to build a claim of such wide ranging powers. The statement itself is amenable to another interpretation more consistent with holding of the *Statesville* case itself: The Court of Appeals may have been speaking of this Commission's continuing police power over conditions properly placed on licenses, after 105(c) antitrust review. In any event, the Congressional contemplation of a more restricted antitrust review function reflected in the 1970 amendments is inconsistent with a broad reading of the quoted *Statesville* dictum.

In summary then, we conclude that Congress had no intention of giving this Commission authority which could put utilities under a continuing risk of antitrust review. Had Congress agreed with the proposition that this Commission should have broad antitrust policing powers independent of licensing, the statute that emerged from these discussions would have looked quite different. Little attention would have been paid to defining a two-step review process. The terminology of all participants in the drafting process would not have been focused so directly on "prelicensing" review. And, if a broad, ongoing police power in the antitrust area had been assumed, the language in 105(a) authorizing the Commission to act with respect to licenses already issued, in light of the antitrust findings of courts would have been, if not superfluous, certainly redundant. Consequently, we find that the Commission's antitrust authority is defined not by the broad powers contained in Section 186, but by the more limited scheme set forth in Section 105.¹²

In so concluding it is not necessary for the purposes of this case to go beyond that, once an initial, full antitrust review has been performed, only "significant changes" warrant reopening. In the event a "significant change" were to occur in a licensee's activities before operating license review, this fact

¹² Similar reasons lead us to reject the Department of Justice's suggestion that Section 161 may serve as a source of authority independent of Section 105.

would make some form of antitrust review at the operating license stage probable, absent a settlement agreeable to all parties, the Attorney General and this Commission. The only question then remaining is whether initiation of the second round, "operating license" review must await the filing of the FSAR which, by our rules, must accompany the filing of an application for an operating license.

As a matter of sound practice, such an outcome would be undesirable. Faced with the prospect of an antitrust hearing, we must realistically consider the impact of delay upon the overall licensing process. Antitrust hearings tend typically to be time consuming. Recognizing this, our regulations provide for the early and separate filing of antitrust information, at the construction permit stage, to permit the antitrust review process to be completed concurrently with other licensing reviews. See 10 CFR §50.33a and related Statement of Considerations, 38 Fed. Reg. 34394. Similarly here, we think that if antitrust review is found necessary in the period between issuance of a construction permit and application for an operating license, we can fashion remedies to expedite the review. This necessary flexibility can allow us to resolve antitrust allegations in a timely fashion, without unduly delaying the licensing process.

Thus, we need not and do not decide whether antitrust review may be initiated in case of an application for a license amendment which would result in a "new or substantially different facility," or where an application for transfer of control of a license has been made, or where "significant changes" occur after an operating license is issued. We note, however, that the report of the Joint Committee explicitly refers to our authority to conduct a review in the first situation, H.R. Rep. No. 91-1470, 91st Cong. 2d Sess., 3 U.S. Code Cong. and Adm. News, 4981, 5010 (1970). Authority in the second situation, not explicitly referred to in the statute or its history, could be drawn as an implication from our regulations. 10 CFR §50.80(b). The third situation presents the issues pending in the *Florida Power and Light* proceeding, n. 1 *supra*, which we do not have before us and need not resolve to decide this case. We go no further than to conclude that Section 186 can have at best limited application, in light of the "significant changes" restriction of Section 105(c)(2) and its relation to the overall scheme of Section 105.

The mechanism for making "significant changes" determinations is not spelled out in our rules although an AEC Regulatory Guide, 9.3 (October 1974), sets forth information to be supplied to the staff in connection with its operating license antitrust review. The making of a "significant change" determination triggering a referral to the Attorney General for his advice on its antitrust implications is a function which could and perhaps should be delegated to the regulatory staff.¹³ We intend to explore that procedural question further,

¹³ Existing delegations confer authority only with respect to Section 105(c)(8).

possibly through rulemaking. For the present, we need only to find that an appropriate means to permit the Commission to reach the significant changes question has been suggested by the petition of Houston asking that we waive the requirement that the filing of an application for an operating license be accompanied by the filing of the FSAR. *See* 10 CFR §§ 50.30(d) and 50.34(b). The FSAR is a technical document which provides information necessary to evaluate the health and safety aspects of a plant in construction. Normally, however, no part of the information contained therein is related to, or sheds light upon, the impact of the operation of the plant on aspects of competition or the competitive conduct of the applicant. Our waiver of the normal requirement that this document accompany the operating license application will have no impact on antitrust review and will facilitate early consideration of the possible antitrust implications of the circumstances that have arisen in this case. Accordingly, the Director of Nuclear Reactor Regulation is authorized to accept an application for an operating license for the South Texas Project without the necessity of filing with it the FSAR described in 10 CFR § 50.34(b), and to seek the information outlined in Reg. Guide 9.3.^{13a}

In accepting the substantial agreement among the parties that the circumstances which have developed warrant, at the least, seeking the Attorney General's advice, we are making the Section 105(c)(2) "determination" that a further antitrust review is "advisable" because of "significant changes" in the licensee's activities occurring subsequent to the antitrust review previously completed at the construction permit stage. By setting in motion the operating license antitrust review mechanism, we do not mean to imply any judgment on our part as to the necessity for a hearing, let alone any necessity for the imposition of license conditions. That judgment will be deferred as the statute contemplates pending receipt and evaluation of the Attorney General's advice and will then be made in the same manner and following the same procedures as we employed at the construction permit stage.

We decide only that the events detailed above are of such a nature as to convince us that the Attorney General must be consulted. In this regard we are aware that the staff sought the Attorney General's advice on the antitrust significance of the present interconnection dispute and that he responded by letter dated January 25, 1977. Following a summary of the facts of this dispute to that date, the Attorney General summarized the antitrust contentions of the parties as follows:

Central Power & Light has alleged that this situation substantially impairs its ability to produce competitively priced power and also that its participation

^{13a}Our finding that the present record shows evidence of significant changes warranting the Attorney General's attention thus is not intended to preclude his consideration of the entire record of events subsequent to the CP antitrust review as this may be developed through the information elicited by the staff in conjunction with the application process.

in the South Texas Project will be jeopardized. Houston Lighting & Power, on the other hand, contends that it acted unilaterally, without anticompetitive purpose, to preserve its status as an intrastate utility not subject to FPC jurisdiction, and that CP&L's participation in the South Texas Project will not be adversely affected.

We need the Attorney General's evaluation of the legal significance of these various facts and contentions to determine whether an antitrust hearing is warranted. Indeed, his letter was specific that no such advice was being provided.¹⁴

The question upon which we are now seeking advice is why enforcement of a contract right, known to all parties and the Attorney General at the time of construction permit antitrust review, may constitute "changed circumstances," such as may justify the imposition of antitrust conditions. This is particularly critical because among the factors examined at the time the construction permit antitrust review was conducted, as indicated in the Attorney General's letter, was that "none of these utilities operated interconnected with an electric utility outside Texas so as to be subject to the jurisdiction of the Federal Power Commission (FPC), and interconnection contracts with one another were conditioned specifically to preclude interstate connections." In addition, we believe that the Attorney General should provide us with his evaluation of the probable effects of proceedings in other forums, as they have then progressed, in developing his recommendations concerning further antitrust proceedings.

Our determination of changed circumstances foreshadows a series of subsidiary questions which need not be addressed comprehensively at this juncture, but concerning which some Commission guidance is appropriate. The only stated consequence of a Commission determination that "significant changes" have occurred is that paragraph (1) of subsection 105(c) – the paragraph providing for Attorney General review and advice – applies. Paragraph (c)(2) does not explicitly state whether his consideration or any subsequent hearing is to be limited to the subsequently developed circumstances underlying the Commission determination and reference to the Attorney General. While some of the parties before us – notably Central and the Department of

¹⁴The Attorney General stated that:

We need not decide the ultimate validity of CP&L's contentions or HL&P's responses to conclude that the present situation in Texas – with restrictions on interutility coordination resulting from the division of the utilities in the state into two groups, premised on intrastate and interstate operation respectively, with TIS eliminated as a coordinating vehicle, and with questions raised as to the viability of planned participation in the nuclear units – warrants an antitrust hearing.

Justice¹⁵ – argue against any such limitation, we have concluded that this second look at the operating license stage is to be a restricted one, focusing on the changed circumstances. The reasoning which leads to this conclusion – already suggested by our earlier discussion – is as follows.

First of all, the structure of the complex statutory scheme established by Section 105(c) strongly implies that there is to be a limited review, if any, at the operating license stage. If no “significant changes” in a construction permittee’s proposed activities have occurred, then the statute is explicit that there is to be no antitrust review at the operating license stage – the antitrust review procedure “shall not apply to” such a permittee’s application for an operating license. As we view it, a full-blown *de novo* antitrust review, with the Commission’s “significant changes” determination acting only as a triggering mechanism, would be inconsistent with the statutory scheme of immunity from a second review for unchanged proposals.

Moreover, a limited scope of review at this stage is strongly suggested by the legislative history. In our earlier discussion¹⁶ we noted the Congressional concern with possible unfairness to utilities and their investors should they be required to run the antitrust review gauntlet twice, at both the construction permit and operating license stages. Chairman Holifield expressed the view that the construction permit review should be “final to fairness to the investors.” With the results of that review known to them, they could proceed with construction (or not) “with their eyes open . . . on the basis of a determined fact which does not damage their prior planning and the reason for investing in the first place.” The legislative history reflects that the compromise version of Section 105(c), as enacted, contemplated limited review at the operating license stage. As Chairman Holifield stated in urging floor approval, “The Committee sees no sense in two such exercises unless there have been significant intervening changes.”

Furthermore, a limited review at the operating license stage is consistent with the well established considerations consolidated in the doctrines of *res judicata* and *laches*. Although these judicially developed doctrines are not fully applicable in administrative proceedings, particularly where, as here, there was no adjudicatory proceeding at the construction permit stage, the considerations of fairness to parties and conservation of resources embodied in them are relevant here. We see no reason why the Attorney General, our staff, and possibly a hearing board should plow the same ground twice. Nor, in fairness to utilities engaged in long range planning, should a potential petitioner for antitrust intervention be able to stand on the sidelines at the construction permit stage and raise a claim at the operating license stage that could have been raised earlier.

¹⁵ See transcript of oral argument, pp. 34, 54. The staff’s position on this point was unclear. Transcript p. 66.

¹⁶ See, pp. 1315-1316, *supra*.

This is not to say that "significant changes" in a licensee's proposal can or should necessarily be viewed in isolation from unchanged features of the proposal. The antitrust implications of a "significant change" may indeed arise from its relationship to unchanged features of the proposal. Obviously, some account will have to be taken of the proposal as a whole, but as the proposal or its impacts have been altered by changed circumstances.

Finally, we think it appropriate to anticipate and say a word about a possible course of events whereby the present controversy may be resolved before an operating license antitrust review would normally occur. Understandably, if there is to be an antitrust proceeding at this point, Houston would prefer that that proceeding go forward expeditiously and that there be no further such proceedings.¹⁷ But as was observed at oral argument, we may have an unfolding sequence of circumstances here, many of which might have to be taken into account before a determination is made on antitrust matters.¹⁸ Knowing that operating license review typically occurs a substantial period of time following construction permit issuance, Congress must have contemplated that we would consider significant changes with possible antitrust implications occurring during that period. In ordering an expedited operating license antitrust review, we are accommodating the parties' desire for an early resolution of the possible antitrust implications of the present interconnection controversy. However, this action is not to prejudice the right of the Commission to consider the antitrust implications of any subsequent developments, including developments possibly unrelated to the present dispute, so long as such consideration would otherwise have been timely under our usual antitrust review procedures. In this regard, should the present dispute be resolved in a hearing, the board would be authorized to reopen the record upon an appropriate and timely showing of further changes.

The Houston request for waiver of the FSAR filing requirement is granted. The regulatory staff is directed to seek the advice of the Attorney General pursuant to Section 105(c)(1). Any further proceedings shall be conducted in accordance with this opinion.

It is so ORDERED.

Samuel J. Chilk
Secretary of the Commission

Dated at Washington, D.C.
the 15th day of June 1977

¹⁷ See transcript of oral argument at pp. 17-20.

¹⁸ *Id.* at p. 19.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

COMMISSIONERS:

Marcus A. Rowden, Chairman

Victor Gilinsky

Richard T. Kennedy

In the Matter of

**NEW ENGLAND POWER
COMPANY, et al
(NEP Units 1 and 2)**

**Docket Nos. STN 50-568
STN 50-569**

**PUBLIC SERVICE COMPANY OF
NEW HAMPSHIRE**

**Docket Nos. 50-443
50-444**

(Seabrook Station, Units 1 and 2)

June 17, 1977

The Commission decides not to review ALAB-390 but to consider the questions there raised in a rulemaking context.

MEMORANDUM AND ORDER

The Commission has decided not to review the decisions in ALAB-390. The questions raised there, as the Appeal Board has recognized, are more appropriately addressed through rulemaking, given their complexity, their broad application, and the consistent past interpretation of our present rules. Our staff has underway studies intended to produce proposals for rulemaking dealing with these questions, among others, which will be presented to the Commission shortly. We direct this study to be carried forward as a priority matter, and intend to initiate a rulemaking at an early date.

For the Commission

Samuel J. Chilk
Secretary of the Commission

Dated at Washington, D. C.,
this 17th day of June 1977.

The motion was filed after the following events had transpired. By motion of August 6, 1976, Cities filed a joint petition to intervene and requested an antitrust hearing pursuant to 10 CFR§2.714. An Atomic Safety and Licensing Board was established to rule on the Cities' petition. On April 5, 1977, that board granted the petition to intervene and request for a hearing with respect to the proposed St. Lucie, Unit 2, facility, for which construction permit proceedings are pending. The board denied the request with respect to St. Lucie, Unit 1, and Turkey Point, Units 3 and 4, all of which are operating facilities. The Cities appealed to the Atomic Safety and Licensing Appeal Board under 10 CFR §2.714a from the denial of their requests with respect to the operating facilities. The Appeal Board, by Order dated May 5, 1977, deferred consideration of the appeal, in view of the Cities' amicus curiae participation before the Commission in proceedings involving related issues in *Houston Lighting and Power Company* (South Texas Project, Units 1 and 2), Docket Nos. 50-498A and 50-499A. Our opinion in that matter, in which we expressly reserved decision of an issue apparently raised by the pending motion, was rendered on June 15, 1977.²

The instant Cities' motion is opposed by the NRC staff and Florida Power and Light Company. The staff argues that the Cities are "in effect, asking the Commission for a type of interlocutory appeal which is not available under the Commission's rules."

We agree that this matter is not properly before us. 10 CFR §2.730(f).³ 10 CFR §2.714a provides for an appeal to an Atomic Safety and Licensing Appeal Board of an order of a Licensing Board denying a petition for leave to intervene and/or a request for a hearing. As noted above, such an appeal is pending before the Appeal Board. Such an appeal might be one appropriate means for addressing the legal questions presented by the Cities' petition. In the alternative, these questions might be addressed in the context of a request to the Director of Nuclear Reactor Regulation to modify the licenses pursuant to 10 CFR§2.206. In suggesting procedural alternatives available under Commission regulations for consideration of these issues, we do not mean to be taken as implying any view as to whether the Commission has statutory authority to modify the licenses for operating plants, the relief requested by the Cities. While the present motion is not properly before us, we could address the purely legal issues raised by it on our own motion. *United States Energy Research and Development Administration* (Clinch River Breeder Reactor Plant), CLI-76-13, NRCI-76/8 67, 75-76 (August 27, 1976). However, we note the request by Florida Power and Light

²Thereafter, on June 16, 1977, the Appeal Board established a briefing schedule with respect to the matter before it.

³We note in contrast that in the South Texas Project matter, the waiver procedures of 10 CFR §2.758 were invoked, without objection by any party.

that, if the Commission elects to rule upon these questions, an opportunity for briefing and argument be allowed. In the circumstances, we think these issues should be first addressed by the Appeal Board or the Director of Nuclear Reactor Regulation, after an opportunity for briefing.

For the reasons stated, the motion is denied. It is so ORDERED.⁴

By the Commission

Samuel J. Chilk
Secretary of the Commission

Dated At Washington, D. C.,
this 23rd day of June 1977.

⁴Chairman Rowden was associated with the regulatory staff of the Atomic Energy Commission when license applications for the St. Lucie Unit 1 plant were under review. He sits in this matter for the "limited purpose . . . [of] . . . dismissing requests improperly filed." See *Consumers Power Company* (Midland Plant, Units 1 and 2), CLI-77-12, 5 NRC 725, 726 (April 5, 1977).

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

COMMISSIONERS:

Marcus A. Rowden, Chairman
Victor Gilinsky
Richard T. Kennedy

In the Matter of

License No. XSNM-845
Docket No. 70-2131

EDLOW INTERNATIONAL COMPANY

(Agent for the Government of India
on Application to Export Special
Nuclear Materials)

License No. XSNM-1060
Docket No. 70-2485
June 22, 1977

Upon motion to consolidate the proceeding for Export Application XSNM-1060 with that for Export Application XSNM-845, the Commission rules that the petitioners, who are not "parties" to either proceeding, have no right to a formal consolidation; however, on its own initiative, the Commission orders consolidation of the two proceedings.

RULES OF PRACTICE: CONSOLIDATION

Persons who are not parties to either of two export licensing proceedings have no right to have those proceedings consolidated.

RULES OF PRACTICE: CONSOLIDATION

The Commission may in its discretion order the consolidation of two or more export licensing proceedings, and it may utilize 10 CFR § 2.716 as guidance for deciding whether or not to take such action.

MEMORANDUM AND ORDER

On February 10, 1977, the Natural Resources Defense Council, Inc., the Sierra Club, and the Union of Concerned Scientists jointly filed two motions requesting that Export Application XSNM-1060 be consolidated with consideration of Export Application XSNM-845. In support of their motions, Petitioners cited Section 2.716 of the Commission's regulations, which provides that "On

motion and for good cause shown or on its own initiative, the Commission may consolidate for hearing or for other purposes two or more proceedings if it finds that such action will be conducive to the proper dispatch of its business and to the ends of justice." Petitioners argue that consolidation is appropriate here because the issues raised in the two proceedings are identical and that it would be unjust for the Commission to rule on the recently filed XSNM-1060 before acting upon XSNM-845.

The Office of the Executive Legal Director (OELD) recommends that Petitioners' motion be denied because Section 2.716 pertains to the conduct of adjudicatory hearings and contemplates filing of motions for consolidation by *parties* to the proceeding. *OELD Answer to Motions for Consolidation of Proceedings*, p. 2. OELD noted that, although Petitioners participated in the legislative-type hearings the Commission held on XSNM-845 in July 1976, they are not parties to that proceeding because the Commission denied them leave to intervene for lack of standing. See *Edlow International Company*, CLI-76-6, 3 NRC 563 (1976). OELD also pointed out that Petitioners have not sought to become parties to XSNM-1060 by filing a petition seeking leave to intervene in that proceeding.¹ Therefore, OELD concluded that because Petitioners are not parties to either proceeding, they could not move to consolidate them. However OELD suggested that "without formally consolidating the two proceedings, the Commission can take into account. . .the commonality of the issues in acting on the applications."

Petitioners here are not "parties" to the proceedings on either XSNM-845 or XSNM-1060. They therefore have no right to a formal consolidation because consolidation is an action solely within the Commission's discretionary authority, for its convenience in conducting its proceedings and deliberations in the most efficient manner. We note further, however, that the Commission may take the commonality of the proceedings into account—or consolidate the proceedings—on its own initiative. Section 2.716, while it applies only to the conduct of adjudicatory hearings and therefore not to the Tarapur licensing actions, nevertheless may provide guidance for deciding whether or not to take such action. It mirrors Rule 42(a) of the Federal Rules of Civil Procedure which establishes general standards used by Federal courts in determining whether consolidation of proceedings is appropriate. Rule 42(a) provides that, if actions involve common questions of law or fact, they may be consolidated if consolidation would "avoid unnecessary costs or delay." A similar provision permitting consolidation will be included in export licensing regulations shortly to be issued by the Commission for public comment. [This rule would be codified at 10 CFR § 110.110(e).]

Here, the issues raised in both export licensing applications appear to be

¹ In view of our denial of standing in a substantially identical matter, Petitioners could reasonably have regarded such a filing as an empty gesture.

identical. Both proceedings involve requests to export low enriched uranium to India for use at the Tarapur Atomic Power Station. The same Agreement for Cooperation would govern the use of all material sought and in each case the Commission cannot issue the requested license unless it determines that such issuance would not be "inimical to the common defense and security" of the United States. 42 U.S.C. 2077. Moreover, the Commission has already held public hearings on July 20 and 21, 1976, at which time all pertinent issues concerning fuel shipments to India for use at the Tarapur facility were thoroughly ventilated. Further submissions by the Petitioners on XSNM-1060 would appear to be an unnecessary duplication of that effort.

Perhaps most important, procedural issues regarding Petitioners' participation in export license proceedings are *sub judice* in *NRDC v. NRC*, No. 76-1525 (D.C. Cir., filed June 11, 1976). Consolidation of these actions will permit avoidance of any suggestion that the Commission has mooted, or is seeking to moot, these proceedings because the circumstances warrant our authorizing a further fuel shipment (XSNM-845) similar to that which was authorized last July in XSNM-805. The Commission has indicated from the outset that it regarded individual export license applications as possibly subject to considerations which would warrant issuance of licenses in advance of its full resolution of all the generic issues dealt with in the July 1976 hearings. The suggested measure will preserve for all parties concerned the important procedural issues not pending before the Court.

This action does not alter the rights of Petitioners nor does it make Petitioners party to either proceeding. *Johnson v. Manhattan Railway Company*, 289 U.S. 479 (1933); Wright and Miller, *Federal Practice and Procedure: Civil*, Section 2382.

It is so ORDERED.

By the Commission

Samuel J. Chilk
Secretary of the Commission

Dated at Washington, D. C.,
this 22nd day of June 1977.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

COMMISSIONERS:

Marcus A. Rowden, Chairman
Victor Gilinsky
Richard T. Kennedy

In the Matter of**Docket No. 50-247
OL No. DPR-26****CONSOLIDATED EDISON COMPANY OF
NEW YORK, INC.****(Indian Point Station,
Unit No. 2)****June 27, 1977**

Since the Commission lacks a quorum able to participate on the merits, the Commission extends the time within which it may consider petitions to review ALAB-399. The Commission takes no action on a stay request because of the absence of a quorum and existence of a similar stay request pending before the Appeal Board.

ORDER

Consolidated Edison Company of New York, Inc., was granted a license by the Atomic Energy Commission in 1974 to operate Indian Point No. 2 on condition that it change from open-cycle cooling to closed-cycle cooling by May 1, 1979. ALAB-188, 7 AEC 323. In November and December of 1976 the Licensing Board approved wet-draft cooling towers for the closed-cycle system and extended the termination date for the open-cycle system to May 1, 1980.

On May 20, 1977, the Appeal Board, in ALAB-399, remanded the case to the Licensing Board for further proceedings on the question of whether Consolidated Edison must obtain zoning variances from the Village of Buchanan for the wet-draft cooling towers and ordered the Licensing Board to establish a new termination date for the use of open-cycle cooling at the facility. Three petitions for review of this decision were filed under the recently promulgated regulations in 10 CFR §2.786 (42 FR 22128, May 2, 1977), one of which was accompanied by a request for a stay of the Appeal Board decision under 10 CFR §2.788.

In lieu of ruling on the petitions now before it, the Commission is extending

the time to consider them, pursuant to 10 CFR §2.786(b)(5), until twenty days after a quorum of Commissioners able to participate on the merits of the proceeding can be constituted. Chairman Rowden considers himself disqualified from so participating because of his prior service as Associate General Counsel of the Atomic Energy Commission during the pendency of this proceeding. The Chairman is participating for the limited purpose of extending time for review of the petitions because his presence is required to establish the necessary quorum of three.

With respect to the request for a stay lodged by Hudson River Fishermen's Association with the Commission, for the same reason we lack a quorum to rule on its disposition. In any event, HRFA has filed a request for a stay with the Appeal Board, which is currently pending. Our regulations clearly require that the Appeal Board rule first on a request for a stay. 10 CFR §2.788(b)(3). Under these circumstances, we are taking no action with respect to the stay request.

Accordingly, the time for Commission consideration of the petitions for review of the NRC staff, the Consolidated Edison Company, and the Hudson River Fishermen's Association are extended to 20 days following the date on which a quorum of Commissioners able to participate in the merits of the proceeding can be constituted.

It is so ORDERED.

By the Commission

Samuel J. Chilk
Secretary of the Commission

Dated at Washington, D.C.,
this 27th day of June 1977.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

COMMISSIONERS:

Marcus A. Rowden, Chairman
Victor Gilinsky
Richard T. Kennedy

In the Matter of

**License No. XR-118
Docket No. 50-571**

BABCOCK & WILCOX

**(On Application for Consideration of
Facility Export License)**

June 27, 1977

Upon petition for leave to intervene and for a hearing on a pending license application for export of a utilization facility to the Federal Republic of Germany, the Commission rules that (1) petitioners have no standing to intervene as a matter of right; (2) a discretionary hearing would serve no valid public interest; (3) an environmental impact statement need not be prepared for this export license application; and (4) the application meets all the standards relevant for issuance under the Atomic Energy Act.

Petition for leave to intervene denied. Issuance of the export license directed.

NEPA: FOREIGN ENVIRONMENTAL IMPACTS

NEPA does not require the preparation of individual environmental impact statements to assess the site specific environmental impacts of a proposed nuclear reactor export on territory within the sovereign jurisdiction of a foreign government.

RULES OF PRACTICE: STANDING TO INTERVENE

Where a petition to intervene fails to set forth a contention which the Commission is charged to hear, it shall be denied.

ATOMIC ENERGY ACT: EXPORT LICENSE

Before authorizing an export license for a utilization facility, Section 103d.

of the Atomic Energy Act requires that the Commission consider: (1) whether an agreement for cooperation between the United States and the country to which the proposed facility is to be exported would apply; (2) whether the export would be inimical to the common defense and security of the United States; and (3) whether the export would be inimical to the health and safety of the American public.

MEMORANDUM AND ORDER

On February 16, 1977, a timely petition was filed with the Nuclear Regulatory Commission on behalf of Bürgeraktion Atomschutz Mittelrhein e.V. (Citizen Action Group for Nuclear Protection, Middle Rhine, Ltd.) for leave to intervene and for a hearing on an application for export of a utilization facility to the Federal Republic of Germany (hereinafter FRG).¹ This petition raises the issue whether the Commission must prepare a statement analyzing the environmental impact of the proposed export on the West German environment before acting on the export application.

Background

On May 24, 1976, Babcock & Wilcox (hereinafter referred to as the Applicant) filed an application with the Department of Commerce seeking authorization to export certain reactor components for use in the construction of the Mülheim-Kärlich Nuclear Power Station. This proposed facility would be owned and operated by Rheinisch-Westfälisches Elektrizitätswerk, A.G., an electric utility located in Essen, Federal Republic of Germany.

This Commission's Staff, which is consulted by the Department of Commerce on applications for exports of components intended for nuclear use, determined that the components covered by the instant license application constituted a "utilization facility," over which the NRC possesses licensing jurisdiction. See Section 103 of the Atomic Energy Act, 42 U.S.C. §2133, and Section 201(f) of the Energy Reorganization Act, 42 U.S.C. §5841(f). After being apprised of this determination, Babcock and Wilcox withdrew its Commerce Department application and on November 10, 1976, submitted an application to the Commission seeking authorization to export a 1200 megawatt pressurized water reactor to the Federal Republic of Germany. Pursuant to 10

¹On January 17, 1977, petitioner filed a Notice of Intent to File Petition for Leave to Intervene and Request for Extension of Time. Petitioner requested that the Commission grant a thirty-day extension of time within which to file its intervention papers citing delays entailed by the holiday season, the slowness of Atlantic mail and the complexities of translation of documents relating to the proceeding. The Commission granted Petitioner's motion on January 25, 1977.

CFR §2.105, notice of the application was published in the *Federal Register* on December 16, 1976 (41 Fed. Reg. 55003).

In accordance with the procedures set forth in Executive Order 11902, the application was transmitted to the Department of State on December 8, 1976, to obtain the views of the Executive Branch with regard to issuance of the export license. The State Department replied on May 21, 1977, providing an analysis of the license application and the Executive Branch conclusion that the proposed export would take place pursuant to the Additional Agreement for Cooperation between the United States and the Europe Atomic Energy Community (EURATOM), signed at Washington, D.C., and New York, June 11 (1960) (T.I.A.S. 4650),² and that the export would not be inimical to the common defense and security of the United States.

On June 17, 1977, in accordance with the Commission's internal procedures for consideration of facility export licenses, the NRC Staff forwarded its recommendation that the license application be approved.

After receiving the petition for leave to intervene and a hearing, the Commission invited the Applicant, NRC Staff, and the Executive Branch to address issues raised by the petition, in addition to the merits of the application. Each filed submissions asserting that Petitioners lacked standing to intervene. The three submissions also urged the Commission to reject Petitioner's assertion that the National Environmental Policy Act (NEPA) requires the Commission to prepare a statement assessing the environmental impact of the proposed export on the environment within the FRG.

After the Commission granted a request for leave to reply, Petitioner filed a brief in response to the submissions of the Applicant and the NRC Staff.³ On May 31, 1977, Louis V. Nosenzo, Deputy Assistant Secretary of State, also submitted a letter to James R. Shea, Director of the Commission's Office of International Programs, concerning the foreign policy impacts of conducting a NEPA review in this proceeding. A copy of this letter was served on all participants and is appended to this Memorandum and Order.

Petitioner's Contentions

Bürgeraktion Atomschutz Mittelrhein e.V. states itself to be an organization chartered in the FRG, actively concerned with the preservation, protection and enhancement of the environment of the Middle Rhine. More than 80 per cent of

²This agreement has been subsequently amended several times. The most recent revision occurred on September 20, 1972. See T.I.A.S. 5103; T.I.A.S. 5104; T.I.A.S. 5444; and T.I.A.S. 7566.

³The Department of State did not file its pleading until March 24, after Petitioners reply brief had been filed. This two-page pleading supported the view of the NRC Staff. Petitioner did not request the opportunity to respond to this submission.

its 1300 members reside within 25 miles of the proposed Mülheim-Kärlich Nuclear Power Station.

It is Petitioner's contention that the Commission cannot lawfully act upon Babcock & Wilcox's application until the Commission prepares, circulates for comment, and considers in its decision-making process a detailed environmental impact statement examining seven specific topics. Petitioner finds this requirement in Section 102(2)(C) of the National Environmental Policy Act of 1969, 42 U.S.C. §4332(2)(C). The seven topics on which Petitioner requests that the Commission develop and consider data pertain to:

- (a) meteorology of the proposed reactor site;
- (b) risks associated with the location of the facility in a heavily populated area;
- (c) risks associated with locating the facility in close proximity to major transportation arteries;
- (d) impact of the facility on a drinking water reservoir located near the proposed site;
- (e) risk of an earthquake in the vicinity of the proposed site;
- (f) effect of routine radioactive emissions from the facility on public health and on the health of workers within the plant; and
- (g) disposition of spent fuel and other radioactive wastes generated by operation of the facility.

See Affidavit of Helga Vowinckel, dated February 4, 1977, Paragraph 8.

Each of Petitioner's contentions related to the impact of the proposed export on the environment of the FRG at or near the site at which the Mülheim-Kärlich Nuclear Power Station is to be constructed.⁴

Petitioner avers that it has made unsuccessful efforts to secure a comprehensive assessment of the environmental impact of and consideration of alternatives to construction and operation of the proposed Mülheim-Kärlich Nuclear Power Station from either the FRG government or the Applicant. We are told that Petitioner participated in public hearings conducted by agencies of the FRG government on whether construction permits for the Mülheim-Kärlich reactor

⁴Petitioners assert the issues of primary concern to it in this case are the "direct impacts of the plant in the Federal Republic of Germany." *Petitioner's Memorandum in Response to the Applicant's and Regulatory Staff's Opposition to Petition for Leave to Intervene*, at 28. However, it may be possible, under the broadest reading of Petitioner's affidavit, to construe this concern with the disposition of spent fuel and nuclear waste management as also pertaining to the impact of these activities on the global commons (geographical areas such as the high seas which are not under the territorial jurisdiction of a sovereign state). However, in the event such a broad allegation was intended, the impact of waste management on the global environment has already been addressed in the *Final Environmental Statement on U.S. Nuclear Power Export Activities* (ERDA-1542, April 1976).

should be granted. See *Letter from Louis V. Nosenzo, Deputy Assistant Secretary of State to James R. Shea*, dated May 31, 1977. In 1975 and 1976, Petitioner's members filed five lawsuits in the FRG challenging the construction of the facility. Petitioners also have presented a number of petitions to the local legislative body, the Assembly of Rhineland-Palatine, requesting an analysis of the safety of the reactor design. See *Affidavit of Helga Vowinckel, supra*, at paragraph 5. Unsatisfied with the results of these proceedings and political appeals, Petitioner has sought relief from this Commission, an agency of the United States Government.

Summary of Commission Determinations

Each of Petitioner's contentions is based upon the allegation that the Commission must assess the impact of the proposed export on the environment of the Federal Republic of Germany before taking action on Application No. XR-118. We hold that NEPA does not require us to prepare an individual environmental statement assessing the site specific impacts of the particular proposed nuclear reactor export on territory within the sovereign jurisdiction of a foreign government. Insofar as we must consider the impacts of the export on the United States and globally the environmental impact statement on the effects of United States nuclear export activities previously prepared by the Energy Research and Development Administration (ERDA) satisfies all the Commission's NEPA obligations in the present matter. Also, because the Petitioner has not presented a single contention appropriate for the Commission to consider, the Petitioner lacks standing to intervene in the present licensing proceeding as a matter of right. Although in our discretion we could nonetheless order a public proceeding, if we deemed that one was warranted, we do not find that such a course would be in the public interest.

We have further determined that issuance of License No. XR-118 meets all applicable licensing requirements contained in the Atomic Energy Act of 1954 and direct the Assistant Director for Export-Import and International Safeguards to issue License No. XR-118 to Babcock and Wilcox.

I. INTERNATIONAL REACH OF NEPA

Petitioner contends that pursuant to its obligations under NEPA the Commission must prepare and circulate an environmental statement assessing the impact of the proposed export on the environment of territory within the FRG before action can be taken on Application No. XR-118. In support of its position, Petitioner cites several sections of NEPA which direct the Federal government to recognize the worldwide character of environmental problems. Petitioner also cites Section 102 of the same Act which requires Federal agencies

to comply with NEPA to "the fullest extent possible," a result which it believes can be achieved only if the Commission prepares an individual environmental impact statement on this particular export.

The Applicant, the Department of State, and NRC Staff disagree with Petitioner's interpretation of NEPA. All three argue that any obligations the Commission may have are satisfied by the *Final Environmental Impact Statement on U.S. Nuclear Power Activities* (ERDA-1542, April 1976) prepared by the U.S. Energy Research and Development Agency. This Environmental Statement addresses the environmental, social, technological, economic, national security, and foreign policy benefits and costs to the United States of nuclear power export activities. It also examines reasonably available alternatives to those activities and their foreseeable costs and benefits. The Commission was one of the agencies which assisted in the preparation of that statement.

After reviewing the statutory language of NEPA and its legislative history, as well as judicial decisions interpreting NEPA, a recent expression by the Council of Environmental Quality on NEPA's extraterritorial reach, and general principles of international law, and after weighing U.S. national security and foreign policy interests, we conclude that NEPA does not require preparation of an individual environmental impact statement on the issues raised in this proceeding.

A. NEPA And Its Legislative History

Neither the language nor the legislative history of NEPA unambiguously defines its application to Federal actions whose significant environmental impacts occur outside the United States. However, there seems little occasion to doubt that Congress' focus was on this nation and actions having impacts within U.S. borders. Thus, in delineating the purposes of NEPA, Congress emphasized that it intended to establish a "national policy" for the protection "of the ecological systems and natural resources important to the Nation." NEPA Section 2 (emphasis supplied). In Section 101(a), Congress declared that it would be "the continuing policy of the Federal government . . . to use all practicable means and measures . . . to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic and other requirements of present and future generations of *Americans*." (Emphasis supplied.) In Section 101(b)(2) and (4), Congress expressed concern with coordinating Federal programs to the end that the "Nation" may "assure for *all Americans* safe, healthful, productive, and aesthetically and culturally pleasing surroundings," and "preserve important historic, cultural and natural aspects for our *national heritage* . . ." (Emphasis supplied.) See also Section 201.

The legislative history, similarly, is characterized by a dominant concern with national problems and impacts in establishing NEPA's innovative require-

ments. For example, the Senate Committee on Interior and Insular Affairs remarked in its report,

It is the unanimous view of the members of the Interior and Insular Affairs Committee that our *Nation's* present state of knowledge, our established public policies, and our existing governmental institutions are not adequate to deal with the growing environmental problems and issues the *Nation* faces.

Like observations can be found throughout the debates.⁵

However, as the Council on Environmental Quality observed in its September 24, 1976, Memorandum to Heads of Agencies on Applying the EIS Requirement to Environmental Impacts Abroad, this focus on national impacts was not exclusive. Reference is there made to terminology speaking of the "human environment" or to "man and his environment," terms which have no necessary limitation to the United States. CEQ notes that Section 102(2)(C), explicitly states that impact statements must be prepared for all "major Federal actions significantly affecting the quality of the human environment." Some statements in the legislative history, as well, take note of the global character of some environmental impacts and the desirability that these be considered. Illustrative is a remark cited by CEQ, which appeared in a report made part of the legislative record by Senator Jackson, a sponsor of the bill, during the debates: "[T]he global character of ecological relationships must be the guide for domestic activities" (115 Cong. Rec. 29082, October 8, 1969). These materials are, however, quite limited. Although CEQ has drawn a somewhat differing conclusion, we cannot find in them any basis for belief that Congress meant the statute to apply, or even considered that it might apply, in circumstances such as those of the present case.

The statute deals explicitly with the question of international application in only one section — 102(2)(F). That provision is revealingly limited in scope: . . . [t]o the fullest extent possible . . . (2) all agencies of the Federal government shall . . . (F) recognize the worldwide and long-range character of environmental problems and, where *consistent with the foreign policy of the United States*, lend appropriate support to initiatives, resolutions, and programs designed to maximize international cooperation in anticipating and preventing a decline in the quality of mankind's world environment. (Emphasis supplied.)

Agencies are to seek and encourage cooperation with other nations on environ-

⁵ See generally, 115 Cong. Rec. 1692, 1780-1 (daily ed. February 18, 1969); 115 Cong. Rec. 17451 (daily ed. December 20, 1969) (remarks of Senator Jackson); 115 Cong. Rec. 8269 (daily ed. September 23, 1969) (remarks for Representative Pelly).

mental problems. However, this requirement to lend support is limited to the extent "appropriate" and "consistent with the foreign policy of the United States." Thus, Section 102(2)(F) does not appear to create enforceable obligations for agencies. To the contrary, the very conspicuousness of the foreign policy qualification indicates a concern for the practical problems of conducting foreign policy and responding to the vicissitudes of international relations. The CEQ memorandum makes only passing mention of Section 102(2)(F). However, the section is clear evidence indicating that Congress was sensitive to foreign policy concerns when it directly faced international implications. This fact undermines, for us, any argument that the statute requires consideration of impacts to a foreign sovereign from activities it has authorized to be conducted on its own soil. In the face of the indisputable proposition that EIS preparation for such site-specific impacts could have major foreign policy ramifications, a proposition we develop below, the absence of a foreign policy qualification from Section 102(2)(C) can only signify that Congress did not contemplate that such impacts were to be addressed in the environmental statements required by that section.

Indeed, the references to the "human environment" in Section 102(2)(C) and similar expressions elsewhere in the statute and the legislative history, while recognizing the need for U.S. agencies to consider the impact on the global environment of U.S. activities, can readily be understood in a manner far less intrusive on the sovereignty of other nations than Petitioner contends. These references emphasize a global or worldwide outlook, one concerned for the global commons for which the United States shares responsibility with all other nations, not an intent to become involved in matters primarily or exclusively of interest only to a particular foreign sovereign. In most contexts, moreover, the language emphasizes cooperative approaches to dealing with problems affecting the global environment, not unilateral measures taken by a single state. The obligation of Section 102(2)(C) plainly extends to considering the global impacts of major Federal actions significantly affecting the environment which also have substantial impacts *within* the United States—for example, impacts on the Pacific Ocean from oil transportation between Alaska and the continental United States. The more attenuated the impacts on the United States become, however, the less clearly Section 102(2)(C) applies. When the issues concern the domestic German impacts of an American reactor (whose manufacture and transport do not significantly affect the U.S. environment) to be constructed in Germany under the authority of the German government, following procedures designed by that government to meet the perceived needs of that country, we can no longer find in the statutory language a requirement for our analysis of such impacts.

We recognize that in reaching this conclusion as to the breadth of our NEPA responsibilities we are in apparent disagreement with the views of the CEQ

regarding assessment of impacts within other countries, and in the pages that follow we further address the considerations which have led us to this outcome. CEQ's conclusion was that

The impact statement requirement of [Section] 102(2)(C) of NEPA applies to all significant effects of proposed Federal actions on the quality of the human environment—in the United States, in other countries, and in areas outside the jurisdiction of any country. Accordingly, agency officials responsible for analyzing the potential environmental effects of proposed actions should fully assess the potential impacts outside the United States, as well as those within it; if any of these potential impacts are likely to be significant, an impact statement should be prepared. Memorandum at 8-9.

CEQ's views, however, are not binding on the Commission. *Greene County Planning Board v. FPC*, 455 F.2d 412, 421 (2nd Cir. 1972), *cert. denied*, 409 U.S. 849 (1972); *Nucleus of Chicago Homeowners Association v. Lynn*, 524 F.2d 225, 232 (7th Cir. 1975). Although the Commission finds many guidelines issued by the CEQ to be useful in implementing NEPA,⁶ the Commission does not find the September 24 Memorandum to be persuasive on the issue of NEPA's international reach insofar as impacts occurring within the borders of other nations of the type here at issue are concerned.⁷

Based on our reading of the statute and its legislative history, we conclude that Congress recognized the worldwide character of environmental problems, but we find no specific indication that Congress intended the United States Government to prepare environmental impact statements assessing the impact of U.S. exports on the local environment of foreign sovereigns.

⁶ See 10 CFR § 51.23(d).

⁷ The status of the memorandum is also unclear. It was not promulgated as a regulation or with the kind of interagency consultation envisioned under Executive Order 11991. The NRC was not consulted prior to its issuance, and we understand that no other Federal agency was afforded such an opportunity. In view of the important effects CEQ's reading of the NEPA requirements may have vis-a-vis the sovereignty of affected nations, the lack of prior coordination with, for example, the Department of State is striking.

For the future, the CEQ's authority with respect to interpretation of NEPA appears to have been given new support by Executive Order 11991, 42 Fed. Reg. 26967 (May 25, 1977) which appears to authorize the CEQ, following full consultation with concerned agencies, to promulgate regulations to be applied by Federal agencies in implementing NEPA's procedural provisions. Also, it amends Executive Order No. 11514, pertaining to the responsibilities of the CEQ, to provide that Federal agencies shall comply with *regulations* issued by CEQ implementing Section 102(2) of NEPA "except where such compliance would be inconsistent with statutory requirements" (emphasis supplied). We need not decide, in the absence of any such regulation, whether the President may by Executive Order lawfully empower the CEQ to control the actions of an independent regulatory agency such as the NRC.

B. Judicial Decisions Concerning Foreign Impacts

The CEQ memorandum relies in part on several judicial decisions touching on the international reach of NEPA, decisions which give some colorable support to the view that certain kinds of environmental impacts in foreign countries should be assessed. However, none of the opinions in these cases set forth the reasoning which led to the court's apparent assumptions as to NEPA's international reach and thus judicial guidance on the issue of NEPA's foreign reach remains slender.

For example, Canadian environmentalists were allowed to intervene in a 1972 suit challenging the Secretary of the Interior's compliance with NEPA in issuing trans-Alaska pipeline permits. *Wilderness Society v. Morton*, 463 F.2d 1261 (D.C. Cir. 1972). At that time, consideration was being given to routing the pipeline through Canada. An impact statement was indisputably required, regardless of the route finally chosen, because of the pipeline's U.S. domestic impacts. The only question the court addressed, however, was whether the interests of the Canadians were antagonistic to those of the American plaintiffs, thus requiring separate legal representation. A finding that NEPA encompassed an examination of potential impacts on Canada in the subject circumstances—where the impacts on the United States from the proposed Federal action independently required preparation of an impact statement—would appear to be implicit in the court's conclusion, but was not discussed in the opinion. However, such a finding could flow from the obligation to prevent harm to the "human environment" from domestic action independently requiring an impact statement, without in any way reaching the facts here.

In 1973, the Sierra Club sued the Atomic Energy Commission to require compliance with NEPA in the nuclear power export process. *Sierra Club v. AEC*, Civil No. 1867-73 (D.D.C. August 2, 1974). The AEC agreed to prepare and ERDA completed a final generic statement on U.S. nuclear power export activities. ERDA, *Final Environmental Statement on U.S. Nuclear Power Export Activities* (ERDA-1542, April 1976). This development rendered moot all issues except whether to impose a time limit for preparing the statement. Such a limit was imposed. In the court's opinion there is almost no discussion whether and to what extent NEPA properly applies to nuclear power exports. Therefore, the case is of little assistance in determining the applicability of NEPA to international matters. The statement, however, was concerned entirely with global and domestic American impacts, and made no attempt to assess the environmental impact of U.S. nuclear exports on jurisdictions controlled by foreign states. The Executive Branch determined that NEPA did not require assessment of such foreign impacts. The petitioners in that suit did not seek judicial review of the adequacy of ERDA-1542.

In 1975, the Sierra Club obtained an injunction requiring the Federal High-

way Administration (FHWA) to prepare an impact statement on the construction of a section of the Pan-American Highway through the so-called Darien Gap in Panama and Colombia. *Sierra Club v. Coleman*, 405 F. Supp. 53 (D.D.C. 1975). The court found that FHWA's "Environmental Impact Assessment" had not been circulated for comment as NEPA requires, failed adequately to discuss a potentially serious impact of the completed highway on the United States (through the transmission of aftosa, or "foot-and-mouth" disease to cattle in the United States), and discussed only the economic and engineering considerations—not environmental effects—of the only alternative to the preferred route that was described. In directing that an impact statement be prepared and circulated, the court suggested that the FHWA discuss "more fully" the "'cultural extinction' so casually predicted" by the agency for two Indian tribes in the path of the preferred route. FHWA returned eleven months later with a final statement which the court also found inadequate. *Sierra Club v. Coleman*, 421 F. Supp. 63 (D. D.C. 1976), *appeal docketed*, No. 76-2158 (D.C. Cir. March 7, 1977). FHWA is currently rewriting the statement, and highway construction remains enjoined.

On its face, this case might be construed as precedent for requiring NRC to prepare impact statements assessing the impacts of individual exported facilities within the borders of a foreign nation since the ruling required the defendant agency to address impacts which were confined to foreign territory. However, the proposed highway clearly required an impact statement because of its potentially devastating impact on the domestic U.S. livestock industry from "foot-and-mouth" disease, a disease endemic to that part of South America. The Darien Gap jungle had provided an important buffer to the ready movement of livestock, and the disease, between South and North America. The Darien Gap case does not present, nor do the two opinions address, the question whether a NEPA impact statement is required on a project without significant domestic impacts. Nor do the opinions deal squarely with the question whether NEPA requires the assessment of the purely foreign impacts of a project which also has domestic impacts. Though the court gave special mention to the purely foreign impacts of the two Indian tribes, it did not address the question of whether examination of those impacts was legally required in the first instance. Rather, since the FHWA had included impacts on the Indians among the issues considered in its environmental assessment, the court addressed itself instead to the adequacy of that evaluation, and found it deficient. The Department of Transportation has appealed the second *Darien Gap* decision.

More importantly, in that case as in the Alaskan Pipeline case, the Federal agency involved retained substantive control over the proposed foreign construction project. The United States not only would finance at least part of the project, but also would have had responsibility for monitoring the completion of the proposed construction. Because the United States had substantial control

over the projects, including routing, U.S. decision-makers could utilize information on foreign environmental impacts before determining the shape and scope of the project. Indeed, the American analysis of foreign impacts could well have been outcome determinative. The location of the Darien Gap highway, for example, could be influenced by the amount of money the FHWA was willing to make available. Provided sufficient funds, Panama and Columbia might entertain the making of a detour which would be foreclosed to them without U.S. assistance. Thus, it could be said that the FHWA's consideration of this impact, in order to decide whether or not to make additional funds available, was a necessary condition to making the detour even an option for the foreign governments concerned.

Those circumstances differ markedly from NRC export licensing where the Commission is faced with a single decision, namely whether the proposed export is inimical to the common defense and security of the United States or public health and safety of the United States.⁸ Once the export leaves U.S. territorial jurisdiction, U.S. control over the items exported is quite limited.⁹

C. Considerations of International Law and Foreign Relations

In deciding whether our NEPA obligations include preparation of impact statements in cases such as this one, we have been strongly influenced by well established principles of international law and considerations of foreign policy put before us by the Department of State. As we have already noted, the CEQ position is greatly weakened, in our view, by the Council's failure to consult with and obtain the agreement of the Department to its position. Having the views of both before us, we find the latter persuasive.

A fundamental principle of international law and U.S. foreign policy is that nations have a basic right to conduct their internal affairs free from interference by other nations. The U.S. Supreme Court, foreign courts, international tribunals, and the United Nations have affirmed this principle. *E.g.*, *The Schooner Exchange v. McFadden*, 11 U.S. 97 (Cranch), 116 (1812) (U.S. Supreme Court); *The S.S. Lotus* (France v. Turkey), P.C.I.J. Reports, Series A, No. 10 (1927) (Permanent Court of International Justice); *Declaration of Principles of International Law Concerning Friendly Relations and Cooperation Among States in Accordance With The United Nations Charter*, G.A. Resn. 2625 (XXV) (October 24, 1970) (United Nations). In determining whether NRC should assess foreign impacts, it is important that the preparation of an impact

⁸*Edlow International Co.*, CLI-76-6, 3 NRC 563 (1976).

⁹The International Atomic Energy Agency and EURATOM are responsible for implementation and enforcement of material accountability standards at the exported facility.

statement not be perceived as an intrusion by the United States into the domestic affairs of a foreign state.

It might be argued that this question does not arise, because the NEPA analysis only applies to the decision by U.S. officials to export or not to export. Further, it could be argued, the NEPA analysis could be helpful to recipient governments in reaching a decision on whether to engage in a particular nuclear transaction.

The CEQ appears to have taken this position in stressing that assessments of foreign impacts could aid U.S. decision-makers by providing a fuller picture of the foreseeable environmental consequences of agency decisions and could also be of assistance to cooperating foreign governments. The Council recognized that national security or essential foreign policy considerations might make controlled circulation of environmental statements necessary, and in such cases CEQ suggested that statements could be classified to limit distribution and protect national security. In CEQ's view, however, national security and foreign policy considerations did not obviate the need to assess foreign impacts.

The Department of State, in the May 31 letter to Mr. Shea took the contrary view:

...that any U.S. attempt to make site-specific assessments of environmental impacts within the territory of another country would have major, adverse political consequences. A majority, if not all, governments would be expected to take the position that, among other things:

- decisions affecting primarily their national environments are a matter of sovereign responsibility;
- relatedly, the degree and means of public participation in the national environmental decision-making process, which involves a relationship between the government and its citizens, should not be substantially influenced by the actions of other governments; and
- they have full competence to make the necessary analyses and judgments.

In resolving the differing agency views on NEPA's proper interpretation in the foreign context, the Commission is inclined to weigh heavily the views of the State Department, as the chief foreign policy agency of the U.S. government. This is particularly so when the language of NEPA, itself, recognizes that foreign policy considerations must be kept in mind by agencies in fulfilling their responsibilities under the Act.

In assessing this question, we are also mindful that NEPA requires environmental statements to assess the environmental impact of the proposed action, delineate irreversible and irretrievable commitments of resources, and balance the costs and benefits of the proposed activity. Section 102(2)(C); *Calvert Cliffs' Coordinating Committee v. AEC*, 449 F.2d 1109 (D.C. Cir. 1971). These

requirements cannot be met in the foreign context in a manner equivalent to domestic practice without seriously intruding on a foreign state's sovereignty. Complete assessment of the impacts of the proposed export on the recipient state would require the collection of detailed information on local conditions (including population patterns, ecology, meteorology, and the like), examination of a facility's design and site, and numerous other assessments traditionally conducted by the recipient government.¹⁰ This information would not be obtained without the full cooperation of the foreign state. U.S. officials seeking such information could not enter the jurisdiction of a foreign state for the purpose of obtaining this information without the permission of the concerned foreign government. This degree of cooperation can not be guaranteed in all cases, a factor which seriously undermines Petitioner's arguments.¹¹

In light of these practical realities, we believe our conclusion also draws support from the firmly established principle that

Rules of United States statutory law, whether prescribed by Federal or state authority, apply only to conduct occurring within, or having effect within, the territory of the United States, unless the contrary is clearly indicated by the statute.

Restatement (Second) of the Foreign Relations Law of the United States, Section

¹⁰Section 102(2)(C) of NEPA provides that detailed impact statements must include discussion of

- (i) the environmental impact of the proposed action;
- (ii) any adverse environmental effects which cannot be avoided should the proposal be implemented;
- (iii) alternatives to the proposed action;
- (iv) the relationship between local short-term uses of man's environment and maintenance and enhancement of long-term productivity; and
- (v) any irreversible and irretrievable commitment of resources which would be involved in the proposed action should it be implemented.

Before the Commission can authorize construction of a nuclear power plant to be sited in the United States, fulfillment of the above-mentioned requirement typically requires preparation of a multi-volume statement consisting of hundreds and often thousands of pages of information and analysis. These statements give detailed treatment to such factors as the plant's heat dissipation system; alternative cooling, intake and discharge systems; radiological monitoring systems; selective load-shedding during periods of peak demand; alternative transmission routes; and even the local utility rate structure. Factors such as these cannot be assessed without detailed onsite reviews and the full cooperation of utilities and local governmental units—something which cannot be presumed in the foreign context.

¹¹The FRG, in particular, has informed the Department of State "that it would not favor any efforts by the United States to superimpose a further environmental review on [its] internal nuclear reactor licensing process." See the May 31, 1977, letter from Louis V. Nosenzo to James R. Shea.

38. The Federal Courts have frequently affirmed this presumption. *American Banana Co. v. United Fruit Co.*, 213 U.S. 347 (1909); *Foley Bros., Inc. v. Filardo*, 336 U.S. 281 (1949); *Reyes v. Secretary of HEW*, 476 F.2d 910 (D.C. Cir. 1973). A responsibility on the part of the U.S. government to assess impacts in nuclear export licensing would arise only if the principles militating against such an application of U.S. law were rebutted by clear statutory evidence, or modified by an agreement with the recipient country. The legislative history of NEPA fails to supply that clear evidence and the Additional U.S. Agreement for Cooperation with EURATOM does not provide for such a review.

Our earlier examination of this issue in *Edlow International* led us to conclude that

... [T]he focus of NEPA is the assessment of the domestic impacts of domestic activities. When the environmental impact claimed consists of radiation hazards to Bombay and its environs, the same principles which forbid application of the Atomic Energy Act to regulate foreign health and safety, foreclose consideration of the environmental balance. It is not for us to make policy decisions for another sovereign nation on the social balance to be struck between energy needs and environmental impacts . . . [T]he terms and history of the Act are most consistent with an interpretation which avoids speculation regarding another nation's internal affairs. Even if it were assumed that international impacts must be considered . . . impacts internal to a foreign nation need not be. *Edlow International Co.*, CLI-76-6, *supra*, 3 NRC at 585 (footnote omitted).

Revisiting the issue has strengthened that conclusion. By enacting NEPA, Congress imposed on us no obligation to conduct the environmental impact analysis demanded in this case.

II. INTERNATIONAL COOPERATION WITH THE FEDERAL REPUBLIC OF GERMANY ON HEALTH, SAFETY AND ENVIRONMENTAL MATTERS

We have stated previously that Section 102(2)(F) of NEPA requires the United States, where consistent with U.S. foreign policy, to lend appropriate support to efforts aimed at maximizing international cooperation on environmental matters. The Commission supports a variety of international initiatives pertaining to environmental, health and safety matters. These occur both bilaterally with other individual nations and multilaterally through the International Atomic Energy Agency. Focusing on cooperation with the Federal Republic of Germany, the Commission has entered into two technical exchange and cooperative arrangements with the government of the FRG in the fields of

Research and Development of Reactor Safety.^{1 2} The March 6, 1974, agreement provides for the exchange of certain information on light-water reactor safety. The October 1, 1975, agreement provides for the exchange of technical safety and physical security of nuclear installations. It also provides for the exchange of information on "environmental impact of such installations . . . to the extent that the respective responsibilities of the Contracting Parties permit." That information is defined to include reports on technical safety and environmental impact prepared by, or for the NRC, important licensing and supervisory measures, major decisions on the safety and environmental impact of nuclear facilities, reports on operational experiences, and regulatory procedures for assessing the safety of nuclear facilities and their effects on the environment.

Pursuant to these exchange agreements the Commission has forwarded to responsible agencies of the FRG government copies of NRC press releases, regulatory guides, major reports prepared for the Commission relating to nuclear safety and environmental issues, NRC monthly inspection reports, letters to the Commission from its Advisory Committee on Reactor Safeguards (ACRS), special reports on operating experience of U.S. reactors, and reports of abnormal occurrences at domestic facilities. A list detailing these exchanges has been placed in the Commission's public document room. Further, the Commission is engaged in a joint research venture with the FRG (the loss of Fluid Test) being conducted at Idaho Falls, Idaho.

In addition, the Commission's Advisory Committee on Reactor Safeguards, an advisory committee established by the Atomic Energy Act to advise the Commission with regard to the hazards of nuclear facilities and the adequacy of proposed reactor safety standards, has met with representatives of West German nuclear regulatory authorities on safety matters several times in recent years. The most recent meeting occurred on May 31-June 3, 1977, in West Germany. ACRS representatives met with representatives of the Reaktor-Sicherheitskommission (RSK), a West German body with responsibilities equivalent to those assigned the ACRS. See 42 Fed. Reg. 24778 (May 16, 1977).

There are also numerous information exchanges on health, safety and environmental matters through the International Atomic Energy Agency, in which both the United States and FRG participate. These informational exchanges and joint research efforts are not static, but are constantly being augmented. The Commission believes that these cooperative ventures fully implement NEPA

^{1 2} Technical Exchange and Cooperative Arrangement between the United States Atomic Energy Commission and the Federal Ministry for Research and Technology of the Federal Republic of Germany in the Field of Research and Development on Reactor Safety, done at Washington, D.C., on March 6, 1974; Arrangement between the Federal Minister of the Interior of the Federal Republic of Germany and the United States Nuclear Regulatory Commission on Cooperation in the Field of Nuclear Facilities Safety, done at Bonn on October 1, 1975.

provisions mandating that the United States lend appropriate support to international cooperation in environmental matters.

III. STANDING TO INTERVENE AS MATTER OF RIGHT

Petitioner has requested leave to intervene and a hearing, claiming solely an interest in having the Commission perform NEPA analyses of the stated issues. Under Section 189(a) of the Atomic Energy Act, 42 U.S.C. §2239(a), a party is entitled to a hearing as a matter of right if he can establish an interest which "may be affected by the proceeding."

Each of Petitioner's contentions are based upon the claim that the NRC must assess the impact of the proposed export on the environment in the Federal Republic of Germany before acting on Application No. XR-118.¹³ We have established above that NEPA imposes no requirement that the Commission assess such impacts. It has been the Commission's longstanding practice that if a petition sets forth only contentions on which no hearing or action is required, it shall be denied. See 10 CFR §2.714(b); *New England Power Company* and *Public Service Company of New Hampshire* (NEP and Seabrook Nuclear Power Stations), ALAB-390, 5 NRC 733 (April 7, 1977); *Northern States Power Company* (Prairie Island Nuclear Generating Station, Units 1 and 2), ALAB-107, 6 AEC 188 (1973). Therefore, Petitioner is not entitled to intervene as a matter of right.¹⁴

IV. INTERVENTION AND PUBLIC HEARINGS AS A MATTER OF DISCRETION

Although Petitioner has no right to intervene or to demand a public hearing,

¹³If we are to interpret Petitioner's submission as also raising issues pertaining to the impact of the proposed export on the global commons, they lack standing to do so. Any such allegation is a generalized grievance shared in substantially equal measure by all human beings. In *Edlow International Co.*, CLI-76-6, *supra*, 3 NRC at 576, we determined that such generalized grievances do not provide a sufficient basis to confer standing in a Commission export licensing proceeding.

¹⁴In light of this conclusion, we need not reach the question whether, if NEPA did require an impact statement, petitioner would be an appropriate party under Section 189(a), in light of its available remedies under the domestic law of the Federal Republic of Germany. The interest of a German citizen or organization in a U.S. agency's performance of its legal obligation, as that impacts domestic U.S. concerns, is open to question. The CEQ interpretation of the "foreign" benefit of EIS preparation is that it will provide cooperating nations information of possible utility to them. It is not settled that a citizen of a foreign nation has standing before a U.S. agency to insist that information not desired by his government be provided to that government for possible use in its own domestic proceedings.

the Commission may in its discretion direct a hearing if we determine that such a hearing would be warranted in public interest. *Edlow International Co.*, CLI-76-6, *supra*, 3 NRC at 580.

The Applicant, the Department of State, and NRC Staff all argue that a discretionary public hearing would not serve the public interest in the present circumstances. After a careful review of these submissions, we reach the same conclusion. If relations between the FRG and the United States would be seriously disturbed if we accepted Petitioner's contentions as a matter of right, the intrusion would be no less if we undertook the same inquiry voluntarily. For the reasons stated above, the Commission finds it wholly inappropriate to consider the issues Petitioner raises in determining whether the proposed export application should be approved. Accordingly, hearings will serve no valid purpose.

Another significant factor in our judgment is that in the view of the Department of State, undue delay in considering the present export license application could have serious adverse foreign policy implications. In his letter of May 31, 1977, Deputy Assistant Secretary Louis V. Nosenzo notes that the Mülheim-Kärlich matter has already received protracted consideration by responsible agencies of the FRG government, as well as the German courts. He asserts that "receipt of reactor components from the U.S. are within the 'critical path' for reactor completion and that delay in their delivery will result in a day-for-day delay in plant operations." Mr. Nosenzo expresses the further view that "any deferral in issuance of the Mülheim-Kärlich reactor export license on environmental grounds specific to the territory of another country would appear to run counter to . . . important U.S. policy objectives." The Federal judiciary has often expressed the view that expressions of the Executive Branch on matters affecting the conduct of United States foreign policy are entitled to great weight in evaluating the claims of litigants. The Supreme Court stated in *Republic of Mexico v. Hoffman*, 324 U.S. 30, 35 (1944) ". . . it is a guiding principle . . . that the courts should not so act as to embarrass the executive arm in its conduct of foreign affairs." In like measure here, the Commission must pay due regard to the potential damage to the conduct of foreign relations which the Department of State believes could result from delaying action in the instant license application. Having weighed the nature of the interests asserted by Petitioner, the legal and practical difficulties with conducting a foreign environmental review, and the likely damage to foreign policy and national security interests which could flow from further delay, the Commission determines that a discretionary hearing will not be held.

V. COMMISSION DETERMINATION ON THE MERITS

The Commission, in *Westinghouse Electric Corporation*, CLI-76-9, 3 NRC

739, 742 (1976), set forth the applicable provisions of law which govern our consideration of this export application. These are:

Atomic Energy Act of 1954, Public Law 82-73, 68 Stat. 919

- Section 101, 42 U.S.C. 2131, which prohibits the export of utilization or production facilities, except under and in accordance with a license issued by the Commission pursuant to applicable sections of the Act;
- Section 11g., 42 U.S.C. 2014(g), which defines “common defense and security” to mean the common defense and security of the United States;
- Section 11cc., 42 U.S.C., 2014(cc), which defines a “utilization facility”;
- Section 103, 42 U.S.C. 2133, which authorizes the Commission to issue licenses for production and utilization facilities, and requires that any license for the export of production or utilization facilities must be under the terms of an agreement for cooperation; and
- Section 123, 42 U.S.C. 2153, which delineates how agreements for cooperation are to be entered into and applied including the requirement that such agreements include guaranties by the cooperating party that security safeguards and standards will be maintained and that material provided by the U.S. will not be transferred beyond the cooperating party’s jurisdiction without United States’ agreement or used for any military purpose.

Energy Reorganization Act of 1974, Public Law 93-438, 88 Stat. 1233

- Section 201(f), 42 U.S.C. 5841(f), which transferred to the Nuclear Regulatory Commission “. . . all the licensing and related regulatory functions of the Atomic Energy Commission. . . .”

The section of the Atomic Energy Act which specifies the criteria we must apply in the licensing of a utilization facility is Section 103d., which states in relevant part:

No license under this section may be given to any person for activities which are not under or within the jurisdiction of the United States, except for the export of production or utilization facilities under terms of an agreement for cooperation arranged pursuant to Section 123, or except under the provisions of Section 109. . . . In any event, no license may be issued to any person within the United States if, in the opinion of the Commission, the issuance of a license to such person would be inimical to the common defense and security or to the health and safety of the public.

Thus, under the statute the factors which the Commission must consider in the instant matter are: (1) whether an agreement for cooperation would apply; (2)

whether the export would be inimical to the common defense and security of the United States; and (3) whether the export would be inimical to the health and safety of the American public. We will treat each of these factors in turn.

1. Agreement for Cooperation

The proposed export would take place under the terms and conditions of the Additional Agreement for Cooperation between the United States and the European Atomic Energy Community (EURATOM), as amended. Under the terms of Section 123 of the Atomic Energy Act, the Agreement was approved by the President after he made a determination in writing that "the proposed agreement will promote and will not constitute an unreasonable risk to the common defense and security." The Agreement also received Congressional review through the procedure of submitting the instrument to the Joint Committee on Atomic Energy for the thirty- (30-) day statutory period then applicable to such civil use agreements. See Section 123c. of the Atomic Energy Act of 1954. Under Article VI of the Agreement, as amended, it entered into force for the parties on July 25, 1960, and remains in force until 1996.

A letter from F. Spaak, Head of the Delegation of the Commission of the European Communities, to Vance H. Hudgins, Assistant Director for Politico-Military Security Affairs, Division of International Security Affairs, ERDA, dated December 7, 1976, confirms EURATOM's understanding that the Mülheim-Kärlich reactor falls within the ambit of that Agreement for Cooperation. The analyses of the Applicant, the Department of State and the NRC staff also reflect this fact. Therefore the initial factor required by Section 103d. of the Atomic Energy Act is established.

2. Common Defense and Security

Under Section 103 of the Atomic Energy Act, no export license for a production or utilization facility may be granted if this Commission is of the opinion that such an export would be inimical to the common defense and security. Under Section 11g. of that Act, the term "common defense and security" means the "common defense and security of the United States." In the judgment of the Department of State (reflecting its own view, and that of other concerned Executive Branch agencies) and the NRC staff, export of the Mülheim-Kärlich reactor to the Federal Republic of Germany would not be inimical to the security interests of the United States. Our own independent analysis leads us to agree with that assessment; and we affirmatively find that the proposed export would not be inimical to the common defense and security of the United States.

When reviewing an export license application we pose a series of eight basic

questions to the Executive Branch (through the Department of State). These questions provide guidance on those matters which we believe are most important in reaching our common defense and security determination. See *Westinghouse Electric Company*, CLI-76-9, *supra*, 3 NRC at 745. Virtually all of these questions bear directly on security issues, and we shall review them in the order they are posed to the Executive Branch.

The first question asks for information concerning the purpose of the export. In this case, the Mülheim-Kärlich facility will provide electric power for a West German utility, Rheinisch-Westfälisches Elektrizitätswerk, A.G. of Essen. This type of civilian use of nuclear power is not inimical to the common defense and security of the United States, and is consistent with formal undertakings by the United States Government in the *Treaty on the Non-Proliferation of Nuclear Weapons* (NPT) done at Washington, London and Moscow on July 1, 1968, 21 U.S.T. 483, T.I.A.S. 6839.

The United States is also committed to peaceful nuclear cooperation by its membership in the International Atomic Energy Agency. Article II of the Statute of that organization announces the objectives of seeking "to accelerate and enlarge the contribution of atomic energy to peace, health and prosperity throughout the world." Although as an independent regulatory body this Commission must eschew developmental and promotional concerns in the field of nuclear energy, it is obligated to take notice that the United States has committed itself to assisting other nations in the peaceful uses of nuclear energy. Therefore, civilian activities such as construction of reactors using low-enriched fuel to provide electrical power, do not, in themselves, raise questions of inimicality with the common defense and security of the United States. Inimicality must arise, if at all, from other circumstances surrounding such activities.

Question two pertains to whether the recipient country has an Agreement for Cooperation with the United States, and, if so, whether the proposed export would be covered by the Agreement. As stated earlier, this export would be covered by the Additional Agreement for Cooperation with EURATOM.

Question three concerns whether the recipient country has accepted and implemented safeguards under the International Atomic Energy Agency. With the exception of France, (a nuclear weapons state) all EURATOM members are parties to the Treaty on the Non-Proliferation of Nuclear Weapons. Pursuant to the NPT, Belgium, Denmark, the Federal Republic of Germany, Ireland, Italy, Luxembourg, the Netherlands, and the European Atomic Energy Community entered into a safeguards agreement on April 5, 1973. Under the terms of this agreement, IAEA safeguards will be applied at all nuclear facilities within the signatory nations, including the proposed Mülheim-Kärlich Nuclear Power Station. This safeguards agreement entered into force on February 21, 1977.

The fourth question pertains to the adequacy of accounting and inspection

procedures in circumstances where IAEA safeguards are not applied. This question is not relevant here, because as stated above, IAEA safeguards will be applied at the Mülheim-Kärlich Nuclear Power Station.

Question five asks what physical security arrangements are to be applied when significant quantities of strategic nuclear material (plutonium) or highly enriched uranium are exported. Since the present license does not involve the transfer of such material, an evaluation of physical security arrangements is not required at this time.

The sixth question refers to the position of the recipient country with regard to the non-proliferation of nuclear weapons. The Federal Republic of Germany, by ratifying the NPT, has forsworn the development of nuclear explosive devices, and is precluded from assisting other nonnuclear weapons states to develop such devices.

Question seven asks what understanding the United States has with the recipient country with "respect to the use of U.S. supplied material or equipment to acquire or develop nuclear explosive devices for any purpose, and as to the recipient country's policies and actions as to such development using equipment and material from any source." As stated previously, the Federal Republic of Germany is a party to the NPT and has committed not to develop nuclear explosive devices for any purpose.

The eighth and last question asks whether there are other factors which bear on issuance of the export license. Neither the Executive Branch nor the NRC staff believe there are other issues which require examination. The Commission's own independent analysis supports this conclusion.

3. Health and Safety

The Commission sees no circumstances in which the operation of the Mülheim-Kärlich Nuclear Power Station would affect the health and safety of the U.S. population.¹⁵ As we have explained in Part II of this opinion, this Commission takes the view that the health and safety impact in foreign nations of exported nuclear facilities and materials is outside the jurisdiction of the Commission.

CONCLUSIONS

The export of this proposed nuclear facility is in full accord with the addi-

¹⁵The environmental, health, and safety impacts of U.S. nuclear reactor exports upon the United States domestic environment and upon the global commons are addressed in the *Final Environmental Impact Statement on U.S. Nuclear Power Export Activities, supra*. That Statement concludes U.S. nuclear exports do not create "significant and unacceptable adverse environmental impacts to the U.S." (at 1-5).

tional Agreement of Cooperation between the United States and EURATOM. The Federal Republic of Germany by ratifying the NPT, has forsworn the development of nuclear explosive devices. IAEA safeguards will be applied at Mülheim-Kärlich Nuclear Power Station to insure that the reactor, any fuel used in it, and any nuclear material produced by this reactor will not be diverted for use in a nuclear explosive device.

FINDING AND ORDER

For the reasons set forth above, we find that License No. XR-118 meets all the standards relevant for issuance under the Atomic Energy Act of 1954 and the Energy Reorganization Act of 1974, and hereby direct the Assistant Director for Export-Import and International Safeguards to issue XR-118 to the Babcock and Wilcox Company.¹⁶

It is so ORDERED.

By the Commission

Samuel J. Chilk
Secretary of the Commission

Dated at Washington, D.C.,
this 27th day of June 1977.

Commissioner Gilinsky concurring:

I concur in the Commission's opinion on this matter. However, I believe it is important to emphasize what in my view the Commission has, and has not, decided. With respect to what has been decided, today's ruling rejects Petitioner's contentions pertaining to assessment of site-specific environmental

¹⁶We note that the applicant has expressed urgency concerning at least some of the items intended for the Mülheim-Kärlich facility. It appears that the applicant anticipates an extended shipping schedule with respect to other items covered by the license. However, the applicant has not provided, and it has not been asked to provide, either an itemization of equipment needed on an urgent basis or a description of all items on the critical path. See the letter of George L. Edgar, Council for Babcock and Wilcox in this proceeding, filed with the Commission on May 19, 1977, in which the applicant stated that it:

faces critical shipping dates commencing in July 1977. For example, one set of six (6) fuel assembly spacer grids is required in Germany by July 1, 1977, to meet critical qualification and proof testing schedules in advance of the scheduled November 1, 1977, shipment of the remaining 215 sets of spacer grids. Similarly, two control rod drive mechanisms with associated tools must be shipped by July 18, 1977, to allow completion of engineering proof testing prior to the scheduled November 1, 1977, shipment of the remaining 74 mechanisms plus spare parts.

impacts within the Federal Republic of Germany as lying outside the scope of our responsibilities under the National Environmental Policy Act of 1969, 42 U.S.C. Section 4321 *et seq.* On the other hand, however, it recognizes that NEPA does prescribe consideration of the non-U.S. impacts of nuclear export licensing decisions insofar as these may affect the global environment.

Our view as to the breadth of our responsibilities under NEPA in the present context is based predominantly on NEPA's language and legislative history, interpreted in light of general principles of international law, the practical difficulties of preparing impact statements on foreign sites, and the advice received from the Department of State on this question. I believe this record as to NEPA's international reach reveals that the statute manifests both a concern for the foreign environmental consequences of United States' actions and a comparable sensitivity to intruding on the prerogatives of foreign nations.

We have also taken into account the nature of the particular Federal action at issue in this matter (namely, the export of the principal components of a nuclear reactor) and the foreign policy context surrounding such exports. In examining these factors, I believe we have implicitly recognized that NEPA's prescription regarding assessment of global impacts is a flexible one whose precise contours may vary significantly depending on the circumstances in which it is applied.

If one accepts that NEPA mandates a flexible approach to the assessment of non-U.S. impacts, the Darien Gap¹ and Alaska Pipeline² cases do not necessarily conflict with the result reached here. Although owing to judicial silence one can only speculate as to the courts' reasoning in these cases, it is possible to see them as reflecting the courts' views of the proper balance to be reached between the environmental and foreign policy considerations embodied in NEPA, in light of particular circumstances. Viewed in this light, the implicit assumption of these decisions, that in-country foreign impacts must be assessed, would not necessarily apply to the markedly different factual setting here, where both the proposed Federal action and the foreign relations context bear little resemblance to those considered in previous litigation.

In this regard we have noted that the United States will not be involved in the construction or operation of the Mülheim-Kärlich reactor and that the impacts from the export upon the environment of the United States, which arise principally from the manufacture and transport of reactor components, will be small.³

¹*Sierra Club v. Coleman*, 405 F. Supp. 53 (D.D.C. 1975); and *Sierra Club v. Coleman* 421 F. Supp. 63 (D.D.C. 1976), *appeal docketed*, No. 76-2158 (D.C. Cir. March 7, 1977).

²*Wilderness Society v. Morton*, 463 F.2d 1261 (D.C. Cir. 1972).

³This conclusion would still obtain even if the impacts of future fuel exports for the reactor were taken into account. See generally, Final Environmental Statement on U.S. Nuclear Power Export Activities, ERDA-1542, April 1976.

The view that NEPA embodies a flexible approach to non-U.S. impacts appears to have been adopted by the Agency for International Development ("A.I.D."), whose regulations regarding the preparation of environmental statements provide for the assessment of foreign impacts within foreign states "at the discretion of the Administrator." 22 CFR §216.6(c). In contrast to the role of the Nuclear Regulatory Commission in licensing nuclear exports, A.I.D. retains continuing supervisory control over the projects its sponsors through its financial interest in them.

Our denial of the petition before us, which raises only site-specific impacts within the Federal Republic of Germany,⁴ leaves a number of questions remaining for future consideration. This brings me to what the Commission has not decided today, namely precisely what matters must be considered in examining the "global" impacts of U.S. nuclear exports once site-specific impacts within foreign countries have been excluded. This matter has not been raised by petitioners and extensive discussion of the point is therefore unwarranted. It suffices to say that ERDA's impact statement on U.S. Nuclear Power Export Activities (ERDA-1542, April 1976) discusses a variety of global impacts resulting from these activities. The adequacy of that statement is not at issue here. In any case, I would anticipate that as with programmatic or generic environmental impact statements in the U.S. domestic context, the statement will be supplemented from time to time to reflect new developments and increased knowledge about the environmental effects of this country's nuclear activities.

⁴ See *Affidavit of Helga Vowinckel*, dated February 4, 1977, Paragraph 8.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

COMMISSIONERS:

Marcus A. Rowden, Chairman

Victor Gilinsky

Richard T. Kennedy

In the Matter of

Docket Nos. 50-443
50-444

**PUBLIC SERVICE COMPANY OF NEW
HAMPSHIRE, et al.**

(Seabrook Station, Units 1 and 2)

June 28, 1977

Upon motion by applicants to lift the suspension of their construction permits, the Commission rules that the question should be considered in the first instance by the Appeal Board.

Motion dismissed.

ORDER

On Friday, June 17, 1977, the Administrator of the Environmental Protection Agency issued an opinion concerning the cooling system for the proposed Seabrook facility. Subsequent to the Administrator's decision the applicants herein filed simultaneously with the Atomic Safety and Licensing Board, the Atomic Safety and Licensing Appeal Board and with ourselves papers seeking the lifting of the suspension of the Seabrook construction permits which was ordered by the Appeal Board in ALAB-366 and affirmed by us, with a minor modification, on March 31.

Since the suspension was ordered by the Appeal Board and since the Appeal Board is presently considering the merits of questions remaining in pending appeals from the issuance of the Seabrook construction permits, the question whether the current suspension should be lifted should be considered in the first instance by the Appeal Board, subject to possible subsequent discretionary review by the Commission. *See* 10 CFR §§2.786, 2.788.

The applicants' motion is dismissed.

It is so ORDERED.

For the Commission

Samuel J. Chilk

Secretary of the Commission

Dated at Washington, D. C.,
this 28th day of June 1977.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

COMMISSIONERS:

Marcus A. Rowden, Chairman
Victor Gilinsky
Richard T. Kennedy

In the Matter of

License No. XSNM-845
Docket No. 70-2131

EDLOW INTERNATIONAL COMPANY

(Agent for the Government of India
on Application to Export Special
Nuclear Materials)

License No. XSNM-1060
Docket No. 70-2485

June 28, 1977

The Commission authorizes the grant to the Edlow International Company of a license to export to India special nuclear material (requested in license application XSNM-845, as amended) to fuel the Tarapur Atomic Power Station located near Bombay.

ATOMIC ENERGY ACT: EXPORT LICENSE

Before authorizing an export license for special nuclear material, Section 57 of the Atomic Energy Act, 42 U.S.C. 2077, requires that the Commission consider: (1) whether an agreement for cooperation between the United States and the country to which the proposed facility is to be exported would apply; (2) whether the export would be inimical to the health and safety of the American public; and (3) whether the export would be inimical to the common defense and security of the United States.

NUCLEAR REGULATORY COMMISSION: JURISDICTION

Consideration of health and safety effects in foreign countries resulting from export licensing is outside the jurisdiction of the Commission.

ATOMIC ENERGY ACT: EXPORT LICENSE

The Treaty on the Non-Proliferation of Nuclear Weapons does not prohibit the United States from shipping special nuclear material to countries which have

not ratified the Treaty provided that international safeguards are applied to all U.S.-supplied material.

MEMORANDUM AND ORDER

I. BACKGROUND

On November 5, 1975, Edlow International Company, as agent for the Government of India, filed License Application No. XSNM-845 with the Commission seeking authorization to export 463.64 kilograms of U-235 contained in 18371.4 kilograms of uranium enriched to a maximum of 2.71 percent. The special nuclear material sought would be used to fuel the Tarapur Atomic Power Station (TAPS) located near Bombay, India.

On March 2, 1976, joint petitions were filed with this Commission on behalf of three organizations (Natural Resources Defense Council, Inc, The Sierra Club, and the Union of Concerned Scientists) for leave to intervene and for a hearing on this application.¹

On May 7, 1976, the Commission ruled that Petitioners lacked standing under Section 189(a) of the Atomic Energy Act of 1954 to intervene and to demand a hearing as a matter of right, but ordered that a legislative-type hearing be held as a matter of Commission discretion. *Edlow International Company*, CLI-76-6, 3 NRC 563 (1976) (hereinafter, the *Edlow Opinion*). Because our previous opinion sets forth in detail the background of this proceeding and Petitioners' specific contentions, we will not repeat that information here.

On June 11, 1976, two of the Petitioners, the Natural Resources Defense Council and the Union of Concerned Scientists, sought judicial review of the Commission's May 7 order in the United States Court of Appeals for the District of Columbia Circuit (Civil No. 76-1525). In brief, Petitioners argued that they were entitled to an adjudicatory hearing as a matter of right under Section 189(a) of the Atomic Energy Act, 42 U.S.C. 2239(a). The Court heard oral argument on December 8, 1976, but has not rendered its decision at this time. Although the public hearing ordered was originally scheduled for the week of June 3, 1976, Petitioners, on May 14, 1976, filed a *Motion for Extension of*

¹Petitioners also sought leave to intervene and a hearing on export application No. XSNM-805 which also involved a proposed export of special nuclear material to the TAPS facility. On May 20, 1976, after reaching an agreement with the Department of Justice, as attorney for the Department of State, Petitioners agreed to raise no objections to issuance of that license. As part of the agreement reached with the Petitioners, application No. XSNM-845 was amended, to reduce the quantity of material sought to 315.16 kilograms of U-235 contained in 12261.0 kilograms of uranium at a maximum enrichment of 2.71 percent. This procedural history is set forth in detail in *Edlow International Company*, CLI-76-7, 3 NRC 594 (1976). On July 1, 1976, the Commission, in a divided opinion, authorized the issuance of export License No. XSNM-805. CLI-76-10, NRCI-76/7 1 (1976).

Time to Submit Written Comments and for Deferral of Public Hearing. As part of the May 20 agreement,² this hearing was set for July 20. See 41 Fed. Reg. 21712 (May 27, 1976). As part of the legislative format established by the Commission, participants in the hearing were given an opportunity to present written statements concerning issues they wished to address, and to review the submissions of other participants prior to the oral hearings. Provision was also made for cross-questions to be posed after screening by the Commissioners, to enable participants to test the assertions of witnesses or affiants.

In addition to submitting briefs on procedural issues, Petitioners submitted a 45-page statement, accompanied by 10 affidavits, addressing the substantive issues arising from this proceeding. These presentations were based upon information contained in more than 3,000 pages of material concerning U.S.-Indian nuclear relations obtained by Petitioners under the Freedom of Information Act from this Commission and relevant Executive Branch agencies.

The Commission proceeded with the public hearing and on July 20-21, 1976, we received oral testimony from eleven witnesses. Mr. Myron B. Kratzer, then Acting Assistant Secretary of State for Oceans and International Environmental and Scientific Affairs, was subjected to rigorous questioning by the Commission for more than five hours and was asked to respond in writing to over 100 additional questions submitted by Petitioners and reviewed by the Commission for relevance and materiality. Other persons appearing were United States Congressman Clarence D. Long; Dr. Michael A. Guhin, the Commission's Assistant Director for Export-Import and International Safeguards; Mr. Adrian Fisher, formerly Deputy Director of the U.S. Arms Control and Disarmament Agency and a chief U.S. negotiator of the Treaty on the Non-Proliferation of Nuclear Weapons (NPT); Mr. Herbert Scoville, Jr., formerly Assistant Director of the U.S. Arms Control and Disarmament Agency; Mr. Carl Marcy, formerly Chief Counsel to the United States Senate Committee on Foreign Relations; Dr. William W. Lowrance of Harvard University; and Eldon V. C. Greenberg, who at the time of the hearing was Petitioners' counsel in this proceeding. The administrative record in this proceeding, in addition to the transcript of the July hearing, consists of numerous written submissions by the Petitioners, the Department of State and members of the public. This record now exceeds 2,000 pages, including more than 400 pages of classified submissions.

At the conclusion of this hearing, and after indications of interest by this Commission, the Department of State announced its intention to enter negotiations with the Indian government on one of the central issues focused on during the hearings: whether it would be desirable from a non-proliferation standpoint and possible—practically and diplomatically—to reach an agreement with the Indian government that all spent nuclear fuel generated at the TAPS facility be returned to the United States. The Department agreed to keep this Commission

² See footnote 1, *supra*.

informed on the progress of those negotiations and stated its view that the Commission need not act on export application No. XSNM-845 at that time.

On January 5, 1977, Edlow International Company filed another sequential fuel license application (XSNM-1060) seeking authorization to export 156.12 kilograms of U-235 contained in 7638 kilograms of uranium enriched to a maximum of 2.154 percent for use at the Tarapur Atomic Power Station.

On February 10, 1977, Petitioners filed a motion asking the Commission to consolidate application No. XSNM-1060 with application No. XSNM-845. Petitioners' aim was to insure that the procedural issues involved in the licensing proceeding would be preserved with respect to No. XSNM-1060. On June 22, 1977, the Commission, as a matter of discretion, and in the interest of conducting its proceedings and deliberations in the most efficient manner, consolidated the proceedings on license application Nos. XSNM-845 and XSNM-1060. We stated part of our rationale for this procedural ruling as follows:

. . . procedural issues regarding Petitioners' participation in export licensing proceedings are *sub judice* in *NRDC v. NRC*, No. 76-1525 (D.C. Cir., filed June 11, 1976). Consolidation of these actions will permit avoidance of any suggestion that the Commission has mooted, or is seeking to moot, these proceedings because the circumstances warrant our authorizing a further fuel shipment (XSNM-845) similar to that which was authorized last July in XSNM-805.

On May 31, 1977, the Edlow International Company amended license application No. XSNM-845 to further reduce the quantity of material requested to 306.61 kilograms of U-235 contained in 12261.0 kilograms of uranium at a maximum enrichment of 2.71 percent.³

In accordance with procedures set forth in Executive Order 11902, the Department of State, on June 8, 1977, submitted its views and those of other concerned Executive Branch agencies to the Commission. The Executive Branch concluded that issuance of the proposed license would not be inimical to the common defense and security of the United States, would be subject to all terms and conditions contained in the Agreement for Cooperation between the United States and India, and recommended that the license be promptly issued. The Commission has been informed by the Department of State that, in its view, failure to act promptly on this license could impair U.S. relations with India.

The NRC staff, in a June 23, 1977, submission, also reached this conclusion and recommended that the Commission issue amended license No. XSNM-845.

In outlining the background of this proceeding, it is important to note that, since conclusion of the July public hearings of last year, the Department of State has been engaged in discussions with the Government of India on matters related

³ See footnote 1, *supra*.

to nuclear cooperation. The Indian government has agreed in principle, during these negotiations, to repurchase by the U.S. of spent fuel from the TAPS facility. We understand that issues pertaining to the long-term disposition of spent fuel generated at TAPS, including possible U.S. repurchase, will continue to be one of the chief topics for examination as these negotiations continue.

The Executive Branch has expressed the view that the Commission should act promptly on this license application to insure that discussions with the Indian government on issues related to non-proliferation can proceed in an orderly fashion. A letter from Peter Tarnoff, Executive Secretary of the Department of State, to Lee V. Gossick, Executive Director for Operations, U.S. Nuclear Regulatory Commission, dated June 8, 1977 (hereinafter, *Letter from Tarnoff to Gossick*, dated June 8, 1977), asserts:

A new and democratic government has taken office in India as a result of general elections in March. President Carter has indicated that we wish to expand our dialogue with that Government on a variety of issues, including nuclear matters. We believe that our foreign policy interest will be best served by establishing a favorable atmosphere for those discussions and that approval of this license application would be an important step in this process.

Our new Ambassador, Robert Goheen, in his first call on Prime Minister Desai on May 27 indicated that the U.S. would like to enter into negotiations on issues related to non-proliferation. The Prime Minister welcomed this initiative and agreed to discussions.

Negotiations are envisioned on two levels: one concerned with technical problems such as the Tarapur spent fuel, and the other with much broader non-proliferation issues related to the new U.S. nuclear export policy.

The Executive Branch recommends the prompt issuance of XSNM-845, as amended. This shipment, approved at the highest levels, is believed to be in the best interest of U.S. foreign policy objectives, particularly those related to non-proliferation.

This Commission believes that withholding action on the present license pending a definitive resolution of the spent fuel issue, or other issues raised in the negotiations, would be inconsistent—not only with this nation's general policy of being a reliable supplier of nuclear fuel—but also with the encouraging responses thus far received from the Government of India on the particular problem of spent fuel disposition at Tarapur. Moreover, failure to act on this license would be contrary to the Executive Branch judgment that the supply of this reactor fuel to India would substantially assist the U.S. in its forthcoming negotiations with India.

Because of the need to act expeditiously on this application, and the steps we have taken to preserve all issues presently before the Court of Appeals, we

are of the view that it is appropriate to make our licensing determination at this time on XSNM-845.

II. COMMISSION DETERMINATION

The applicable provisions of Federal statutory law which govern our consideration of this export license application are as follows:

Atomic Energy Act of 1954, Public Law 82-73, 68 Stat. 919

- Section 53, 42 U.S.C. 2073, which authorizes the Commission to issue licenses to export special nuclear material, and requires that the material be exported pursuant to an agreement for cooperation unless exempted from that requirement by Section 57(d), 42 U.S.C. 2077(d);
- Section 57(a), 42 U.S.C. 2077(a), which prohibits the export of special nuclear material, except under and in accordance with a license issued by the Commission pursuant to applicable sections of the Act;
- Section 123, 42 U.S.C. 2153, which delineates the manner in which agreements for cooperation are to be entered into and applied, including the requirement that such agreements include guaranties by the cooperating party that security safeguards and standards will be maintained and that material provided by the U.S. will not be transferred beyond the cooperating party's jurisdiction without United States' agreement or used for any military purpose;
- Section 11(aa), 42 U.S.C. 2014(aa), which defines "special nuclear material";
- Section 11g, 42 U.S.C. 2014(g), which defines "common defense and security" to mean the common defense and security of the United States.

Energy Reorganization Act of 1974, Public Law 93-438, 88 Stat. 1233

- Section 201(f); 42 U.S.C. 5841(f), which transferred to the Nuclear Regulatory Commission "... all the licensing and related regulatory functions of the Atomic Energy Commission. . . ."

The section of the Atomic Energy Act which specifies the criteria we must apply in the licensing of special nuclear material, such as the low-enriched uranium in the present matter, is Section 57(c)(2), 42 U.S.C. 2077(c)(2), which provides:

The Commission shall not distribute any special nuclear material or issue a license pursuant to Section 53 to any person within the United States if the Commission finds that . . . the issuance of such license would be inimical to the common defense and security or would constitute an unreasonable risk to the health and safety of the public.

Thus, under the statute, there are three separate factors which the Commis-

sion must consider in the instant matter: (1) whether an agreement for cooperation would apply; (2) whether the export would be inimical to the health and safety of the American public; and (3) whether the export would be inimical to the common defense and security of the United States. We will address each of these factors in turn.

1. Agreement for Cooperation

The proposed export would take place under the terms and conditions of the Agreement for Cooperation for Civil Uses of Atomic Energy between the United States and India, signed at Washington, D. C., on August 8, 1963, T.I.A.S. 5446. Under the terms of Section 123 of the Atomic Energy Act, the Agreement was approved by the President after he made a determination in writing that "the proposed agreement will promote and will not constitute an unreasonable risk to the common defense and security." The Agreement also received Congressional review through the procedure of submitting the instrument to the responsible Congressional committee—then the Joint Committee on Atomic Energy—for the thirty (30)-day statutory period then applicable to such civil uses agreements. See Section 123c of the Atomic Energy Act of 1954. Under Article X of the Agreement, it entered into force for the parties on October 25, 1963, and remains in force for thirty years.

A letter to Vance H. Hudgins, Assistant Director for Politico-Military Security Affairs, Division of International Security Affairs, ERDA, from A. Anandakrishnan, an official with the Embassy of India in Washington, D. C., dated October 24, 1975, confirms the Indian government's understanding that the special nuclear material to be exported under the subject license would fall within the ambit of the 1963 Agreement for Cooperation. The analyses of the Executive Branch and the NRC staff also reflect this fact. Therefore, the initial factor required by Section 53 of the Atomic Energy Act is established.

2. Health and Safety

Petitioners contend that this proposed export would adversely "affect the health and safety of the public." This contention is ambiguous. If Petitioners' concern pertains to the impact of this export on the public health and safety of citizens of India living in that nation, this is not a contention the Commission has jurisdiction to decide. See *Edlow Opinion*, 3 NRC 563, 582, and *Babcock and Wilcox, infra*. If Petitioners' concern relates to the impact of this single fuel export on the public health and safety of citizens of the United States, the impacts of U.S. nuclear export activities were examined in the *Final Environmental Impact Statement on U.S. Nuclear Export Activities* (ERDA-1542, April 1976). That Statement concluded that the impact on U.S. public health and

safety of U.S. nuclear exports, including fuel shipments such as the one requested here, are negligible. The Commission sees no circumstances in which the export of the special nuclear material covered by this license application would affect the health and safety of the U.S. population.

3. Common Defense and Security

Although the Commission has recently proposed and is having published for public comment a new Part 110 of our regulations, containing a detailed set of procedural rules to govern our export licensing activities,⁴ we have not adopted a formal set of specific substantive criteria to further define those matters which we find determinative in making our statutory "common defense and security" finding under the Atomic Energy Act.⁵ Our routine approach has been to analyze a particular license in light of eight questions we normally pose to the Executive Branch in seeking the views of affected agencies under procedures spelled out in Executive Order 11902. We have utilized this procedure in last year's decision in *Westinghouse Electric Corporation* (Application for the Export of Pressurized Water Reactor to Asociacion Nuclear ASCO II, Barcelona, Spain), CLI-76-9, 3 NRC 739, 745 (1976); and we have also recently employed the same analysis as part of our decision in *Babcock and Wilcox* (Application for the Export of a Facility to the Federal Republic of Germany), CLI-77-18, 5 NRC 1332, issued June 27, 1977.

In our *Edlow Opinion* of May 7, 1976, we stated that in making our "determination whether a given export pursuant to an Agreement for Cooperation is inimical to the common defense and security of the United States, the Commission must base its decision on whether the safeguards and assurances given by the recipient government . . . insure that United States' supplied fuel is not diverted from the use for which it was authorized." *Edlow Opinion*, 3 NRC at 588.

Petitioners' Contentions

We then analyzed each of Petitioners' contentions to determine whether they were arguably relevant to that determination. We concluded that several of

⁴ At the time this Opinion was issued, proposed Part 110 was scheduled for publication in the *Federal Register* on Thursday, June 30, 1977.

⁵ In this regard, we note that legislative proposals now before the Congress contain various formulations of such criteria. This Commission participated in developing the specific language of criteria contained in a proposal submitted by the Administration. The bills which reflect the Administration's current position are S. 1432 in the Senate and H.R. 4409 in the House of Representatives. However, until enactment by the Congress of a set of specific criteria, we believe it appropriate to continue to frame our export licensing determinations along the lines we have developed during the past year.

Petitioners' contentions arguably pertained to the adequacy of the safeguards and related assurances applicable to this U.S.-supplied fuel and special nuclear material produced therefrom, and that the public hearing described in Part I of this opinion should focus on these issues. *Id.* at 585-588. These issues were:

- (a) the significance of India's failure to ratify the NPT;
- (b) the significance of India's failure to place international safeguards on all its nuclear facilities (commonly referred to as "full fuel cycle safeguards");
- (c) whether the United States should require India to refrain from developing additional nuclear explosive devices;
- (d) whether the U.S. should require India to accept bilateral safeguards, supplementing the international safeguards applied by the IAEA at Tarapur;
- (e) whether the U.S. should require India to establish physical security requirements applicable to operations at Tarapur;
- (f) whether the U.S. should require India to agree to U.S. control over the disposition of plutonium produced at Tarapur;
- (g) whether the United States should require India to agree, prior to the shipment of nuclear fuel to Tarapur, to safeguards and physical security requirements for any future reprocessing of such material, should reprocessing be permitted; and
- (h) whether past and present political differences between India and neighboring countries raises the possibility of international conflict which might disrupt implementation of safeguards and physical security measures at the Tarapur facility.

Each of these issues was thoroughly ventilated in the written submissions of participants in this proceeding, in oral presentations before the Commission on July 20 and 21, 1976—or in both. Each of these contentions will be addressed in the following discussion of the eight basic questions which serve as guidelines in reaching our statutorily required determinations. These questions bear directly on national security and foreign policy issues and provide guidance to us in reaching our common defense and security determination. We shall review these questions in the order they are posed to the Executive Branch.

Purpose of Export

The first question seeks information concerning the purpose of the export. In the instant circumstances, the special nuclear material will be used to fabricate fuel assemblies to be used in fueling the TAPS facility. This type of civilian use of nuclear energy to generate electric power is not inimical to the common defense and security of the United States. In fact, the Congress has explicitly

stated that one of this nation's policies is to "make available to cooperating nations the benefits of peaceful applications of atomic energy as widely as expanding technology and considerations of the common defense and security will permit." 42 U.S.C. 2013(e). A similar policy declaration is contained in Article IV of the Treaty on the Non-Proliferation of Nuclear Weapons, 21 U.S.T. 483, T.I.A.S. 6839, to which the United States is a party.

Agreement for Cooperation

The second question pertains to whether the recipient country has an Agreement for Cooperation with the United States, and, if so, whether the proposed export would be covered by the Agreement. As stated earlier, this export would be covered by the Agreement for Cooperation with India.

This Agreement, among other things, provides that India may not re-export special nuclear material provided to India by the United States, unless prior United States' approval is received. See Articles VII(A)(2) and II(F).

It also provides that special nuclear material supplied to the Government of India may not be reprocessed unless there is a joint determination of the parties to the Agreement that safeguards may be effectively applied. See Article II(E). Petitioners have expressed the view that India should be required to agree, prior to Commission action on this license application, to safeguards and physical security requirements for any future reprocessing of such material, should reprocessing be permitted. Although the Indian reprocessing facility is nearing completion, the Department of State has advised that: "The Government of India has been advised that the U.S. is *not* prepared to make a determination that this Tarapur Indian reprocessing facility (PREFERE) can be effectively safeguarded." See *Letter from Tarnoff to Gossick*, dated June 8, 1977, *supra* (emphasis in the original). Therefore, because reprocessing of U.S.-supplied material will not be permitted by the U.S. government in the foreseeable future, we need not reach the determination whether safeguards and physical security measures would be adequate at that reprocessing facility.

IAEA Safeguards

The third question concerns whether the recipient country has accepted and implemented safeguards under the International Atomic Energy Agency (IAEA). The United States, India and the International Atomic Energy Agency signed a trilateral agreement on January 27, 1971, which places IAEA safeguards on the Tarapur facility.

This agreement provides that safeguards be applied only at the Tarapur facility. Petitioners argue that IAEA safeguards are more effective if all nuclear facilities within a country are placed under international safeguards. To date the

Indian government has not been willing to agree to adopt full fuel cycle safeguards. Although the United States government has taken the view that such a safeguards regime would be desirable, present United States' policy does not mandate a denial of nuclear exports to countries which have not imposed such a system, if sufficient guarantees have been received that U.S.-supplied material and material produced therefrom, will be placed under IAEA safeguards.

The Executive Branch takes the position that while the "U.S. supports and encourages voluntary submission to IAEA safeguards on all nuclear programs in nonnuclear weapon states⁶ which are not parties to the NPT, there is no legal basis by which we can unilaterally impose this as a requirement on India or on any other such state." *Supplemental Response of the Department of State to the Petition of the Natural Resources Defense Council, Inc., The Sierra Club, and the Union of Concerned Scientists for Leave to Intervene*, dated March 19, 1976, at Appendix A, p. 6 (hereinafter, the *State Department Supplemental Response*).

In the Commission's view, failure to require IAEA safeguards at nuclear facilities in India where there is no U.S.-supplied nuclear fuel does not lead ineluctably to the conclusion that a particular fuel export to Tarapur (which will be subject to IAEA safeguards) should be considered inimical to the common defense and security of the United States. If an export to Tarapur is inimical to the common defense and security, it must be attributable to other circumstances.

Petitioners also argue that even the IAEA safeguards applied at Tarapur cannot adequately insure that U.S.-supplied material will not be diverted and used to fabricate nuclear explosive devices. Petitioners recommend that in addition to the IAEA safeguards, U.S. bilateral safeguards be applied. The Department of State in its Supplemental Response of March 19 responded to this argument by noting that U.S. domestic safeguards are aimed at protecting against possible theft, diversion or sabotage efforts by individuals such as terrorists or other criminal elements. This type of threat—called the "sub-national" threat, in the parlance of the nuclear safeguards community—reasonably presumes a commitment on the part of a recipient nation's officials to prevent such a diversion. After all, the recipient government and its citizens would be the most likely target of such illicit activity. Therefore, insofar as these domestic measures aim at preventing a violent, forcible attempt to divert nuclear material, they raise the issue of the adequacy of India's physical security regime at Tarapur. This matter is discussed below at pages 1369-1370. If the concern is rather for possible clandestine diversion of nuclear material by plant employees or

⁶The NPT defines nonnuclear weapon states as those states which did not manufacture and explode a nuclear weapon or other nuclear explosive device prior to January 1, 1967. We adopt this definition for purposes of this opinion.

others, the accounting, inventory and surveillance measures implemented under the IAEA safeguards regime would provide protection against this kind of a subnational threat. In contrast, IAEA safeguards are designed for the timely detection and associated deterrence of the possible diversion by the government receiving assistance of significant quantities of nuclear materials for the purpose of acquiring a nuclear weapons capability—the so-called “national” threat. Because they have different objectives, the two systems cannot be compared directly. However, the Executive Branch view, with which we concur, is that both systems are effective and that imposition of bilateral U.S. safeguards would not be more effective than the IAEA safeguards currently being applied at Tarapur. *State Department Supplemental Response*, Appendix A at p. 10.

Finally, the Executive Branch advises that there is no legal basis under the U.S.-India Agreement for Cooperation or the U.S.-India-IAEA trilateral safeguards agreement for permitting concurrent application of both U.S. bilateral and IAEA safeguards. In fact, the trilateral agreement specifically provides for imposition of IAEA safeguards in lieu of U.S. bilateral safeguards. *State Department Supplemental Response*, Appendix A at p. 10. India and the IAEA consented to be bound by the provisions of the bilateral and trilateral agreements (respectively) in specific contemplation of the fact that U.S. bilateral safeguards would not be concurrently applied.

The NRC staff which has a broad familiarity with the IAEA safeguards system also takes the position that IAEA safeguards are currently adequate to detect illicit large-scale diversion of U.S.-supplied nuclear materials, and finds no practical need to impose additional bilateral safeguards.⁷

We have also concluded that bilateral safeguards are not required to supplement IAEA safeguards currently in force at the TAPS facility before we can find that our statutory licensing requirements have been met.

Adequacy Of Procedures Absent IAEA Safeguards

The fourth question pertains to the adequacy of accounting and inspection procedures in circumstances where IAEA safeguards are not applied. This question is not relevant here, because IAEA safeguards are applied at the Tarapur Atomic Power Station.

Physical Security

Question five asks whether the recipient country has adequate physical

⁷*NRC Staff Combined Answers to Petitions for Leave to Intervene by Natural Resources Defense Council, Inc., Sierra Club, and the Union of Concerned Scientists, and Brief in Response to Commission's Directive Dated March 5, 1976 (hereinafter, Staff Combined Answers of March 5).*

security arrangements to deal with subnational threats to divert significant quantities of nuclear weapons grade material (plutonium or highly enriched uranium). The proposed shipment here is for low enriched uranium which is not nuclear weapons grade material. Nonetheless, an ERDA Physical Security Review Team visited the Tarapur Atomic Power Station in November 1975, and its April 30, 1976, report concluded that the security measures in place were adequate to protect the nuclear material at the facility and were consistent with the measures recommended by the IAEA in the document which sets forth the Agency's latest formal position on what physical security regime is appropriate for protecting nuclear material from diversion. *The Physical Protection of Nuclear Material*, International Atomic Energy Agency, INFCIRC 225, Vienna 1975.

Recipient's Non-Proliferation Policy

The sixth question requests information concerning the position of the recipient government respecting to the non-proliferation of nuclear weapons. This is a primary factor in our evaluation of common defense and security matters. One indicia of a nation's intent to refrain from developing nuclear explosive devices is adherence to the NPT. The Government of India has not signed that instrument, and has consistently expressed the view that the Treaty discriminates against nonnuclear weapons States, and particularly against economically and technologically less developed countries. It has been the steadfast policy of the United States government, including this Commission, to promote adherence to the NPT. The Government of India is fully aware of our interest in this regard.

In the present case, Article VII of the Agreement for Cooperation provides that the Government of India guarantees that no material, equipment or device transferred to the Government pursuant to the Agreement, or any special nuclear material produced at the Tarapur Atomic Power Station shall be used for atomic weapons or for research on or development of atomic weapons or for any other military purpose. In addition, the Government of India has given the United States written assurance that the special nuclear material, and products therefrom, exported by the United States to Tarapur "... will be devoted exclusively to the needs of that Station unless the U.S. specifically agrees that such material may be used for other purposes." *Letter from Homi N. Sethna, Chairman, Department of Atomic Energy, Government of India, to Dixy Lee Ray, Chairman, U.S. Atomic Energy Commission*, dated September 17, 1974. We are unaware of any evidence suggesting that material provided by the U.S. to India for use in connection with the TAPS facility has been employed in the development of a nuclear explosive device.

One factor of which the Commission is keenly aware—as are all other par-

ticipants in the instant proceeding—is the detonation of a nuclear explosive device by the Government of India in 1974. It would be a gross understatement to opine that this incident has introduced a most troubling note into the relations between the governments of the United States and India on matters affecting nuclear non-proliferation policy. However, the Commission's responsibility is to determine what implications this event has for the common defense and security of the United States, considering all the circumstances which have surrounded the Rajasthan explosion and the events which have occurred in the three years since that event.

In this regard, several factors are relevant. First, the Commission notes that the explosion, which the Indian government steadfastly maintained was conducted solely for peaceful purposes, has not been repeated. Second, there is no evidence that the TAPS facility, or any material sent by the U.S. as fuel for that facility, were employed in the development of the device exploded in 1974. The question of what role may have been played by the heavy water supplied by the United States for use in other nuclear facilities in India will be discussed shortly. Third, in recent months a new government has taken office in India.

Newly elected Prime Minister Morarji Desai of India has recently voiced his opposition to nuclear weapons and reiterating Indian policy not to use nuclear energy for military purposes. It is far too early to expect that the newly established administration in New Delhi—or, for that matter, in Washington—will have resolved all aspects of their relations on nuclear cooperation and non-proliferation. However, the Commission does take favorable note of the fact that discussions between the Executive Branch and the Government of India are being conducted on a continuing basis, at the highest levels, and with the evident sense of urgency demanded by the crucial nature of the subject matter. Diplomacy must have time to work in this important field. It is for that reason that the Commission is inclined to weigh heavily expressions by the Department of State, as chief foreign policy agency of the U.S. government, that maintaining the supply of fuel for the Tarapur facility is an important precondition for insuring that the continuing discussions on a broad range of issues—in both nonnuclear and nuclear fields—can proceed without serious disruption.

Fourth, we believe it is also important to underscore the Department of State's recent action in informing the Indian government of the new U.S. nuclear policy that we will be unable in the future to continue nuclear cooperation with a nonnuclear weapons state that detonates a nuclear explosive device. This step has put the Indian government on unequivocal notice that, even if India explodes a weapon arguably constructed with entirely indigenously produced materials, utilizing technology not directly received from the United States, the United States government has announced its intention to terminate the supply of fuel to Tarapur.

Petitioners argue that the practice of authorizing export to countries which

have not signed the Non-Proliferation Treaty violates Article I of the NPT prohibiting the U.S. from transferring “nuclear weapons or other nuclear explosive devices or control over such weapons or explosive devices directly or indirectly” to any nation and from “assisting any nonnuclear weapon State to manufacture or otherwise acquire nuclear weapons or other weapons or other nuclear explosive devices, or control over such weapons or explosive devices,” and claim that Article III of the NPT prohibits the transfer of special nuclear material to any nonweapon state in the absence of safeguards on all nuclear activities within its territory, or under its control or jurisdiction.⁸

The Executive Branch addressed these contentions in great depth in its *Supplemental Response of March 19*.⁹ It stressed that the low enriched uranium to be furnished as fuel for the TAPS facility cannot be used for explosive purposes unless the Indian government either further enriches the material or reprocesses spent fuel generated in the reactor at Tarapur. The Indian government does not presently possess the technological capability of enriching the material and the United States has not given India permission to reprocess the material. In addition, the Department of State cited the assurances received from the Government of India that U.S.-supplied material will be devoted exclusively to the needs of that Station.

With respect to Petitioners' claim that nuclear commerce with NPT non-adherents violates this nation's obligations under Article I of that treaty, it is significant to note that one of the witnesses called by Petitioners themselves at

⁸ Article I of the NPT provides:

Each nuclear-weapon State Party to the Treaty undertakes not to transfer to any recipient whatsoever nuclear weapons or other nuclear explosive devices or control over such weapons or explosive devices directly, or indirectly; and not in any way to assist, encourage, or induce any nonnuclear-weapon State to manufacture or otherwise acquire nuclear weapons or other nuclear explosive devices, or control over such weapons or explosive devices.

Article III of the NPT provides in pertinent part:

2. Each State Party to the Treaty undertakes not to provide: (a) source or special fissionable material, or (b) equipment or material especially designed or prepared for the processing, use or production of special fissionable material, to any nonnuclear-weapon State for peaceful purposes, unless the source or special fissionable material shall be subject to the safeguards required by this article.

3. The safeguards required by this article shall be implemented in a manner designed to comply with article IV of this Treaty, and to avoid hampering the economic or technological development of the Parties or international cooperation in the field of peaceful nuclear activities, including the international exchange of nuclear material and equipment for the processing, use or production of nuclear material for peaceful purposes in accordance with the provisions of this article and the principle of safeguarding set forth in the Preamble of the Treaty.

⁹ See *Supplemental Response*, pp. 33-40.

the July 1976 hearings disagreed with that interpretation. Dean Adrian Fisher, one of the principal negotiators for the U.S. stated his view as follows: "Now, some people have urged and I am not urging this, Mr. Chairman, that we take the position that the Treaty prohibits us from shipping other than to Treaty parties. I don't think the Treaty so reads, but the Treaty doesn't require us to ship to nonparties." *Transcript of Tarapur Hearings* (Tuesday, July 20, 1976) at p. 52.

We do not believe it can reasonably be asserted that the U.S. is encouraging India to develop nuclear explosive devices, particularly in light of the new U.S. policy to terminate further nuclear cooperation with any nonnuclear weapon state which explodes a nuclear explosive device.

The Executive Branch also disagrees with Petitioners' interpretation of Article III of the NPT. The State Department, after analyzing the language of the statute and examining the practices of other parties to the Treaty, concluded "Since the entry into force of the NPT, it has been commonly understood by the parties that they could export nuclear equipment, devices, and materials to nonparty states, if safeguards followed the exported equipment devices, or materials." *State Department Supplemental Response of March 19*, p. 40.

The NRC staff, in its *Combined Answers of March 5*, reached the same conclusion as the Department of State.

On matters such as the legal interpretation of provisions in the NPT, the Commission gives great weight to the views of the Department of State not only because the Department was responsible for negotiating that Treaty, but also because it is the U.S. government agency which possesses the greatest expertise in the interpretation of international law. The Commission, after examining the written submissions on this issue and the presentations at the oral proceedings last July, finds the Department of State views on this issue to be persuasive.

Nuclear Explosive Devices

Question seven pertains to "[w]hat understandings . . . the United States (has) with the recipient country with respect to the use of U.S.-supplied material or equipment to acquire or develop nuclear explosive devices for any purpose, and as to the recipient country's policies and actions as to such development using equipment and material from any source." As stated previously, the Government of India in a 1974 exchange of correspondence gave the U.S. written assurance that the special nuclear material exported to Tarapur and the products therefrom, will be devoted exclusively to the needs of the TAPS facility, unless the U.S. has specifically authorized other uses of such material. As for India's policy regarding development of nuclear explosive devices using equipment and material from any source, the Executive Branch in its June 8, 1977, letter to Lee V. Gossick, *supra*, stated:

With regard to Indian policies on developing nuclear explosive devices, we

are encouraged by Prime Minister Desai's recent statements, and it is our hope that India will conclude that further testing of PNE's will not serve a useful purpose. The Indians are also aware that under our new nuclear policy the U.S. will be unable in the future to continue nuclear cooperation with a country that explodes a nuclear device.

Other Factors

Question eight is a residual provision which requests information on any factors not previously addressed which might bear on issuance of the export license. In the present proceeding we believe there are three additional factors which should be addressed.

First, Petitioners have suggested that past and present political differences between India and neighboring countries raise the possibility of international conflict which might disrupt implementation of safeguards and physical security measures at the Tarapur facility.

The Executive Branch discussed this issue in its *Supplemental Response of March 19* and stressed that although India had been involved in major hostilities three times during the past fifteen years, that these hostilities have never been closer than 600 miles from Tarapur. During these periods of hostilities we are informed that there has never been any threat to domestic law and order in India. The Department of State further asserts that

India is now beyond question the preeminent power in South Asia. We see no likelihood in the foreseeable future that the Tarapur Power Station might be in the path of any hostilities. Available evidence also strongly suggests that even if hostilities were to break out elsewhere in the subcontinent there is virtually no risk that a breakdown in domestic order might in some way threaten Tarapur's physical security. *State Department Supplemental Response of March 19*, at Appendix A, p. 3.

Relying heavily on the Department of State's views on this issue, we conclude that a remote threat of possible hostilities between India and its neighbors does not endanger the Indian government's ability to insure that material used at Tarapur is not diverted for use in nuclear explosive devices.

The second issue pertains to the significance of India's detonation of an explosive nuclear device, the plutonium for which was apparently produced in a reactor furnished by Canada, utilizing U.S.-supplied heavy water as a moderator. The Executive Branch has stated that there is a high probability that U.S.-supplied heavy water was in the CIRUS reactor during the period when the plutonium used in India's nuclear explosive test was believed to be produced. We note, however, that the heavy water supplied by the U.S. for CIRUS was not subject to the explicit obligation to use U.S.-supplied material only for activities

approved by the U.S. government, as provided in the agreement for cooperation with which we are concerned here. Also, the heavy water at CIRUS was not subject to the controls imposed on the Tarapur reactor and its fuel. The U.S.-supplied heavy water, the CIRUS reactor and the plutonium produced therein were not subject to IAEA safeguards, as are the Tarapur reactor, its fuel and the material produced therefrom. Although India gave the U.S. a peaceful-use assurance in connection with the heavy water supplied for CIRUS, the implications of that assurance were not explicit with respect to the question whether a "peaceful nuclear explosive" would constitute such a peaceful use. The nuclear fuel supplied for the TAPS facility and any material produced therefrom are, in contrast, subject to an unambiguous guarantee that they will be used only in the Tarapur reactors.

A third issue which was prominent in our July hearing on Tarapur and has been of importance in the Commission's consideration of license applications for Tarapur fuel is the question of the ultimate disposition of spent fuel from TAPS and any material produced therefrom. After issuance of license XSNM-805, the Executive Branch discussed with India the repurchase by the U.S. of spent fuel from the TAPS facility. Indian government authorities agreed in principle to such an arrangement. We understand that the issue of the disposition of spent fuel from Tarapur will be one of the chief topics for discussion as negotiations with the new Indian government on nuclear issues proceed. The question of the disposition of spent fuel from U.S.-supplied reactors will also be addressed in negotiations with other governments as a result of the administration's nuclear policy review, and the policy of the administration will be to continue normal fuel supply to foreign recipients until those negotiations have been undertaken and their results evaluated. The Commission is of the view that withholding the fuel requested here pending a definitive outcome of the negotiations with India would be inconsistent not only with the overall policy on continued fuel supply, but also with the response thus far received from the Indian government on this issue. Moreover, it would be contrary to the Executive Branch judgment that the supply to India of the material covered by this license would substantially enhance the U.S. position in the forthcoming negotiations with India.

III. CONCLUSIONS

The export of this special material is in full accord with the Agreement of Cooperation between the United States and India. IAEA safeguards are applied at the Tarapur Atomic Power Station to insure that this material, and any nuclear material produced from it will not be diverted for use in a nuclear explosive device.

In issuing this license, we wish to emphasize that the Commission will be acting upon other applications for fuel to be used at Tarapur such as License

Application No. XSNM-1060 presently before us. We will continue to follow closely the direction of India's nuclear program and the progress of U.S.-India negotiations on issues relating to the non-proliferation of nuclear weapons and the return of spent fuel. Before action on other applications, this information will be carefully evaluated by this Commission.

FINDING AND ORDER

For the reasons set forth above, we find that License No. XSNM-845 meets all the standards relevant for issuance under the Atomic Energy Act of 1954 and the Energy Reorganization Act of 1974, and hereby direct the Assistant Director for Export-Import and International Safeguards to issue XSNM-845 to the Edlow International Company.

It is so ORDERED.

By the Commission

Samuel J. Chilk
Secretary of the Commission

Dated at Washington, D.C.,
this 28th day of June 1977

Commissioner Gilinsky concurring:

Almost one year ago to the day, I dissented from a Commission decision to grant an export license covering low enriched uranium for the Tarapur Atomic Power Station. Today, however, I am joining in approving the issuance of a similar license, XSNM-845. I am doing so because the circumstances surrounding this action have altered markedly in the interim. Nevertheless I am obliged to say that severe infirmities remain to be cleared up if this trade is to continue on a normal basis.

The focus of my concern last year was the lack of assurance that effective safeguards would be applied to the exported fuel after its use in the Tarapur reactors. I was particularly concerned about the strong possibility that the U.S. intended to grant India permission to reprocess U.S.-supplied fuel in its new reprocessing plant, also located at Tarapur, and that as a consequence the Indian government would be in a position to stockpile plutonium—a nuclear explosive material—derived from U.S.-supplied fuel. As I have made abundantly clear on

numerous occasions,¹⁰ the inspection and monitoring safeguards of the International Atomic Energy Agency cannot, in themselves, provide an adequate deterrent against the misuse of this dangerous material. At the time the Commission considered XSNM-805, United States policy had not fully acknowledged this fact.

Indian stockpiling of plutonium was particularly disturbing in light of that country's detonation of a nuclear explosive device in 1974, her continuing assertion—rejected by the United States—that there is a difference between a so-called “peaceful” explosive device and a nuclear weapon, and the continuance of India's nuclear explosives program.

We have now been assured by the Department of State, however, that Indian reprocessing of U.S.-supplied fuel has been ruled out and that the Indian government understands that permission to extract plutonium from the Tarapur spent fuel will not be forthcoming. See Memorandum of Peter Tarnoff, Executive Secretary, Department of State, to Lee V. Gossick, Executive Director of Operations, Nuclear Regulatory Commission, June 8, 1977. It is further my understanding that the Department of State has informed the Indian government that it will recommend against further shipments of fuel should India explode another nuclear device. *Id.*

I am nevertheless obliged to observe that serious problems remain and there is little reason to be sanguine about this licensing action. Among the remaining difficulties are:

- our agreement with India does not explicitly rule out the use of U.S.-supplied material for nuclear explosives, and we do not have an explicit, unequivocal statement on this point from the Government of India;
- India continues in its claim there is a difference between a “peaceful” nuclear device and a nuclear weapon;
- significant Indian nuclear facilities remain outside the supervision of the international inspection system of the IAEA;
- India's explosives program is apparently continuing. Although our advice from the Department of State indicates that the United States will discontinue cooperation in the event of another nuclear explosion, it does not address explosives;
- insofar as we know India's explosives program continues to use heavy water supplied by the United States. Such use is in violation of the plain meaning of the March 1956 contract covering transfer of this material, as we made clear in our *aide-memoire* of 1970;

¹⁰ See e.g., *Westinghouse Electric Corporation*, (Application for the Export of Pressurized Water Reactor to Asociacion Nuclear ASCO II, Barcelona, Spain), CLI-76-9, 3 NRC 739 (1976), Commissioner Gilinsky, dissenting.

- large quantities of irradiated spent fuel are held in storage at Tarapur. Should our agreement with India threaten to break down for any reason, this fuel, and the plutonium it contains, must be considered a "hostage." Despite negotiations for the return of this spent fuel, a variety of practical difficulties have been encountered, and the likelihood that the United States will ultimately regain possession of this material appears to be receding.

My concurrence in the license approval today is influenced by the firm antiproliferation stand taken by President Carter and his commitment to renegotiate the present agreement for cooperation to include among other things: an unambiguous requirement that recipients refrain from testing nuclear explosives of any kind; a requirement that international safeguards be applied to *all* nuclear activities within the recipient country; and a provision specifying that the United States will terminate exports if a recipient violates or withdraws from IAEA safeguards.

In going forward with this fuel shipment, I am proceeding in the view that if this trade is to continue such conditions will be applied within a reasonable time, and will, of course, be acceptable to the Government of India.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

COMMISSIONERS:

Marcus A. Rowden, Chairman

Victor Gilinsky

Richard T. Kennedy

In the Matter of

Docket No. 50-367

NORTHERN INDIANA PUBLIC
SERVICE COMPANY

(Bailly Generating Station, Nuclear-1)

June 30, 1977

The Commission defers action on a request for it to review the April 15, 1977, determination of the Director, Office of Nuclear Reactor Regulation, declining to take certain action on the construction permit for this facility.

ORDER

Upon receipt of a petition filed by the Porter County Chapter of the Izaak Walton League of America, Inc., two other organizations and three individuals, to take certain action on the construction permit for the Bailly Generating Station, Nuclear-1, or, alternatively, to review the April 15, 1977, determination of the Director, Office of Nuclear Reactor Regulation, declining to take such action, we issued an Order dated May 10, 1977. That Order directed the licensee, Northern Indiana Public Service Company, and the Regulatory Staff to respond to this petition by May 25, 1977.

Subsequently, the Lake Michigan Federation, the State of Illinois, and the City of Gary, Indiana, filed similar petitions. In timely fashion, the licensee and the Regulatory Staff submitted their responses as directed.

In the normal course, we have the discretion to review the Director's determination of April 15, 1977, and render a decision on this matter. See *Consolidated Edison Company of New York, Inc.* (Indian Point, Units 1, 2 and 3), CLI-75-8, 2 NRC 173 (1975). However, Section 201 of the Energy Reorganization Act of 1974, Pub. L. 93-438 provides that a quorum of at least three members present is necessary to transact the business of the Commission. Since there are presently two vacancies on the Commission and the Chairman considers himself disqualified from acting on the merits of the questions raised by the petitions, a quorum cannot presently be constituted for consideration of this

matter.¹ Accordingly, disposition of this matter is deferred until a quorum can be constituted.

It is so ORDERED.

By the Commission

Samuel J. Chilk
Secretary of the Commission

Dated at Washington, DC,
this 30th day of June 1977.

¹ Chairman Rowden was associated with the regulatory staff of the Atomic Energy Commission when the construction permit application for the Bailly Generating Station was under review. He sits in this matter for the limited purpose of deferring consideration of the disposition of the petitions. See *Consumers Power Company* (Midland Plant, Units 1 and 2), CLI-77-12, 5 NRC 725 (April 5, 1977).

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Alan S. Rosenthal, Chairman
Dr. W. Reed Johnson
Jerome E. Sharfman

In the Matter of

Docket No. 50-320

METROPOLITAN EDISON COMPANY
JERSEY CENTRAL POWER & LIGHT COMPANY
PENNSYLVANIA ELECTRIC COMPANY(Three Mile Island Nuclear Station,
Unit 2)

June 1, 1977

The Appeal Board directs the Licensing Board, in conjunction with other matters before it, to consider the effects of the Commission's newly promulgated interim uranium fuel cycle rule.

MEMORANDUM AND ORDER

This is one of the several licensing proceedings encompassed by the Commission's April 1, 1977, order with regard to its newly promulgated interim fuel cycle rule. CLI-77-10, 5 NRC 717. Because the Licensing Board is presently engaged in a full environmental review of Unit 2 of the Three Mile Island facility,¹ there appears to be good reason for it to consider the interim rule in connection with that review. See *Consumers Power Co. (Midland Plant, Units 1 and 2)*, ALAB-396, 5 NRC 1141 (May 4, 1977). Accordingly, it is hereby directed to do so. In discharging this responsibility, the Board shall take into account (1) the terms of the interim rule; (2) the Commission's counsel in CLI-77-10, *supra*; and (3) our comments in ALAB-392, 5 NRC 759 (April 21, 1977).²

¹ See ALAB-384, 5 NRC 612 (March 22, 1977).

² ALAB-392 was issued in connection with this and several other proceedings as the first step in the implementation of CLI-77-10. The instant order applies only to Unit 2 of Three Mile Island; the reactors involved in the other proceedings will be the subject of an order or orders to be entered at a later date.

It is so ORDERED.

**FOR THE ATOMIC SAFETY AND
LICENSING APPEAL BOARD**

**Romayne M. Skrutski
Secretary to the Appeal Board**

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Michael C. Farrar, Chairman
Dr. John H. Buck
Dr. W. Reed Johnson

In the Matter of

Docket No. 50-334

DUQUESNE LIGHT COMPANY, et al.

(Beaver Valley Power Station, Unit 1)

June 2, 1977

Upon review *sua sponte* of the Licensing Board's partial initial decisions (LBP-76-3, 3 NRC 44 (1976), LBP-76-23, 3 NRC 711 (1976), and LBP-76-28, NRCI-76/7 55) authorizing issuance of an operating license, the Appeal Board rules that operational problems unexceptional in nature, revealed by operation pending review of the Licensing Board's decision, may, in its discretion, be left for resolution by the NRC staff.

Partial initial decisions affirmed.

APPEAL BOARD: SCOPE OF REVIEW

Upon review *sua sponte* of an initial decision authorizing facility operation, the Appeal Board will usually undertake consideration of operational problems that come to light as a result of facility operations during the period of review only where the problems are extraordinary in nature and have a bearing on whether the operating license should have been issued.

OPERATING LICENSE PROCEDURES: RESPONSIBILITY OF NRC STAFF

After a full term, full power operating license has been issued, adjudicatory boards have no responsibility for monitoring a plant's operation; that function rests solely with the NRC staff, which oversees nuclear facilities over their entire lifetime.

TECHNICAL ISSUES DISCUSSED: Quality Assurance; Steam Generator Tube Integrity; Auxiliary Water Supply; Feed Water Piping Vibrations; Soil Density.

DECISION

We have before us for review *sua sponte* the Licensing Board's series of partial initial decisions which preceded the issuance of an operating license for Unit 1 of the Beaver Valley Power Station. The station site, on which a second nuclear unit is now under construction, is located on the south bank of the Ohio River in westernmost Pennsylvania, some twenty-five miles northwest of Pittsburgh. Immediately adjacent is the Shippingport Station, which houses a nuclear power plant built for the Navy and operated since its startup in 1958 by Duquesne Light Company (the lead applicant here).

The construction permit for the first Beaver Valley unit was issued on June 26, 1970, after the effective date of the National Environmental Policy Act but prior to the Atomic Energy Commission's full implementation of its dictates. Consequently, it became necessary at a later date to review the construction permit in light of NEPA.¹ Initial scrutiny led the then-Director of Regulation to conclude that construction could continue pending more thorough review of, and a hearing on, the matter.² Because construction proceeded quite far before that task could be completed, the full-scale environmental analysis of the facility was timed to satisfy the NEPA review requirements for both the construction permit and operating license stages.³

In due course, the present proceeding was convened to consider both whether the construction of Unit 1 should be continued and whether, when it was completed, an operating license should be issued. At approximately the same time, a separate proceeding was instituted to evaluate the applicants' request for permission to construct a second unit on the site. A number of organizations and individuals intervened in both proceedings in opposition to the facility. Eventually their concerns were distilled into nine "environmental" contentions dealing essentially with the impact of the operation of the two units; although some issues thus raised involved the effects of low-level radiation releases, the intervenors pursued no contentions that were denominated as of a strictly "safety" character. Because their contentions were identical with respect to both units, the two proceedings before the Licensing Board were consolidated for the purpose of hearing those environmental issues common to both.

After full consideration, the Licensing Board rejected all of the intervenors' contentions in its decision authorizing the Unit 2 construction permit. LBP-74-25, 7 AEC 711 (1974); see also LBP-74-29, 7 AEC 850 (1974). We later affirmed that decision, making no specific comment on the Board's handling of

¹ See 10 CFR (1973 ed.) Part 50, Appendix D, Sections B and E.

² See 36 FR 23171 (December 4, 1971). No one took advantage of the opportunity to file objections to that decision. Consequently, construction continued unimpeded.

³ See, e.g., the March 1973 Draft Environmental Statement, p.i, par. 2.

the contested environmental matters but instead focusing on one safety question that the Board had raised *sua sponte*. ALAB-240, 8 AEC 829 (1974).

Although the Board below did not say so explicitly at that time, some twenty months later it indicated that those aspects of its Unit 2 decision which dealt with environmental matters had been intended also to reflect its opinion that the construction permit for Unit 1 should be continued in effect.⁴ Specifically, this thought was contained in the first of the Board's decisions on the Unit 1 operating license—*i.e.*, its decision in early 1976 authorizing low power testing and operation at levels up to five percent of full power. LBP-76-3, 3 NRC 44, 46-48 (1976).

The greater part of that decision, as well as almost the entirety of a subsequent decision authorizing operation at levels up to thirty-five percent of full power (LBP-76-23, 3 NRC 711 (1976)), dealt with safety questions. All of those questions had been raised by the Board itself, exercising its prerogative under 10 CFR §2.760a to examine any safety matter which, though uncontested, is sufficiently serious in the Board's mind to warrant inquiry.

The Board's resolution of one of those issues in favor of the applicants prompted the City of Pittsburgh (the only intervenor which participated in the safety hearings) to file exceptions. Specifically, the City objected to the Board's permitting the plant to operate at substantial power levels for the some eight months it would take to install a permanent auxiliary river water intake system that could prove necessary were a barge accident to disable the main intake structure. Soon thereafter, however, the applicants proposed to use temporarily a portable alternate cooling system—which was available without delay—pending the installation of the permanent auxiliary system. The Board below quickly considered and approved this proposal. That overcame the last hurdle the applicants faced and, on that basis, the Board issued a final decision in mid-1976 authorizing full power operation (LBP-76-28, NRCI-76/7 55). As a result of its own appraisal of the applicant's proposal, the City had already withdrawn its exceptions, its concern over the absence of a backup system apparently having been alleviated by the interim solution.

No other exceptions to any of the Board's decisions were filed.⁵ Because, as noted above, we some time ago affirmed the Board's handling of the contested environmental issues, no active dispute surrounds the initial decisions and our task is to review them on our own.

⁴The only reference in the Unit 2 decision to the fact that the two proceedings had been consolidated for certain purposes was a passing one in a footnote (7 AEC at 742, fn. 15). None of the Board's findings or conclusions was framed in terms of the continuation of construction of Unit 1. Nor have we been able to locate any contemporaneous separate order, based on the Unit 2 decision, expressing the opinion that Unit 1 construction could continue.

⁵We have previously entered orders extending our time to review those decisions.

During the time this matter has been before us, the staff has duly provided us with copies of correspondence between itself and the applicants dealing with safety-related topics. Much of the correspondence and accompanying documents grew out of incidents arising during the course of plant operation. For the most part, matters of a relatively routine nature are involved; some of the correspondence, however, focuses on more serious matters. That being so, we need to point out that it is not appropriate for us to insist in an operating license proceeding that each item raised by such correspondence be finally resolved to our satisfaction before we bring the adjudication to an end. In the first place, as a general matter our role in an operating license proceeding is circumscribed (to the same extent as is the Licensing Board's) when there is no contest among the parties. 10 CFR §2.785(b)(2); compare 10 CFR §2.760a. Beyond that, however, after a full term, full power operating license is in place, the boards have no responsibility for monitoring a plant's operation—that function belongs to the NRC staff, which oversees nuclear facilities over their entire lifetime.⁶

In our view, these principles should influence the extent to which we exercise our jurisdiction over matters which come to light as a result of facility operations during the period in which we are reviewing the Licensing Board decision which authorized those operations. If in that period there develop problems of an operational character, we may choose to leave them for resolution by the staff.

In other words, by itself the circumstance that we have not completed our review of whether the operating license should have issued in the first place does not require us to take on every incident which the monitoring of early plant operation has disclosed. For this reason, we have not undertaken to pass upon the merits of many topics covered in the correspondence furnished to us or to require that a final solution to all of them be now in hand. In saying this, however, we are not denying our right—and our duty—to take into account extraordinary developments which, though they transpire during the course of our review, have a bearing on whether the operating license should have been issued. For example, if during the period of our review there is discovered evidence of faulty construction workmanship that would have been studied at the operating license hearing had its existence then been known, we may inquire freely into the matter and, if necessary, demand its resolution on the record. We are simply saying that in many instances it may prove appropriate to decline to exercise our jurisdiction over matters which, because they arise after operations commence, are also within the staff's bailiwick.

⁶ Cf. *Consolidated Edison Co. of New York* (Indian Point, Units 1, 2 and 3), ALAB-319, 3 NRC 188(1976). A similar principle applies at the construction permit stage. See *Public Service Co. of New Hampshire* (Seabrook, Units 1 and 2), ALAB-356, NRC1-76/11 525, 535-36(1976).

Guided by these principles, we have reviewed the record and looked over all the extra record materials that have been sent to us. We find nothing that would indicate the Licensing Board erred in authorizing the issuance of a full term, full power operating license. Before we close our books, however, there are a number of topics which warrant brief discussion.

Quality Assurance

At the time we reviewed the Licensing Board's decision authorizing the construction permit for Unit 2 (see pp. 1384-1385, *supra*), we wrote extensively on the quality assurance problems which had surfaced during the construction of Unit 1. ALAB-240, *supra*, 8 AEC at 830-40. We commented on the relationship between what was actually occurring at the first unit and what was said to be planned for the second. *Id.* at 838-39. And, in concluding, we intimated that a close look would again have to be taken at quality assurance when Unit 1 came up for operating license review. *Id.* at 839-40.

Exercising its mandate in exemplary fashion, the Licensing Board undertook here an independent appraisal of the quality assurance situation, requiring the parties to furnish extensive testimony on that subject (e.g., Tr. 71-442, 1530-48, 1569-77). In addition, the Board ordered that there be placed in the record copies of the reports prepared by the NRC Office of Inspection and Enforcement following its onsite inspections of the progress of Unit 1 construction. The reports covering the period from May 1975 to September 1976 reveal certain infractions and deficiencies related to quality assurance. But neither the nature nor the frequency of these delinquencies was such as either to undercut the conclusion of the Board below that the applicants' QA program was adequate or to suggest the likelihood that good workmanship was not employed in the construction of the plant. Further, our review indicates that the widespread deficiencies which once characterized the applicant's QA program no longer exist. Insofar as the operational quality assurance plan goes, there is nothing in the record which creates present doubts about either the adequacy of the plan or the applicants' commitment to its implementation.

Steam Generator Tube Integrity

Another matter about which the Board below made independent inquiry also involved a thoughtful response to concerns we had expressed earlier. We have been occupied for some time in another proceeding with the problem of steam generator tube integrity. See *Northern States Power Co.* (Prairie Island, Units 1 and 2), ALAB-230, 8 AEC 458(1974); ALAB-275, 1 NRC 523 (1975); ALAB-284, 2 NRC 197(1975); ALAB-343, NRCI-76/9 169(1976); remanded for further consideration, CLI-76-21, NRCI-76/11 478(1976). In light of the

similarity in design between the Beaver Valley facility and the Prairie Island units, the Licensing Board quite properly called for evidence on this subject. The Board subsequently found that the integrity of the Beaver Valley steam generator tubes could be assured by utilization of the tube leakage limits, plugging criteria, and inspection specifications proposed by the staff. 3 NRC at 716-17.

Although the Licensing Board did not explicitly take note of the following facts in its decision, the record developed on this matter (Tr. 462-616) discloses that Beaver Valley will employ only all-volatile secondary water treatment, would have condenser tubes fabricated of type 304 stainless steel, and has had its steam generators modified to provide for better flow distribution over the tube sheet. In this regard, then, the Beaver Valley plant is virtually identical to the second Prairie Island unit, which for those reasons was found to be acceptable (see ALAB-343, *supra*).

We might stop at this point but for the fact that on November 11, 1976, the Commission remanded the *Prairie Island* matter to us for further consideration of the recently encountered phenomenon of steam generator "tube denting." See CLI-76-21, *supra*. Review of that matter is still in progress in *Prairie Island*. The information now at hand suggests, however, that for a plant such as Beaver Valley—*i.e.*, one using all-volatile water treatment and a fresh water condenser cooling system—at least the first years of operation would not involve a significant possibility of denting. We therefore can leave standing the Board's finding on this subject. At the same time, however, we must reiterate our warning that the all-volatile water treatment technique must be considered as "on probation" until a more definitive demonstration of its long-term effectiveness has been made.

Auxiliary Water Supply

A third matter dealt with extensively by the Board below warrants brief mention here. As noted above (p. 1385, *supra*), the Licensing Board issued its final decision authorizing full power operation on the understanding that the applicants would complete installation of a permanent auxiliary river water supply system prior to December 31, 1976. According to the applicants, this system was installed and satisfactorily tested before that date and was declared operational on December 9, 1976.⁷

Feedwater Piping Vibrations

During the course of the hearing, the Board considered a problem that had surfaced at other facilities, namely, feedwater line vibration resulting from water

⁷ See the December 17, 1976, letter to us from applicants' counsel.

hammer effects associated with the steam generators. Its first partial initial decision touched on this problem and the solution for it. LBP-76-3, 3 NRC at 64.

On December 14, 1976, after the proceeding came before us, we were informed by the staff that on November 5, 1976, strong vibrations in the Unit 1 feedwater system during operation had resulted in the failure of some small lines and components connected to this system. Similar incidents occurred on December 27, 1976, and on January 5, 1977. Following the last one, the applicants agreed to shut the plant down pending further evaluation of the vibration problem and the submission of a proposal for corrective action.

None of these Beaver Valley incidents appears to have been related to steam generator design. Rather, as we discuss in more detail below, the speculation is that they were the result of instabilities in the feedwater flow control system. Nonetheless, because in one sense this development is similar to a matter the Licensing Board believed was serious enough to warrant scrutiny at the hearing, we have taken a thorough look at it.

The applicants have conducted an extensive analysis of the vibration incidents,⁸ but were unable to determine their exact causative mechanism. They did, however, conclude that vibrations of the type which had been experienced could be produced by motion of the feedwater flow control valves independent of the demands of the flow controller.⁹ The flow control valve manufacturer agreed that such motion was possible. As a remedy, the manufacturer proposed modifications to the valve throttling mechanism which, it said, would result in better flow control and eliminate the instabilities which led to feedwater piping vibrations. The applicants proposed to adopt that approach, coupled with a comprehensive testing program for the feedwater system.

The NRC staff reviewed the applicants' response and found the proposed solution sufficiently satisfactory to permit plant operations to be resumed.¹⁰ The staff's handling of this matter appears reasonable. The feedwater system tests scheduled to be run prior to the operation of the plant at power appeared to be adequate to demonstrate whether the valve modification was effective.

Soil Density

Of all the matters which came up for the first time during the period of our review, only one—involving the density of the soil at the site—is both of a nonoperational character and of a sufficiently serious nature to warrant our discussing it here. In this connection, the documents we have reviewed reveal the following.

⁸See the January 21, 1977, report submitted to the staff under cover of a letter from C.N. Dunn of Duquesne Light Co. to R.W. Reid; this report contained a response to questions posed by the staff.

⁹January 21, 1977, Report, Response to Question No. 4.

¹⁰See the February 17, 1977, letter from the staff's R.W. Reid to the applicants' C.W. Dunn and the accompanying safety evaluation.

A low soil density condition was encountered last autumn in the course of doing excavation work for Unit 2. The staff subsequently requested that the applicants evaluate the possible safety implications which that condition might have with respect to Unit 1.

On February 14, 1977, the applicants filed a report entitled "Soil Study - Category I Structures," which contained a reevaluation of the exploratory boring data obtained in the area of Unit 1 and an analysis of the safety implications of those data. The report contains the following conclusions (p. 8):

The results of this study support the conclusions stated in both the FSAR and SER that the founding materials underlying Beaver Valley Power Station—Unit No. 1 Category I structures are safe against liquefaction or excessive dynamic settlements during the Safe Shutdown Earthquake (SSE).

This analysis is very conservative since both the liquefaction and dynamic settlement analyses assume the "worst-case" conditions of continuous low blow count zones combined with the simultaneous occurrence of the SSE and high flood levels.¹¹

To date, the staff has not issued its own evaluation of the applicants' soil density report. Just after it received that report, however, the staff acquiesced in the resumption of plant operation which had been halted for other reasons (p. 1389, *supra*). We thus infer that the staff does not perceive that any major difficulties will stem from the soil problem. Our own study of the applicants' report leads us to conclude that there is no need to call for further proceedings to resolve this matter. We leave it for eventual disposition by the staff.

For the foregoing reasons, the decisions of the Licensing Board authorizing the issuance of an operating license are *affirmed*.

It is so ORDERED.¹²

FOR THE ATOMIC SAFETY AND
LICENSING APPEAL BOARD

Margaret E. Du Flo
Secretary to the Appeal Board

¹¹A "low blow count zone" is a subsurface region in which a relatively small number of blows are required to drive a probe a certain distance into the ground; it is, therefore, a region in which the soil density is low.

¹²It remains for us to consider what action to take with regard to the Commission's recent fuel cycle ruling. CLI-77-10, 5 NRC 717 (April 1, 1977). We have already taken one step in that direction. See *Vermont Yankee Nuclear Power Corp.* (Vermont Yankee Station), ALAB-392, 5 NRC 759 (April 21, 1977), calling for further papers in this and a number of other cases in which fuel cycle matters were involved. Further orders on that subject will be issued in due course.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Alan S. Rosenthal, Chairman
Dr. Lawrence R. Quarles
Jerome E. Sharfman

In the Matter of

Docket Nos. STN 50-518

STN 50-519

TENNESSEE VALLEY AUTHORITY

STN 50-520

STN 50-521

(HARTSVILLE NUCLEAR PLANT,
Units 1A, 2A, 1B and 2B)

June 7, 1977

Upon applicant's motion to strike the intervenors' exceptions to the Licensing Board's initial decision, LBP-77-28 5 NRC 1081 (1977), for failing to comply with 10 CFR §2.762(a), the Appeal Board rules that (1) under that regulation, exceptions are not to contain supporting argumentation and hence need not include the additional information apparently sought by the applicant; and (2) a motion to strike exceptions is in normal circumstances not an appropriate means by which to argue a party's failure to preserve below its appellate rights on particular issues.

Motion denied.

RULES OF PRACTICE: EXCEPTIONS

The *raison d'être* for requiring a party to file exceptions is simply to alert other parties to the specific findings or rulings of the Licensing Board which are being attacked by the appellant. Accordingly, the Commission's Rules of Practice explicitly provide that exceptions are not to contain supporting argumentation. 10 CFR §2.762(a); Appendix A to 10 CFR Part 2, Section IX (d) (2).

RULES OF PRACTICE: APPELLATE REVIEW

A party in order to preserve its appellate rights on a particular issue must satisfactorily raise and argue it before the Licensing Board.

RULES OF PRACTICE: MOTION TO STRIKE EXCEPTIONS

A motion to strike exceptions may be filed to question whether a particular submission is, on its face, insufficient, improper or unauthorized under the Commission's Rule of Practice. Such a motion, however, is not appropriate where the assessment of its validity requires more than minimal scrutiny of the underlying record.

RULES OF PRACTICE: BRIEFS

Appeal boards need not consider exceptions which have not been briefed; an unbriefed exception may be treated as waived.

Messrs. Herbert S. Sanger, Jr., General Counsel, David G. Powell, Assistant General Counsel, and Alvin H. Gutterman, Knoxville, Tennessee, for the applicant, Tennessee Valley Authority.

MEMORANDUM AND ORDER

On April 28, 1977, the Licensing Board issued an initial decision authorizing the issuance of construction permits for the four units of the Hartsville facility. LBP-77-28, 5 NRC 1081. Thereafter, 24 separate exceptions were filed to that decision by the intervenors, William N. Young, *et al.*¹ The first of these exceptions reads as follows:

The ASLB erred in paragraph 57 of the Initial Decision in finding that the design of the plant with respect to the treatment of gaseous effluents from the reactor building and turbine building ventilation exhaust systems is adequate and meets the criteria of Sections IIA, B, C, D of Appendix I of 10 CFR Part 50 and the Applicant has complied with the as-low-as-is-reasonably achievable requirements of 10 CFR Section 50.34(a).

The remainder are in essentially the identical form.²

The applicant Tennessee Valley Authority (TVA) has now moved to strike

¹In ALAB-398, 5 NRC 1152 (May 12, 1977), the time for the filing of the exceptions was extended to May 17. They were filed on that date.

²To cite four additional representative examples:

2. The ASLB erred in paragraph 63 of the Initial Decision by finding that the Applicant has not arbitrarily substituted its own calculational methods as compared to those used by the Staff relative to acceptable dosages of radioiodine releases for the cow-milk-thyroid dose pathway (Appendix I-2, Applicant's Environmental Report).

Continued on next page.

all of the exceptions. Its principal ground is that none of them complies with the requirement in our Rules of Practice that each exception shall "state concisely, without supporting argumentation, the single error of fact or law which is being asserted in that exception." 10 CFR §2.762(a). We are told that, because of this alleged shortcoming, TVA and the other parties have been deprived "of time necessary to review the record and research the law in order to prepare a response to the exception."

Secondly, TVA urges that seven of the 24 exceptions "identify portions of the initial decision which concern matters that were not contested before the Licensing Board and were not discussed in the proposed findings of fact and conclusions of law submitted by the Intervenor." For this additional reason, according to TVA, they should not be entertained by us.

I

We find TVA's argument that the intervenors have failed to comply with Section 2.762(a) rather strange. To begin with, even a cursory examination of the intervenors' exceptions discloses that each does precisely what that section requires be done: *i.e.*, "state[s] concisely, without supporting argumentation, the single error of law or fact which is being asserted" therein.³ More than that, those exceptions appear to be modeled on TVA's own exceptions filed just last October to the first supplemental partial initial decision of the Licensing Board in this very proceeding.⁴ TVA's exceptions, signed—and presumably prepared—by (among others) the same three lawyers who endorsed the motion to

Continued from previous page.

4. The ASLB erred in paragraph 82 of the Initial Decision in concluding that in accordance with the criteria in Regulatory Guide 1.109, further consideration of this pathway is not required (gaseous effluent-runoff-water-human pathway, see Initial Decision, paragraph 80).

10. The ASLB erred in paragraph 106 of the Initial Decision by stating that none of the panel of four witnesses called by Intervenor on the endangered species issue (see Initial Decision paragraphs 101-105) has expertise in the effects of radiation on mussels, and that cross-examination revealed that the witnesses lacked basic information concerning the facts in issue.

13. The ASLB erred in paragraph 111 of the Initial Decision by finding that the upstream location (for the discharge diffuser location, see Initial Decision paragraphs 101 and 102) is also acceptable provided that it is approved by the Department of the Interior.

³As the TVA itself concedes, each fulfills the additional requirement imposed by the section: that there be an identification "with particularity [of] the portion of the decision (or earlier order or ruling) to which the exception is addressed."

⁴LBP-76-35, NRCI-76/9 353 (September 30, 1976). The exceptions prevailed. ALAB-380, 5 NRC 572 (March 11, 1977).

strike now before us, are indistinguishable in form from the intervenors'. They read as follows:

1. The ASLB erred in ordering that "the LWA-1 as amended by the Staff, be modified to exclude permission to clear, grub and construct facility transmission lines" (FSPID, par. 37 at 19).
2. The ASLB erred in finding that the transmission facilities should not be constructed because they are "offsite activities" while the preconstruction permit activities authorized by the regulations (10 CFR §50.10(e) (1976)) were "intended to be primarily onsite activities" (FSPID, par. 25 at 14; *cf.* par. 35 at 18).
3. The ASLB erred in construing the National Environmental Policy Act (NEPA) as requiring or authorizing it to prevent construction of the Hartsville Nuclear Plants transmission lines prior to the issuance of a construction permit (FSPID, par. 26-31 at 14 to 17, par. 35 at 18).

In sum, in common with the intervenors, TVA confined itself to a specification of the findings and rulings of the Licensing Board asserted to be in error and an identification of where in the decision below they were to be found.

The terms of Section 2.762(a) were not altered between last October and the filing of the intervenors' exceptions this May. It is possible, of course, that what TVA now insists constitutes an inexcusable violation of the requirements of that section was thought by TVA seven months earlier to be in full conformity with those requirements. Needless to say, legal positions sometimes do shift with the passage of time—even in the absence of supervening developments which might appear to justify the shift. But if such be the case, TVA's counsel should have said so expressly and then explained why it had altered its position. For, without a good explanation, it hardly adds to the credibility of a lawyer to complain of conduct on the part of others which differs not at all from what he has himself done in the very same case. See *Consumers Power Co.* (Midland Plant, Units 1 and 2), ALAB-235, 8 AEC 645, 647-48 (1974).

Be that as it may, however, a more serious matter confronts us in TVA's papers. Although its brief does not enlighten us regarding precisely what additional information it now maintains should have been conveyed in the exceptions in order to achieve compliance with Section 2.762(a), we may fairly infer that TVA is urging that an exception must set forth sufficient detail regarding the basis of the specific claim of error to enable the other parties to commence *at once* "to review the record and research the law in order to prepare a response to the exception." See p. 1393, *supra*. Stated otherwise, it would seem that we are being asked to conclude that the exception must not only specify the asserted error but also indicate why the finding or ruling in question was wrong.

One might reasonably have expected TVA to tell us how such a conclusion could possibly be squared with the stipulation in Section 2.762(a) that exceptions are not to contain "supporting argumentation." As is explained in Section IX(d) (2) of Appendix A to 10 CFR Part 2 (the Rules of Practice):

... Since their purpose is simply to identify the alleged errors which the appellant wishes the Appeal Board to consider, the exceptions themselves shall not contain any supporting argumentation. Rather, such argumentation shall be reserved for the brief, which must be confined to the exceptions previously filed and must contain specific references to the portions of the record or other authority relied upon for each assertion of error.

In short, as we would have thought readily apparent to TVA even in the absence of this explanation, exceptions are the administrative equivalent of the familiar specifications of error required by some judicial tribunals. Their function is simply to alert the other parties to the specific findings or rulings of the lower tribunal which are being attacked by the appellant. They require of themselves no action on the part of any appellee. Rather, the obligation to respond to an appeal arises only upon the filing and service of the appellant's brief (which, under our practice, is due 15 days after the exceptions have been submitted).⁵ Once again, it is in that brief that the basis for each claim of error is to be fully developed (*i.e.*, the "supporting argumentation" is to be provided). And it is in the context of that elucidation that the appellees are called upon to put forth (in responsive briefs) their defense to the appeal.

Had TVA merely failed to appreciate or to acknowledge these considerations, the most its counsel could have been charged with would have been insufficient legal acumen—hardly a cardinal sin. But that is not what occurred. Rather, in quoting from Section 2.762(a) at some length in its brief, TVA substituted asterisks (or, more precisely, dots) for the three crucial words in the middle of the quotation: "without supporting argumentation." By reason of this deletion, the entirely incorrect impression was conveyed that the terms of the section are consistent with TVA's argument that there must be a development in an exception (albeit concisely) of the reasons why the finding or ruling challenged therein was erroneous.

An administrative adjudicatory body, no less than a court, has every right to expect total abstinence from such practices upon the part of those who appear before it. Put another way, we should be free to assume that, in a brief or other submission, nothing will be excised from a quoted passage unless its lack of relevance to the question under discussion is beyond substantial dispute. In this instance, we find it difficult to believe that TVA counsel could not apprehend the significance of the words omitted from the Section 2.762(a) quotation to

⁵ 10 CFR § 2.762(a). In the case of the NRC staff, the briefing period is five days longer.

the assessment of the merit of their client's assertions. From this we could easily conclude that what confronts us is an artless attempt to conceal pertinent matter cutting against TVA's newly espoused position.⁶ Appraisal of motives is a difficult task at best, and we are reluctant to reach that conclusion here. But were we to do so, TVA's counsel would have only themselves to blame.

The line between zealous advocacy and overreaching harrassment⁷ is a narrow one. TVA's counsel have plainly reached that line in their submission now before us. They should take care that it not be overstepped in the future.

II

As earlier noted, the second ground assigned by TVA for its motion to strike has application only to seven of the 24 exceptions filed by the intervenors. In essence, TVA maintains that those exceptions should not be considered under the doctrine that one who "[f]ail[s] either to raise satisfactorily a particular factual issue or (once the record has been closed) to express himself in the prescribed manner regarding how that issue should be resolved . . . is scarcely in a position, legally or equitably, to protest the determinations made by the Board in connection with it." *Northern States Power Co.* (Prairie Island Nuclear Generating Plant, Units 1 and 2), ALAB-244, 8 AEC 857, 864 (1974). See also *Consumers Power Co.* (Midland Plant, Units 1 and 2), ALAB-123, 6 AEC 331, 332-34 (1973); *Florida Power & Light Co.*, (St. Lucie Nuclear Power Plant, Unit No. 2), ALAB-280, 2 NRC 3, 4 fn. 2 (1975); *Duke Power Co.* (Catawba Nuclear Station, Units 1 and 2), ALAB-355, NRCI-76/10 397, 411 fn. 46 (1976).

Even assuming that TVA is right that the intervenors did not properly preserve below their appellate rights on the issues encompassed by the seven exceptions, a motion to strike is not the appropriate vehicle for bringing that consideration to our attention. Rather, assertion of the point must await the filing of TVA's brief in response to the intervenors' brief.

A motion to strike may well be a justified means of raising a question respecting whether a particular submission to us is, on its face, either insuf-

⁶We have characterized the attempt as "artless" because obviously we are fully familiar with the terms of the Commission's Rules of Practice, especially those concerned with appellate practice. The fact that there thus was no possibility that the omission by TVA of crucial words from its quotation from Section 2.762(a) would go undetected does not, however, excuse that omission.

⁷See Code of Professional Responsibility, DR 7-102 (A) (1).

ficient⁸ or improper (e.g., scandalous). It may be equally available to cause the removal from the record of papers which can be readily established to be unauthorized (e.g., filed by a nonparty) or untimely. Still further, we have on at least one occasion granted a motion to strike exceptions which was founded on the failure of the appellants to file a supporting brief within the time allotted by the Rules of Practice. *Consumers Power Co.* (Midland Plant, Units 1 and 2), ALAB-270, 1 NRC 473 (1975); cf. *Public Service Electric and Gas Co.* (Hope Creek Generating Station, Units 1 and 2), ALAB-394, 5 NRC 769 (April 29, 1977).

In situations of the types just described, the assessment of the validity of the motion to strike will entail little or no scrutiny of the underlying record. But the same cannot be said with regard to the appraisal of a claim that an exception should be summarily rejected as beyond the scope of what was urged by the appellant below. At the very least, that appraisal will require a close examination of the proposed findings of fact and conclusions of law which were filed by the appellant. And, quite possibly, it will prove necessary to delve much deeper into the record in order to insure that those proposed findings and conclusions are taken in their proper context.

Our workload is such that we are not at all inclined to embark upon such a mission at the very threshold of the appellate process. Nor do we see any reason to put the other parties to the task of joining issue on claims of this type during the relatively short period allowed by the rules for the preparation of briefs on the merits. In this connection, it should be noted that the intervenors here may elect not to brief one or more of the seven exceptions to which TVA objects. Because an unbriefed exception may be treated as waived,⁹ were this contingency to materialize TVA's claim might be mooted in whole or in part.

The motion to strike is *denied*.
It is so ORDERED.

FOR THE ATOMIC SAFETY AND
LICENSING APPEAL BOARD

Margaret E. Du Flo
Secretary to the Appeal Board

⁸ Indeed, in subsection (e), 10 CFR § 2.762 expressly authorizes a motion to strike an exception or a brief which is not in substantial compliance with the provisions of the section. Thus, had there been a real basis for doing so, it would have been perfectly appropriate for TVA to have moved to strike the intervenors' exceptions for failure to comply with Section 2.762(a).

⁹ *Long Island Lighting Co.* (Shoreham Nuclear Power Station), ALAB-156, 6 AEC 831, 832-33 (1973); *Commonwealth Edison Co.* (Zion Station, Units 1 and 2), ALAB-226, 8 AEC 381, 382-83 (1974). See also our decision last January in the proceeding at bar, ALAB-367, 5 NRC 92, 104 fn. 59.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Richard S. Salzman, Chairman
Dr. Lawrence R. Quarles
Dr. W. Reed Johnson

In the Matter of

Docket Nos. 50-275 OL
50-323 OL

PACIFIC GAS AND ELECTRIC COMPANY

(Diablo Canyon Nuclear Power
Plant, Units 1 and 2)

June 9, 1977

The Appeal Board holds, in a matter brought before it by certification at the applicant's request, that the security plan of a nuclear power plant is discoverable in Commission proceedings subject to certain conditions: (1) only portions of the security plan relevant to contentions in the proceeding are discoverable; (2) where discovery is allowed, any parts of the plan released are subject to a protective order; and (3) before any witness may be shown any portion of a security plan, the sponsor of that witness must demonstrate to the Licensing Board's satisfaction that the witness possesses the technical competence necessary to evaluate it.

The Licensing Board's orders granting access to the plant's security plan are vacated and the case remanded to that Board for further proceedings consistent with the Appeal Board's opinion.

RULES OF PRACTICE: CHALLENGE TO COMMISSION REGULATIONS

Commission regulations may not be challenged in adjudicatory proceedings. 10 CFR §2.758.

RULES OF PRACTICE: DISCOVERY (SECURITY PLAN)

Under current regulations security plans are not classified information but are "deemed to be commercial and financial information." Accordingly, they are subject to disclosure in accordance with provisions governing that type of information. 10 CFR §2.790(d).

OPERATING LICENSE HEARINGS: HEALTH AND SAFETY ISSUES

The adequacy of a security plan is a proper issue for consideration in Commission adjudicatory proceedings.

RULES OF PRACTICE: DISCOVERY (SECURITY PLAN)

Whether discovery of a security plan is sought from an applicant or the Commission, essentially the same standards apply.

RULES OF PRACTICE: DISCOVERY (SECURITY PLAN)

Security plans are sensitive and are not to be made available to the public at large. 10 CFR §2.790. They are, however, subject to discovery in Commission adjudicatory proceedings but only under certain conditions: (1) the party seeking discovery must demonstrate that the plan or a portion of it is relevant to its contentions; (2) the release of the plan must (in most circumstances) be subject to a protective order; and (3) no witness may review the plan (or any portion of it) without it first being demonstrated that he possesses the technical competence to evaluate it.

RULES OF PRACTICE: DISCOVERY (SECURITY PLAN)

The burden is on the party seeking discovery of a security plan to show a relationship between his contentions and the specific portions of the plan he wishes to examine.

RULES OF PRACTICE: EXPERT WITNESS

The party sponsoring an expert witness has the burden of demonstrating his expertise.

RULES OF PRACTICE: DISCOVERY (SECURITY PLAN)

Only those portions of the security plan both relevant and necessary for litigation of a party's contention are subject to discovery in Commission proceedings, and then only under protective order. A "sanitized" version deleting the "gory details" of the plan (but generally describing the types of information omitted) may suffice for these purposes.

Mr. Bruce Norton, Phoenix, Arizona, (Mr. Arthur C. Gehr, Phoenix, Arizona, and Messrs. John C. Morrissey and Philip A. Crane, Jr., San Francisco, California, with him on the briefs) for the applicant, Pacific Gas and Electric Co.

Mr. Paul C. Valentine, Palo Alto, California, (Mr. Yale I. Jones, San Francisco, California, with him on the briefs) for the intervenor, San Luis Obispo Mothers for Peace.

Mr. Thomas F. Engelhardt (Messrs. James R. Tourtellotte and L. Dow Davis on the briefs) for the Nuclear Regulatory Commission staff.

MEMORANDUM AND ORDER

Pending before us in this operating license proceeding is the question whether the security plan for the facility should be made available, under protective order, to counsel and the expert witness or witnesses of the intervenor (San Luis Obispo Mothers for Peace). We hold that it must be, but only to the extent and under the conditions which we hereinafter spell out.

1. The question arises out of a discovery request initiated in mid-1975, seeking access, *inter alia*, to the security plan for the facility. This request followed acceptance by the Licensing Board of the intervenor's contention that the plant is "vulnerable to sabotage not only from land, but from sea."¹ As a result of questions raised by the applicant regarding the appropriate procedures for revealing security plans, an *in camera* prehearing conference was held on March 4, 1976, and the parties apparently reached agreement on those matters. The applicant did, however, reserve its right to object to making its security plan available to the intervenor's proposed consultant, Dr. L. Douglas DeNike.

Thereafter the applicant apparently had second thoughts and on April 8, 1976, filed a revised motion requesting that no discovery relative to the security plan be permitted. The motion was said to be based not on any concern about Dr. DeNike but rather on the applicant's "overriding interest in preserving the inviolability of its site security plan."² On June 18, 1976, that motion was denied.³ Subsequently, by order dated June 23, 1976, the Board set out details

¹The contention was ruled acceptable only insofar as it concerned domestic sabotage. Licensing Board order dated May 30, 1974 (unpublished).

²We are advised that objections to turning over the security plan were advanced by the applicant's security personnel. See applicant's brief dated November 24, 1976, p. 2.

³Licensing Board Order on Discovery Relative to Security Plans (unpublished).

of the discovery procedure to be followed—tracking, with limited exceptions, the “agreement” reached at the prehearing conference.⁴

The applicant sought reconsideration of the June 18, 1976, order or, alternatively, certification of the issue to us. On August 16, 1976, the Licensing Board denied that request.⁵ By motion dated October 8, 1976, the applicant renewed its request for certification before us, and on November 3, 1976, we granted it. We also stayed, pending our further order, the Licensing Board’s order directing disclosure of the security plan to the intervenor. In taking this action, we recognized that the issue before us had broader implications than were dealt with in the papers previously filed, and we propounded a number of questions which we asked the parties to brief. Those questions encompassed such matters as the legal bases for granting or withholding access to security plans in whole or in part, sanctions available if persons to whom a plan is disclosed use or reveal it in an unauthorized manner, and the qualifications of Dr. DeNike (or any other expert secured by the intervenor) to review and testify with respect to various aspects of the plan. We also set forth a number of authorities which we wished the parties to review.

In January 1977, we held oral argument on these matters. At the time, it appeared to us that the question might be resolved by agreement of the parties, and we withheld rendering a decision with that eventuality in mind. The staff in particular sought such an agreement, and we strongly encouraged it in these efforts. Some progress appears to have been made. Nevertheless, we have been informed that no agreement has yet been reached. We suspect this lack of success may have stemmed in part from the Commission’s having put into effect in the interim new security requirements which mandated, among other things, that the applicant submit by May 25, 1977, a new security plan conforming to the revised regulations (42 Fed. Reg. 10836, February 24, 1977). In these circumstances, it is appropriate at this juncture for us to interpret the current standards governing the disclosure of a security plan.

2. The major thrust of the applicant’s argument for not revealing the security plan is that the “public interest” will suffer if the details of the plan are revealed to “outsiders,” even under the aegis of a protective order. It claims that “the greater the number of individuals who know the details of the plan the greater the risk that the details will become public knowledge.” The applicant also complains that it is being asked to reveal such details “without the opportunity to make even the minimum background check which should be made of individuals with access to the details of the plan.” And it laments the inadequacy

⁴Order on Security Discovery (unpublished, limited distribution). Among other things, that order permitted the intervenor’s attorney and Dr. DeNike to view the plan and to make limited notes, subject to their signing an Affidavit of Non-Disclosure.

⁵Order Relative to Motion for Reconsideration of Board’s Order of June 18, 1976, Concerning Security (unpublished).

of sanctions for violation of a protective order.⁶ It would limit outside review of the plan details to persons associated with this Commission.⁷ In other words, the applicant in effect is seeking to impose what amounts to classified information controls on the security plan.⁸

Whether or not that might be a prudent course of action from a public interest standpoint, it cannot be now adopted. Security plans for plants such as Diablo Canyon are *not* classified and under existing regulations may not be treated as such. Security clearances for persons having access to such plans are not at this time required.⁹ Under current rules, security plans are "deemed to be commercial or financial information" and are subject to disclosure in accordance with provisions governing that type of information. 10 CFR §2.790(d).¹⁰ We are of course bound by those rules; indeed they may not be challenged in these proceedings. 10 CFR §2.758. Accordingly, it is to those rules that we must turn to resolve the question before us.

3. The security plan for the Diablo Canyon nuclear power facility is (or will be) in the possession of both the applicant and the Commission.¹¹ Whether discovery of the documents comprising that plan be from one source or the other, essentially the same standards apply.¹²

The applicable rules call for a balancing of the interests of the "person

⁶ See applicant's Request for Certification, dated October 8, 1976, pp. 1-2.

⁷ Brief dated November 24, 1976, p. 6.

⁸ "... [A] site security plan should be handled in the same manner and with the same security as weapons and other secret data . . ." (*ibid.*); see also *id.*, pp. 14-19; App. Tr. 4. Indeed, by seeking to keep security plans outside the adjudicatory arena altogether, the applicant would subject those plans to more severe controls than those applicable to classified information. See 10 CFR §2.900 *et seq.*

⁹ In conjunction with its recent amendments to the physical security requirements, noted *supra*, p. 1401, the Commission commented that it was "considering a program to require personnel security clearances for individuals employed in sensitive work activities who have access to or control over special nuclear material" (42 Fed. Reg. at 10837). A proposed 10 CFR Part 11 incorporating such a program was thereafter published for comment (42 Fed. Reg. 14880, March 17, 1977). No such program has yet been adopted. If it should be put into effect during the course of this proceeding, the Licensing Board should, obviously, take account of its requirements.

¹⁰ In promulgating a predecessor of that provision, which in pertinent respects is substantially the same as that which is now in effect, the Commission stated that it was "not [its] intent to permit a greater degree of withholding of documents from public disclosure under §2.790 than would be permitted under the Freedom of Information Act." 37 Fed. Reg. 15127 (July 28, 1972).

¹¹ See 10 CFR §50.34(c), 50.39 and 2.790(a).

¹² See 10 CFR §2.740(b) (1) ("[p]arties may obtain discovery regarding any matter, not privileged . . .") and (c) (protective orders). For a general discussion of these provisions, see *Kansas Gas and Electric Co.* (Wolf Creek Generating Station, Unit No. 1), ALAB-327, 3 NRC 408, 413-18 (1976).

...urging nondisclosure and the public interest in disclosure.” 10 CFR §2.790(a). As it has been construed, that authority does not permit what the applicant here seeks: the refusal on a generic basis to permit inspection by intervenors of site security plans; for the adequacy of such a plan has been held to be a proper issue for consideration in an adjudicatory proceeding. See, e.g., *Consolidated Edison Co. of New York* (Indian Point Station, Unit 2), CLI-74-23, 7 AEC 947 (1974); *id.*, ALAB-243, 8 AEC 850 (1974); *Commonwealth Edison Co.* (Zion Station, Units 1 and 2), ALAB-226, 8 AEC 381, 411-14 (1974). The Commission itself has stressed the importance of participation by intervenors; in directing us to conduct further proceedings concerning a security plan which was to be revised in light of new regulations—a situation not unlike that existing here—it stated:

... we assume that the [Appeal] Board intends to afford CCPE [the intervenor] a reasonable opportunity to be heard on the staff’s report and the adequacy of the revised security plan. Such an opportunity is clearly required where, as here, the issue has been contested throughout the proceeding, the subject bears significantly upon public health and safety, and the record will presumably reflect substantial changes.

CLI-74-23, 7 AEC at 949 (footnote omitted). Under governing procedural regulations, substantially like those now in effect, the intervenor’s counsel in *Indian Point 2* was given access to the revised security plan (as well as to earlier versions) and his participation helped us in assuring that the plan eventually adopted for the plant was adequate. See ALAB-243, 8 AEC at 853-54.¹³ Thus, the view expressed by the applicant here that such access is inappropriate is contrary to the regulations as construed not only by us but by the Commission.¹⁴ Hence, it must be rejected.

Nevertheless, as we have indicated, security plans are indeed sensitive. Moreover, in recent years they appear to have become more so; the Commission’s

¹³ There was no issue in that case concerning the level of detail of the plan which was released, but the plan to which access was given apparently did not include all the details encompassed within intervenor’s present discovery request. It should be stressed that the detail included in security plans has increased dramatically over the past few years. Cf. Safety Guide 17 (October 17, 1971), Regulatory Guide 1.17 (June 1973), and the proposed “Interim Format and Content for Physical Security Plan” dated February 1977 (NUREG-0207), which implements the Commission’s newly enacted security requirements. Reflecting that development, the standards applicable today call for a more detailed (and hence more sensitive) plan than those in effect at the time of the *Indian Point* and *Zion* proceedings.

¹⁴ See also *Florida Power & Light Co.* (Turkey Point, Units 3 and 4), 3 AEC 173, 174 (1967); *Trustees of Columbia University*, ALAB-3, 4 AEC 349, 353 (1970); *id.*, ALAB-50, 4 AEC 849, 855-56, 870 (1972).

clearance proposal (fn. 9, *supra*) is representative of that development. Under 10 CFR §2.790, they are clearly not to be made available to the public at large. And while they must be released to interested parties under appropriate conditions, that does not mean that in all cases they need be released in their entirety or to anyone selected by the intervenors or without protective safeguards. Section 2.790 provides (either directly or through incorporation of other sources) the framework for dealing with such plans. Several basic principles emerge:

(1) The plan's "relevancy" must be demonstrated by the party requesting access to the plan.¹⁵ In the context of a request by an intervenor for access to a security plan, we read that provision as contemplating that only those portions of a plan which an intervenor can demonstrate are relevant to its contentions should be released to it. All the parties appear to agree that a plan involves not only different subject areas but also different levels of detail, and that all the "gory details" (to use intervenor's terminology) may not be necessary to litigate a particular contention. Using the contention requirement of 10 CFR §2.714(a) as a guide, a mere conclusory statement of relevance will not suffice; one seeking to examine a portion of a security plan must show a relationship between his contentions and the specific portions of the plan he wishes to view. In that connection, an intervenor obviously must be allowed sufficient information about the plan to ascertain which if any particular portions of it bear on his contentions.

(2) If and to the extent released, the plan may—and in most circumstances probably should—be subject to a protective order. See 10 CFR §2.790(e) and §2.740(c).¹⁶ In considering a protective order, it is a material consideration whether the recipient of the information is likely to abide by such an order. If it is demonstrated that a particular individual is unlikely to do so, the Licensing Board might be justified in not permitting such individual to gain access to the information.

(3) A security plan need not be revealed to a witness who lacks relevant expertise for evaluating it. Access to the plan or portions thereof should be given only to witnesses who have been shown to possess the technical competence necessary to evaluate the portions of the plan which they may be shown. Any other course would contravene the requirement that access be afforded only to "persons properly and directly concerned" (10 CFR §2.790(b) (6)). See also Federal Rules of Evidence, Rule 702.

¹⁵ 10 CFR §2.744(d), which is incorporated by reference into 10 CFR §9.12, which in turn is incorporated into 10 CFR §2.790(d).

¹⁶ The authority in 10 CFR §2.740(c) for a protective order to deny discovery altogether, or to prohibit release of designated information, must be construed in light of the purposes expressed therein of protecting a party "from annoyance, embarrassment, oppression, or undue burden or expense," and in light of the general relevance requirements set forth in another subsection (2.740(b) (1)) of the same section.

In the latter connection, it is noteworthy that, when an expert is challenged (as on *voir dire* examination), the party sponsoring the witness has the burden of demonstrating his expertise. As Wigmore has pointed out, it is "universally conceded" that the "*possession of the required qualifications* by a particular person offered as a witness, *must be expressly shown by the party offering him.*" 2 Wigmore, *Evidence*, §560, at pp. 640-41 (3d Ed. 1940) (emphasis in original).¹⁷

(4) Applying these basic principles to the situation before us, it is apparent that the Licensing Board correctly perceived the litigability in this proceeding of the applicant's security plan; properly eschewed the applicant's theory that no "outsiders" except the NRC staff should be given access to the plan or that the plan should be treated as Restricted Data or other classified information; and correctly imposed a protective order on any release of the plan to the intervenor.

What the Board did not do, however—perhaps as a result of the lack of guidance—was properly to restrict the release to those portions of the plan needed by the intervenor to litigate its contention or to limit the portions of the plan to be released in terms of the qualifications of the proposed expert witness. We are therefore constrained to vacate its order granting access to the plan and to remand the matter for its consideration under the principles just described.

It is our hope that these general principles will provide sufficient guidance to enable the parties to agree on the scope of discovery to be permitted, both in terms of the particular information to be released and the persons to whom it is to be given. We encourage the parties to do so and strongly commend the staff for its previous attempts to achieve that desirable result. If agreement cannot be reached, however, the Board will have to resolve the parties' differences. Without limiting the Board's discretion, we suggest that the following guidelines may serve as a basis for further consideration of the outstanding questions.

a. Review is to be limited to the plan as revised in accordance with the Commission's newly issued regulations. Only those portions of that plan which are both relevant to and necessary for the litigation of the intervenor's contention need be released to the intervenor's representative or representatives (as described in paragraph c, *infra*), and then only under protective order. Consistent with this standard, as few of the "gory details" as possible are to be released. We understand that the applicant has offered to release a "sanitized" version of the plan, that the intervenor recognizes that it does not require every detail (see App. Tr. 57-58, 74), but that it is not willing to accept at this juncture the applicant's view of what details are relevant to its contention. The applicant might be directed to provide a "sanitized" plan to the intervenor's attorney and its qualified expert or experts, together with a general description of the types of information omitted from each section of the plan from which

¹⁷See also *Smith v. Hobart Manufacturing Co.*, 185 F. Supp. 751, 756 (E.D. Pa. 1960).

information has been deleted. If the intervenor believes that any of the deleted information is relevant to or necessary for litigation of its contention, and the applicant does not agree, the question is one for the Board to resolve.¹⁸ It may order the release of portions of the deleted information, as appropriate, but only to the individuals described below.

b. The protective order contemplated by the proceeding paragraph should be along the lines of the Licensing Board's order of June 23, 1976 (including the Affidavit of Non-Disclosure). The Licensing Board may wish, however, to include additional or different terms and conditions in such an order. For example, it may appear to be desirable to limit the locations at which the intervenor may examine relevant portions of the plan to the offices of the applicant and the situs of any hearing or prehearing conference convened to consider the plan. It would also appear desirable to preclude the intervenor from copying or taking notes about any portions of the plan. Such restriction could result in a lengthened hearing (since the intervenor's representatives might have to refresh their recollections about what they had examined earlier). But that may be an acceptable price to pay for the added security obtained.

In the last analysis, the Licensing Board is in the best position to determine the most appropriate circumstance in which the plan may be viewed. We therefore leave it to the Board to formulate the exact terms and conditions of the order.

c. The plan, or any portion thereof, is to be released solely to individuals qualified to review it. It is to be made available to the intervenor's attorney plus any experts it selects who are so qualified. Only those portions of a plan which relate to the expert's area of expertise need be shown that expert. If a proposed expert's qualifications are challenged, the intervenor must prove that the expert is qualified to evaluate each section of the plan which is to be reviewed by him or her.¹⁹

d. If any party believes that any of the intervenor's representatives are not likely to abide by the terms of a protective order, it may bring the information on which such belief is founded to the Licensing Board's attention. That party would have the burden of establishing that proposition; but if it should succeed,

¹⁸ Resolution may necessitate the Board's reviewing the actual plan.

¹⁹ In that connection, the record currently includes insufficient information to demonstrate that Dr. DeNike is sufficiently qualified to review the security plan. Dr. DeNike's training is in the area of clinical psychology, and he may possibly be considered as having expertise on such matters as the psychological makeup of terrorists or saboteurs. His expertise would appear to have limited (if any) relevance to an evaluation of any of the details of a security plan, such as the adequacy of technical equipment or the numerical or qualitative sufficiency of the personnel to be employed. The matter is, of course, one for the Board to decide.

the Licensing Board may order the plan withheld from the individual in question.

The Licensing Board's orders of June 18, 1976, and June 23, 1976, are hereby *vacated*, and the cause is *remanded* for further proceedings not inconsistent herewith. The stay imposed by our order of November 3, 1976, is *continued* pending further order of the Licensing Board or agreement of the parties based on the principles and guidelines we have outlined.

It is so ORDERED.

FOR THE ATOMIC SAFETY AND
LICENSING APPEAL BOARD

Margaret E. Du Flo
Secretary to the Appeal Board

Additional comments of Dr. Quarles and Dr. Johnson:

We were full participants in the development of the conclusions arrived at in the foregoing opinion, as well as in the formulation of the directions to the Licensing Board contained therein. Our agreement with those conclusions and directions is only because we are persuaded that existing Commission regulations as previously construed (*supra*, pp. 1402-1403) require that portions of a nuclear site security plan be made available under specific conditions to intervenor's counsel and qualified expert witnesses, in order that a contention relating to the adequacy of the plan may be fairly pursued. We are constrained to note, however, that this result is disturbing to us and, had the regulations and precedents favoring it not been so clearly drawn, we would have found that nuclear power plant site security plans should not be disclosed in the hearing process.

Plant site security regulations and security plans have been drastically upgraded in recent years in response to an increased awareness of the risks of sabotage, special nuclear material diversion, and terrorist activity to which these plants may be exposed (*supra*, pp. 1403-1404). We have no reason to dismiss these risks as illusory. There thus being a need for a comprehensive and sophisticated site security plan to counteract them, we conclude that whatever benefit may accrue from probing the plan's adequacy in an adjudicatory proceeding must be balanced against the likelihood that the plan's effectiveness may be compro-

mised by the very act of probing.¹ We agree with the intuitive proposition of the applicant and staff that "... the greater the number of individuals who know the details of the plan, the greater the risk that the details will become public knowledge" (*supra*, p. 1401; also App. Tr. 24-25, 94-96). This proposition would appear to be valid, without regard to the matter of intent on the part of the individuals involved to compromise the plan. A more direct and serious threat to the integrity of a site security plan which is open to litigation is posed by that individual, or group of individuals, bent on sabotage, SNM diversion, or terrorism, who enter the proceeding on the site security issue purely as a means for obtaining more information about the plan.²

As has been pointed out (*supra*, p. 1403, fn. 13), there is a vast difference in the level of detail included in the site security plans which, in their entirety, were made available to intervenors during the *Indian Point 2* and *Zion* hearings and the detail which is required to be included in the plans under the most recent regulations and corresponding guidelines (10 CFR §73.55 (February 24, 1977); NUREG-0207).

Dr. Theodore Taylor, whose testimony at the Oversight Hearings on Nuclear Energy of the House of Representatives³ was cited by the intervenor and applicant, addresses the dilemma of balancing the public's interest in assuring the adequacy of site security against its additional interest that a particular plant's security plan not be revealed:

I have a suggestion. It is something that I have not worked out in complete detail, a possible approach to how to assure the public that what is being done is adequate. The cornerstone of that should be a public release by NRC at whatever time it is able to do so, of all of the details concerning the method, the technique by which NRC will review the physical security plans of licensees and determine whether or not the standards set by NCR [sic] are met by what is proposed to them.

That method, I think, whenever it exists—and as far as I know it does not exist today—could be published without revealing the gory details con-

¹Numerous analogies to this situation are encountered in the field of quality control, where attempts to ascertain the nature of a particular product's quality may result in its impairment or destruction. Thus, for example, the quality of a weld is not determined in the most direct manner—by cutting into it—but through carefully prescribed methods of non-destructive testing which can give a high degree of assurance of the adequacy of the weld with little or no damage to the weld itself.

²Here in no way do we suggest that the intervenor in this case has raised the security plan issue for any reason other than a sincere concern for the adequacy of the plan.

³*Oversight Hearings on Nuclear Energy—Safeguards in the Domestic Nuclear Industry: Hearings before the Subcommittee on Energy and the Environment of the House Committee on Interior and Insular Affairs, 94th Cong. 2nd Sess., Feb. 26-27, 1976, Serial No. 94-16, Part VI, page 207.*

cerning exactly what physical security measures are being used at a particular facility. I think most of us would agree that should not be public information. The method by which NRC will reveal such plans should, I think, be made public and subject to intensive review by people who will take the trouble to review what, I am sure, will be a very complex technique.

What Dr. Taylor seems to be suggesting, and if so we concur with him, is that there be a generic hearing for exploring site-security-plan requirements and the methods by which these plans are reviewed by the NRC. However, the complete (“gory”) details of a particular plant’s plan would not be revealed. The latter concept is in accord with the findings of this decision (*supra*, p. 1405), although neither Dr. Taylor nor our decision provides much in the way of guidance as to exactly what details may be disclosed to an intervenor’s counsel and/or witnesses. To this end, we offer the following examples of information which, in our opinion, could be (Y) or should not be (N) made available to an intervenor, under a protective order, to enable him to pursue a relevant security plan contention.

Intrusion and Alarm Systems

Design Criteria	Y
Vendor Hardware Performance Specifications	Y
Details of Installation	N
In-place Operation Capability	N
Specific Vulnerability Data	N
Sensitivity Levels	N

Communication Systems (Radiotelephone)

Design Criteria	Y
Performance Specifications	Y
Specific Operating Data (Transmission frequencies, etc.)	N
Communication Procedures	N

Tamper Indicating Seals

Design Criteria	Y
Application Methodology	Y
Circumvention Information	N

Keys, Locks, and Combinations

Types to be used	Y
Key Design	N
Combinations	N
Vulnerability Information	N

Guard Force	
Plant and Shift Totals	Y
Qualification and Training Requirements	Y
Size and Armament of Reserve Force	N
Specific Deployment and Route Information	N
Contingency Plans	
General Arrangement with Offsite Local Law Enforcement Units	Y
Response Plans for Specific Threats	N
Response Times	N
Audit and Security Assessment Information	
Audit Methods	Y
Routing Testing and Inspection Methods	Y
Details of Specific Evaluations	N

The list above is presented for guidance and is not intended to be all inclusive. Although the compilation is provided by a majority of the Board, it is deliberately not included in the body of our decision. We appreciate that the list reflects merely our personal assessments of information that should or should not be released, and is supported by no probative evidentiary record. It is therefore our sole intention that it be used for guidance with the caveat that circumstances and evidence unknown to us might lead to a different assessment in a particular case.

Such a selective disclosure would permit an appropriate degree of independent scrutiny of the plan by an intervenor. Thus the benefits of such probing would be preserved without unduly compromising the plan.

Additional comments of Mr. Salzman:

I share my colleagues' concern about the general undesirability of disclosing security plan details unnecessarily. I am not, however, persuaded that a serious threat to plant security is posed by the need to review the adequacy of these plans in an adjudicatory context. Rather, in my judgment, such dangers lurk in other quarters. See, Edelhertz and Walsh, *The White-Collar Challenge to Nuclear Safeguards* (Battelle, 1976).

With all deference to my colleagues' differing views, in past cases we have ourselves found—and the Commission has agreed—that considerable benefit can be derived from the independent scrutiny of such plans which litigation engenders. *Consolidated Edison Co. of New York* (Indian Point, Unit 2), ALAB-197 and 197R, 7 AEC 473, 826, *on review*, CLI-74-23, 7 AEC 947,

949-50, *on remand*, ALAB-243, 8 AEC 850, 853-54 (1974). Appropriate safeguards along the lines suggested in our main opinion will serve to prevent unnecessary disclosure. On the record before us—to which we are of course confined—I am unable to credit the suggestion that those determined to injure nuclear power plants will be significantly aided in their purposes by the limited types of disclosure contemplated, or much hindered in their purposes if that disclosure is proscribed. The roots of industrial sabotage will hardly wither if we withdraw such plans from all public scrutiny; rather, it is the public safety that is more likely to suffer if we do so. Accordingly, I respectfully disassociate myself from the contrary views expressed above (pp. 1407-1410) by my colleagues.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Alan S. Rosenthal, Chairman
Dr. John H. Buck
Michael C. Farrar

In the Matter of

Docket No. STN 50-482

KANSAS GAS AND ELECTRIC COMPANY
KANSAS CITY POWER AND LIGHT COMPANY(Wolf Creek Generating Station,
Unit No. 1)

June 14, 1977

In accordance with ALAB-391, 5 NRC 754 (1977), the applicants submitted a proposed permanent protective order acceptable to all the parties, limiting public disclosure of certain cost and pricing provisions of the nuclear fuel supply contract between them and the Westinghouse Electric Corporation. The Appeal Board adopts the proposed order and vacates the interim protective order it previously had entered.

MEMORANDUM AND ORDER

In ALAB-391, 5 NRC 754 (April 18, 1977), we resolved the disagreement which arose in this construction permit proceeding respecting whether the applicants should be compelled, in response to a discovery demand made by the intervenors, to make public disclosure of the cost and pricing provisions of the nuclear fuel supply contract entered into by themselves and the Westinghouse Electric Corporation. Our determination was that certain of those provisions are entitled to protection against such disclosure and others are not. The Commission did not elect to review that determination. Accordingly, it now represents the final agency word on the matter.

When the controversy first reached us, we entered an interim protective order designed to maintain *pendente lite* the *status quo*. ALAB-307, 3 NRC 17 (1976). Pursuant to our direction (see 5 NRC at 758), in the wake of ALAB-391 the parties endeavored to reach agreement on the terms of a permanent protective order which would embody the conclusions reached therein. Those en-

deavors were successful. Attached to this order is the proposed permanent protective order which the applicants have submitted. We are informed by them that that proposed order is acceptable to all of the parties.

We find the proposed order to be entirely suitable and, accordingly, hereby adopt it without change. In doing so, we are grateful to all of the parties for their cooperation and assistance.

Permanent protective order entered in accordance with the attachment; interim protective order vacated.

It is so ORDERED.

**FOR THE ATOMIC SAFETY AND
LICENSING APPEAL BOARD**

Romayne M. Skrutski
Secretary to the Appeal Board

**PROPOSED
PROTECTIVE ORDER LIMITING DISCLOSURE**

In ALAB-391, 5 NRC 754 (April 18, 1977), the Atomic Safety and Licensing Appeal Board determined that Applicants should not be compelled in response to a discovery demand by Intervenor State of Kansas and Mid-America Coalition for Energy Alternatives to make public disclosure of certain cost and pricing provisions of the nuclear fuel supply contract between Applicants and Westinghouse Electric Corporation.

NOW, THEREFORE, pursuant to 10 CFR §2.740(b), (c) and (f),

1. IT IS HEREBY ORDERED that since it has been shown that a rational basis exists to treat as confidential the cost and pricing provisions relative to the furnishing of fabricated fuel assemblies, Articles II (p. 6) and IV (pp. 9-13), of the "Contract between Kansas Gas and Electric Company, Kansas City Power and Light Company and the Westinghouse Electric Corporation" executed on June 12, 1974; and that there are no countervailing considerations militating in favor of public disclosure of said Articles II and IV which clearly outweigh the potential harm to Westinghouse Electric Corporation which might inure from such disclosure, the scope of discovery of said Articles II and IV shall be so limited so as to protect against the disclosure of such information to the general public, including, among others, the competitors of Westinghouse.

2. IT IS HEREBY FURTHER ORDERED that Intervenor State of Kansas and the Mid-America Coalition for Energy Alternatives Motion to Compel Discovery is hereby granted, in part, subject to paragraphs 3 and 4 of this Order, with respect to Articles II and IV of the said Contract, which Articles have been

found to be necessary and relevant to Intervenors Contentions I-12, I-13, I-14 and I-18.

3. IT IS HEREBY FURTHER ORDERED that the discovery granted be conditioned upon the following:

- a. Only Intervenors' counsel and Intervenors' experts who have a need to know shall be permitted access to the information;
- b. Said counsel and experts shall not disclose the information to any third person, nor photocopy, duplicate or transcribe such information;
- c. Said counsel and experts shall be permitted to take notes and data from the information, but the disclosure of said notes shall be subject to the restrictions of (b.) and (d.) herein;
- d. Said counsel and experts shall utilize the information only for the purpose of preparation of the issues in this proceeding and for no other purpose; and
- e. Said counsel and experts shall return the information to Applicants and destroy all notes and data taken therefrom at the conclusion of this proceeding.

4. IT IS HEREBY FURTHER ORDERED that in the event Intervenors need to utilize the information during the evidentiary hearing in this proceeding, the information shall only be disclosed *in camera* under the conditions set forth in paragraph 3 hereof and the transcript of such portion of the evidentiary hearing shall be sealed.

It is so ORDERED.

FOR THE ATOMIC SAFETY
AND LICENSING APPEAL BOARD

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Alan S. Rosenthal, Chairman
Dr. John H. Buck
Michael C. Farrar

In the Matter of

Docket No. STN 50-482

**KANSAS GAS AND ELECTRIC COMPANY
KANSAS CITY POWER AND LIGHT COMPANY**

**(Wolf Creek Generating Station,
Unit No. 1)**

June 15, 1977

Upon intervenor's motion seeking an "immediate suspension" of construction activities authorized by the Licensing Board's initial decision, LBP-77-32, 5 NRC 1251 (1977), from which intervenor has appealed, the Appeal Board, treating the motion as one for a stay pending outcome of the appeal, denies the motion but allows the intervenor 10 days to file an amended motion.

RULES OF PRACTICE: STAY PENDING APPEAL

In Commission proceedings, motions for a stay pending outcome of an appeal are governed by the criteria established in *Virginia Petroleum Jobbers Association v. Federal Power Commission*, 259 F.2d 921, 925 (D.C. Cir. 1958). These criteria are now formally codified in the Commission's Rules of Practice, 10 CFR §2.788, effective June 1, 1977, 42 Fed. Reg. 22128, 22130.

Mr. William H. Ward, Topeka, Kansas, for the intervenor,
Mid-America Coalition for Energy Alternatives.

MEMORANDUM AND ORDER

The intervenor Mid-America Coalition for Energy Alternatives has appealed from the May 11, 1977, initial decision authorizing the issuance of a construction permit for Unit No. 1 of the Wolf Creek Generating Station. LBP-77-32, 5 NRC 1251. In its brief in support of its exceptions to that deci-

sion, the Coalition asks that we order an "immediate suspension" of construction activities. We construe the request as, in essence, a motion for a stay of the effectiveness of the decision pending the outcome of the appeal.

It has long been settled that applications for such relief are governed by the criteria established by the Court of Appeals for the District of Columbia Circuit in *Virginia Petroleum Jobbers Association v. Federal Power Commission*, 259 F.2d, 921, 925 (1958). See e.g., *Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), ALAB-338, NRCI-76/7 10, 13 (1976) and cases there cited. And, effective June 1, 1977, the Commission added to its Rules of Practice a new section which is codified as 10 CFR §2.788. 42 Fed. Reg. 22128, 22130. That section, which deals exclusively with stay applications, explicitly adopts the *Virginia Petroleum Jobbers* criteria. Subsection (e) provides that . . . In determining whether to grant or deny an application for a stay, the Commission, Atomic Safety and Licensing Appeal Board, or presiding officer will consider:

- (1) Whether the moving party has made a strong showing that it is likely to prevail on the merits;
- (2) Whether the party will be irreparably injured unless a stay is granted;
- (3) Whether the granting of a stay would harm other parties, and
- (4) Where the public interest lies.¹

The Coalition's brief does set forth the reasons why that party believes the decision below to be erroneous and, therefore, may be said to address the first of the four criteria. No attempt is made, however, to show that the Coalition will be irreparably injured in the absence of a stay; that the grant of a stay would not significantly harm other parties; or that the public interest dictates a stay. In these circumstances, we must deny the sought relief at this time.

The question remains whether the Coalition should be given a reasonable opportunity to file an amended application for a stay. Although the new Section 2.788 did not come into effect until after rendition of the initial decision, and thus is of doubtful application here, the Coalition (which is represented by counsel) should have made itself aware of the obligations imposed on stay applicants by our earlier holdings. For this reason, we might be justified in foreclos-

¹Subsection (b) imposes the requirement that the application contain, *inter alia*, a "concise statement of the grounds for stay, with reference to the factors contained in paragraph (e) of this section."

ing an amended application. Nonetheless, we have decided not to do so but, rather, to allow the filing of such an application within 10 days of the *date* of this order. The Bar generally is put on notice, however, that this exercise of our discretion should not be taken to mean that like consideration necessarily will be extended in the future to stay applicants whose submissions are defective on their face. Section 2.788 is now in full effect and observance of its terms is mandatory. A stay application which is either untimely without good cause² or otherwise in substantial nonconformity with the requirements of the section will be subject to summary denial with prejudice to its renewal in the absence of materially changed circumstances.

Stay of initial decision *denied* without prejudice to renewal of application in accordance with the provisions of this order.

It is so ORDERED.

FOR THE ATOMIC SAFETY AND
LICENSING APPEAL BOARD

Margaret E. Du Flo
Secretary to the Appeal Board

²Section 2.788 (a) stipulates that the application must be filed within seven days after service of the decision.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Alan S. Rosenthal, Chairman
Dr. John H. Buck
Richard S. Salzman

In the Matter of

Docket Nos. 50-390
50-391

TENNESSEE VALLEY AUTHORITY

(Watts Bar Nuclear Plant,
Units 1 and 2)

June 20, 1977

Upon petitioner's appeal from LBP-77-36, 5 NRC 1292 (1977), denying her petition for leave to intervene in the operating license proceeding, the Appeal Board rules that the petitioner (1) failed to assert an interest within the zone of interests protected by the Atomic Energy Act or NEPA and (2) failed to show how her participation would likely produce a valuable contribution to the Commission's decision-making process.

Licensing Board's decision affirmed.

RULES OF PRACTICE: STANDING TO INTERVENE

Status as a ratepayer of an applicant for a nuclear license does not bring one within the "zone of interests" of the Atomic Energy Act. *Portland General Electric Co.* (Pebble Springs Nuclear Plant, Units 1 and 2), CLI-76-27, NRCI-76/12 610, 614 (1976).

RULES OF PRACTICE: STANDING TO INTERVENE

Alleged economic harm comes within the ambit of the NEPA "zone of interests" only if it is environmentally related—*i.e.*, if it will or may be occasioned by the impact that the Federal action under consideration would or might have upon the environment.

RULES OF PRACTICE: STANDING TO INTERVENE

Status as a ratepayer of an applicant for a nuclear license is not an economic

interest that is environmentally related; accordingly, it does not bring one within the "zone of interests" of NEPA.

RULES OF PRACTICE: STANDING TO INTERVENE

Status as a taxpayer does not bring one within the "zone of interests" of either the Atomic Energy Act or NEPA.

RULES OF PRACTICE: STANDING TO INTERVENE

A petitioner in seeking leave to intervene as a matter of right in a proceeding arising under the Atomic Energy Act or NEPA normally may only assert his interests, not those of third parties.

RULES OF PRACTICE: STANDING TO INTERVENE

Where judicial standing is lacking, adjudicatory boards considering whether to grant intervention as a matter of discretion should apply the factors specified in 10 CFR §2.714(a) and (d). Foremost among those factors as applied to that situation is whether intervention would likely produce a valuable contribution to NRC's decision-making process.

Messrs. Herbert S. Sanger, Jr., General Council, David G. Powell, Assistant General Counsel, and W. Walter LaRoche, Knoxville, Tennessee, for the applicant, Tennessee Valley Authority.

Ms. Jeannine W. Honicker, Nashville, Tennessee, petitioner *pro se*.

Mr. Edward G. Ketchen for the Nuclear Regulatory Commission staff.

DECISION

On December 27, 1976, a notice of opportunity for hearing was published in the Federal Register with respect to the application of the Tennessee Valley Authority (TVA) for licenses to operate Units 1 and 2 of the Watts Bar Nuclear Plant. 41 Fed. Reg. 56244. That facility is situated on the western shore of the Chickamauga Reservoir near Spring City, Rhea County, Tennessee. See ALAB-97, 6 AEC 37 (1973). Spring City is in the eastern portion of the State,

approximately 50 miles southwest of Knoxville and in excess of 100 miles southeast of Nashville.

In response to the notice, Ms. Jeannine W. Honicker filed *pro se* a timely petition for leave to intervene.¹ A resident of Nashville, she asserted therein an interest in the proceeding by reason of her status as (1) a customer of an electric utility which purchases power from TVA; (2) a taxpayer in the State of Tennessee; and (3) the mother of a student at the University of Tennessee in Knoxville. The petition went on to endeavor to raise a number of safety and environmental issues.

By order of May 25, 1977, the Licensing Board denied the petition. LBP-77-36, 5 NRC 1292. The petitioner appeals under 10 CFR § 2.714a. We affirm.

A. As we recently observed in *Black Fox*²

Under the Atomic Energy Act [Section 189a., 42 U.S.C. 2239(a)] and our Rules of Practice [Section 2.714(a), 10 CFR §2.714(a)], one seeking to intervene as a matter of right in an NRC licensing proceeding must assert an "interest [which] may be affected by" that proceeding. It is now settled that, in determining whether such an interest has been sufficiently alleged, the adjudicatory boards are to apply contemporaneous judicial concepts of standing. More specifically, the petitioner for intervention must allege both (1) "some injury that has occurred or will probably result from the action involved" and (2) an interest "arguably within the zone of interests" to be protected or regulated by the statute sought to be invoked. *Portland General Electric Co.* (Pebble Springs Nuclear Plant, Units 1 and 2), CLI-76-27, NRCI-76/12 610, 613-14, (December 23, 1976).

The Board below concluded that the assertions of interest in Ms. Honicker's petition fell short of meeting this test. That conclusion is correct.

The Commission has squarely held that status as a ratepayer of an applicant for a nuclear license does not bring one within the "zone of interests" protected by the Atomic Energy Act (except perhaps in the antitrust sphere). *Portland General Electric Co.* (Pebble Springs Nuclear Plant, Units 1 and 2), CLI-76-27, NRCI-76/12 610, 614 (1976).³ Although the Commission did not there explicitly address the additional question whether such status might be enough to entitle one to raise National Environmental Policy Act issues in an NRC licensing proceeding, we answered that question in the negative in our earlier opinion in

¹ No other intervention petitions were filed.

² *Public Service Co. of Oklahoma* (Black Fox Station, Units 1 and 2), ALAB-397, 5 NRC 1143 (May 9, 1977).

³ As earlier noted, the petitioner here is allegedly served by a utility which acquires power from TVA, rather than by TVA directly. That consideration does not, of course, enhance her claim of standing as a ratepayer.

the same case. ALAB-333, 3 NRC 804, 806 (1976). We adhere to that view. A ratepayer's interest is perforce purely economic in character; as stated by petitioner here, "any action which TVA takes that can cause an increase in rates affects me." For the reasons developed in Mr. Rosenthal's opinion in *Long Island Lighting Co.* (Jamesport Nuclear Power Station, Units 1 and 2), ALAB-292, 2 NRC 631, 638-640 (1975), it is clear to us that "alleged economic harm comes within the ambit of the NEPA 'zone of interests' [only] if it is *environmentally* related; i.e., if it will or may be occasioned by the impact that the Federal action under consideration would or might have upon the environment."

For standing purposes, taxpayer status rests on no better footing. Just as neither the Atomic Energy Act nor NEPA was intended to protect a person's interest in the rates charged by a utility for the electricity which it supplies, so too neither enactment can be said to be concerned to any extent with the rate of taxation which is imposed by governmental entities upon their citizens. Beyond that, as the Licensing Board noted, the Supreme Court has held that " 'a generalized grievance' shared in substantially equal measure by all or a large class of citizens" is normally not cognizable. *Warth v. Seldin*, 422 U.S. 490, 499 (1975).

What is left, then, is petitioner's claim of entitlement "to participate in any action which can endanger" her son who is attending the University of Tennessee. It is not alleged, however, that the son is a minor or otherwise under a legal disability which would preclude his assertion on his own behalf of whatever interest he might consider himself to possess in the construction or operation of the Watts Bar facility. "[T]he general rule is that 'a litigant may only assert his own constitutional rights or immunities.'" *McGowan v. Maryland*, 366 U.S. 420, 429 (1961), quoting *United States v. Raines*, 362 U.S. 17, 22 (1960). The same rule comes into play where, as here, the right asserted is not of constitutional dimensions. *Warth v. Seldin*, *supra*, 422 U.S. at 499-501. It is true, as was pointed out in *Warth*, that in some instances the courts have found that the constitutional or statutory provision in question implies an entitlement to advance a "claim to relief [which] rests on the legal rights of third parties." *Id.* at 500-01. But we perceive nothing in the Atomic Energy Act or NEPA which would undergird a conclusion that either or both of those statutes contain such an implication.⁴

⁴We need not consider here whether petitioner's son's attendance at the University of Tennessee would have proved enough to confer standing upon him to intervene on the strength of all or some of the contentions raised in his mother's petition. We would note simply that (1) the distance between Knoxville and the facility site (i.e., approximately 50 miles) is not so great as necessarily to have precluded a finding of standing based upon residence in that city; and (2) it is not fatal that a student residence is involved. See e.g.,

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B. Having determined—as we have seen correctly—that Ms. Honicker lacked standing to intervene as a matter of right, the Licensing Board moved on to consider whether she should nevertheless be permitted intervention as a matter of discretion under the standards laid down by the Commission in *Pebble Springs*, CLI-76-27, *supra*. In our recent *Black Fox* decision (see fn. 2, *supra*), we pointed out that, although *Pebble Springs* makes reference to several discrete factors, foremost among them is whether the petitioner’s “participation would likely produce ‘a valuable contribution . . . to our decision-making process.’ ” ALAB-397, 5 NRC at 1145. Indeed,

...in the vast majority of instances the pivotal factor in determining whether to grant discretionary intervention will be that of the ability of the petitioner to make a valuable contribution to the development of a sound record on a safety or environmental issue which is raised by him and appears to be of enough importance to call for Board consideration.

Id. at 1151, fn. 14.

In the circumstances of this case, there is particularly strong reason why discretionary intervention should not be allowed in the absence of some clear indication that the petitioner has a substantial contribution to make on a significant safety or environmental issue appropriate for consideration at the operating license stage.⁵ As petitioner herself acknowledges, in the absence of a successful petition for intervention there is no hearing at that stage. Certainly, before a hearing is triggered at the instance of one who has not alleged any cognizable personal interest in the operation of the facility, there should be cause to believe that some discernible public interest will be served by the hearing. If the petitioner is unequipped to offer anything of importance bearing upon plant operation, it is hard to see what public interest conceivably might be furthered by nonetheless commencing a hearing at his or her behest.

There is nothing before us which might suggest that this petitioner is qualified by either specialized education or pertinent experience to make a substantial contribution on one or more of the contentions which she seeks to have

Continued from previous page.

Northern States Power Co. (Prairie Island Nuclear Generating Plant, Units 1 and 2) ALAB-107, 6 AEC 188, 189-90 (1973). Of course, when a petitioner asserts standing based upon a student (as distinguished from a permanent) residence, it may well be relevant how long he is likely to remain in the area where the educational institution is located. In this instance, for all that appears in the record before us, petitioner’s son by now may have graduated from the University of Tennessee and left the region.

⁵The Watts Bar facility received a full NEPA review at the construction permit stage. LBP-72-35, 5 AEC 230, 234-239 (1972), *affirmed*, ALAB-97, 6 AEC 37 (1973). What environmental issues might be explored in an operating license proceeding is shaped by the provisions of 10 CFR §51.21.

litigated.⁶ Nor, in contrast to the successful petitioner for intervention in *Black Fox*, ALAB-397, *supra*, does she profess to have expert assistance available to her.⁷ In a word, her situation is not materially different from that of the two other petitioners with whom we were concerned in *Black Fox*. The grant by the Licensing Board of discretionary intervention to them was overturned by us. 5 NRC at 1149, 1149-1150. The same ultimate result—the denial of intervention—must obtain here.

The May 25, 1977, order of the Licensing Board denying Ms. Honicker's intervention petition is *affirmed*.

It is so ORDERED.

FOR THE ATOMIC SAFETY AND
LICENSING APPEAL BOARD

Margaret E. Du Flo
Secretary to the Appeal Board

Additional views of Mr. Salzman:

I join the decision to affirm the Licensing Board's denial of intervention of Mrs. Honicker for lack of standing as a matter of right and failure to demonstrate that she would make a sufficiently valuable contribution to the decision-making process to warrant her participation as a matter of discretion. I do so on the understanding that the decision neither reaches the issues of the adequacy of her contentions nor endorses the suggestion in the applicant's brief (pp. 12-13) that the findings necessary to the issuance of an operating license "do not

⁶We need not, and do not, pause to consider whether some, or any, of those contentions raise questions which are both susceptible of litigation in an operating license proceeding and adequately framed by petitioner.

⁷The NRC staff and TVA point out in their briefs urging affirmance that, during the course of the special prehearing conference held on May 12, 1977, for the purpose of considering her intervention petition, Ms. Honicker indicated that she was not financially equipped to "pay the cost of an intervention" and that it "would only be possible to bring in" expert witnesses "if different public interest groups decide that it is of value to have intervention to fund this portion of it" (Tr. 72). Although at other times during the conference, she expressed the hope of being able to produce certain individuals as witnesses, it appears that she has not obtained commitments from any of them. Further, it is unclear how, if at all, their testimony would be of value. In the totality of circumstances, we cannot assume that her role would extend significantly beyond the posing of questions to witnesses called by the applicant, the staff or the Board itself. This role was alluded to by her on several occasions (Tr. 57, 61, 83, 85).

include consideration of alternatives to the project." That conclusion, and the authorities cited as supporting it, appear to rest on the assumption that if a facility is built in accordance with its construction permit, the Commission is under a legal obligation to issue an operating license for it. That reading of the law is mistaken and nothing in this opinion should be taken as an implicit endorsement of it. See *Power Reactor Company v. Electricians*, 36 U.S. 396, 402 (1961), affirming *In re Power Reactor Development Company*, 1 AEC 128, 136 (1959); *Consumers Power Company (Midland Plant, Units 1 and 2)*, ALAB-283, 2 NRC 7, 11 (1975), on reconsideration, ALAB-315, 3 NRC 101, 103-112 (1976).

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Jerome E. Sharfman, Chairman
Dr. John H. Buck
Dr. Lawrence R. Quarles

In the Matter of

Docket No. 50-247
OL No. DPR-26

CONSOLIDATED EDISON COMPANY
OF NEW YORK, INC.

(Indian Point Station,
Unit No. 2)

June 23, 1977

The intervenor moves to stay ALAB-399, 5 NRC 1156 (1977), pending Commission action on its petition for review under 10 CFR §2.786(b). The Appeal Board rules that the intervenor's motion was timely but that, under the standards of *Virginia Petroleum Jobbers Assn. v. FPC*, 259 F.2d 921, 925 (D.C. Cir. 1958), a stay is not warranted.

Motion denied.

RULES OF PRACTICE: COMMISSION REVIEW OF APPEAL BOARD DECISIONS

Under the Commission's Rules of Practice, 10 CFR §2.786(b) effective June 1, 1977, a party may file with the Commission a petition for review of an Appeal Board decision within fifteen days after service of that decision.

RULES OF PRACTICE: STAY PENDING APPEAL

In Commission proceedings, the criteria laid down in *Virginia Jobbers Assn. v. FPC*, 259 F.2d 921, 925 (D.C. Cir. 1958) govern disposition of motions seeking a stay pending appeal. These criteria are formally incorporated into the Commission's Rules of Practice, 10 CFR §2.788(e) effective June 1, 1977, 42 Fed. Reg. 22128.

RULES OF PRACTICE: STAY PENDING APPEAL

To the extent that an application for a stay relies on facts subject to dispute, it must contain appropriate references to the record or affidavits by knowledgeable persons. 10 CFR §2.788(b)(4).

Mr. Edward J. Sack and Ms. Joyce P. Davis, New York, New York, and Messrs. Leonard M. Trosten and Eugene R. Fidell, Washington, D. C., for the licensee, Consolidated Edison Company of New York.

Ms. Sarah Chasis, New York, New York, for the Hudson River Fisherman's Association.

Mr. Stephen H. Lewis for the Nuclear Regulatory Commission staff.

MEMORANDUM AND ORDER

In ALAB-399, 5 NRC 1156 (May 20, 1977), we (1) reversed that part of the Licensing Board's orders¹ which had fixed May 1, 1980, as the date for termination of operation of the plant with the present once-through cooling system, and (2) ordered the operating license amended to provide that the termination date for such operation "will be fixed by the Licensing Board in future proceedings consistent with this opinion." (5 NRC at 1174). The Hudson River Fishermen's Association ("HRFA") has moved for a stay of this part of ALAB-399 pending decision by the Commission on HRFA's petition for review of that decision.² HRFA maintains that the stay is necessary because a later termination date, even if it is only several months later, would have the result of permitting the plant to operate with once-through cooling through the 1980 striped bass spawning season which runs from May to July. The motion is opposed by the licensee, Consolidated Edison Company of New York ("Con Ed").³

¹ LBP-76-43, NRCI-76/11 598 and LBP-76-46, NRCI-76/12 659.

² On June 1st, a new regulation (10 CFR §2.786(b)) went into effect which permits a party to seek Commission review of one of our decisions. Another regulation which became effective on that date is 10 CFR §2.788. It governs motions for stays pending the filing of and decision on a petition for review filed pursuant to §2.786. See 42 Fed. Reg. 22128-22130 (May 2, 1977). Section 2.788(f) requires that a stay be sought from the Appeal Board before it is sought from the Commission.

³ The NRC staff filed a late, ambivalent response which we will advert to later.

I. TIMELINESS

A. The Motion

This is the first case in which petitions for Commission review have been filed under the new §2.786(b) of our Rules of Practice.⁴ Section 2.786(b)(1) provides that a party may file a petition for review of an Appeal Board decision within fifteen days after service of the decision. In promulgating the regulation, the Commission gave it an effective date of June 1, 1977, but did not indicate whether it would be applicable to a case in which an Appeal Board decision was rendered in May but the fifteen day period for filing a petition for review did not expire until early June. ALAB-399 was such a decision. It is for the Commission itself to decide whether the petitions for review which have been filed in this case are permissible under §2.786(b). As we must act on the pending stay motion with reasonable promptness and we cannot predict when the Commission will rule on the petitions for review, we must assume for present purposes that they were properly filed.

However, the anomaly of applying §2.786(b)(1) to an Appeal Board decision issued in May leads to problems in determining the timeliness of a related motion for a stay of such a decision pending review. 10 CFR §2.788(a) provides that such a motion must be filed within seven days after service of the decision of which a stay is sought. Invoking this provision, Con Ed contends that HRFA's stay motion must be rejected out of hand as untimely. Its reasoning is as follows: ALAB-399 was served on May 20th. Three days must be added to the seven day period because the decision was served on HRFA by mail.⁵ That brings us to May 30th, which could not be the last day for making a motion because it was Memorial Day.⁶ Thus, says Con Ed, the due date was May 31st. But §2.788 did not become effective until June 1st. In order to avoid having to contend that the time allowed under the rule expired the day before the rule became effective, Con Ed charitably gives HRFA an extra day—until June 1st. As the stay motion was mailed on June 3rd, it was two days late.

Con Ed was mistaken as to the date of service. While we issued ALAB-399 on May 20th and followed our usual custom of making advance copies available to the parties either by mail or, if they prefer it, by giving a copy to a messenger, that did not constitute service by the Commission. The Commission has delegated responsibility for the service on parties of Appeal Board orders to the Docketing and Service Branch of the Office of the Secretary of the Commission.⁷ Thus, the date of service for the purpose of computing the time for filing

⁴ See n. 2, *supra*.

⁵ 10 CFR §2.710.

⁶ *Ibid*.

⁷ NRC Manual, Appendix to Chapter 0105, Part II, paragraph F4.

a stay motion under §2.788 would be the date on which the Docketing and Service Branch served the order—in this case, May 23rd.⁸ Three days for mailing and seven days for serving the motion would bring us to June 2nd. If the seven-day deadline in §2.788(a) applies, HRFA was a day late.

However, we do not see how that deadline can reasonably be said to apply, for that would mean that the time for making a motion under the regulation would have started to run nine days before both §2.788 and its companion regulation authorizing petitions for a review became effective. Prior to June 1st, there was no regulation setting a deadline for the filing of a stay motion. Hence, the only tenable resolution of the problem would be to hold either that there was no deadline for making a stay motion pending review of Appeal Board decisions issued in May or that the seven days began to run on June 1st. Under either of these alternatives, the motion was timely.

B. The Staff's Response

Section 2.788(d) provides, insofar, as is relevant:

Within seven (7) days after service of an application for a stay under this section, any party may file an answer supporting or opposing the granting of a stay.

Allowing three days because the motion was served by mail, the parties were required to respond by June 13th. The staff did not ask for an extension of time but filed a response on June 16th. It gave no explanation of why it was late and did not move for permission to file late. It may be that the staff was relying on the rule governing motions generally, 10 CFR §2.730, which provides that responses to motions must be filed in five days but that the staff has ten days in which to file.

However, there can be no question but that §2.788 was fully effective on the date the stay motion was served and was therefore applicable. It is likewise beyond question that, with respect to stay motions, §2.788 supersedes §2.730, for it is later in time, more specific, and different in certain respects, such as the time for response. Section 2.788, unlike §2.730, makes no exception for the staff as to the time for response.

For these reasons and because no motion was made for permission to file late, we would normally be inclined to reject the staff's response as improperly

⁸The order was received by the Docketing and Service Branch late on Friday afternoon and was therefore not duplicated and served until the following Monday. Con Ed is not to be faulted for not knowing this. The copies of ALAB-399 served by the Docketing and Service Branch indicated the date on which the decision was received from us but not the date on which it was served. We have been assured that, in the future, the service date will be shown on the front page of the officially served copies of the decision.

filed. However, in this case, there is no reason to do so for the response, though in form it opposes the motion, in effect urges no course of action upon us.⁹ It is therefore of no consequence whether it is accepted for filing or not and we see no need to reject it. The staff is admonished, however, that, in future, it will be expected to observe the deadlines prescribed in §2.788, absent a grant of an extension of time.

II. THE MERITS OF THE MOTION

Our decision on a stay motion is governed by the criteria set forth in *Virginia Petroleum Jobbers Ass'n v. FPC*, 259 F.2d 921, 925 (D.C. Cir. 1958), now enshrined in 10 CFR §2.788(e). They are:

- (1) Whether the moving party has made a strong showing that it is likely to prevail on the merits;
- (2) Whether the party will be irreparably injured unless a stay is granted;
- (3) Whether the granting of a stay would harm other parties, and
- (4) Where the public interest lies.

1. Likelihood of Success on the Merits

HRFA argues that ALAB-399 is wrong because it permits operation of Indian Point 2 with the present once-through cooling system for another spawning season despite its recognition "that because of Federal preemption the Village could not delay forever its approval of the construction." HRFA maintains that the decision was arbitrary and capricious in granting the Buchanan Zoning Board of Appeals additional time in which to exercise local and incidental regulation of the construction of a closed-cycle cooling system because "the Village has had years to act and since October 1976 has had the full opportunity to grant the variance with local and incidental controls, as directed by the Appellate Division of the Supreme Court of the State of New York."

While it is true that the Zoning Board has had years to act, it has not had years of knowledge as to how the Commission construes the license condition and views the permissible limits of the Zoning Board's powers. It did not have

⁹In essence, it says that our decision on this motion makes no difference because, if the Commission reverses ALAB-399, it would "automatically" reinstate the May 1, 1980, date for termination of operation with once-through cooling. Of course, the Commission has the power to do that and the staff has the right to urge it to do so. But it is obvious that the Commission reverses ALAB-399, it would "automatically" reinstate the May 1, 1980, date to rely on ALAB-399 until it was reversed or for any other reason, or to remand the case for a setting of the date by either the Licensing Board or by us. Nothing is automatic in love or litigation.

this knowledge after the Licensing Board's decisions of November 30 and December 27, 1976, because those decisions were appealable as of right to us. From November 30, 1976, until the issuance of ALAB-399, it would not have availed the Zoning Board at all to attempt to exercise its right of local and incidental regulation under the Appellate Division's decision of October 25, 1976, because the Licensing Board's November 30th order held that the Zoning Board had no power at all under New York law to interfere with construction of the cooling system.¹⁰ It is only by virtue of ALAB-399 that the Zoning Board knows that its local and incidental regulation of construction of the closed-cycle cooling system will be respected by the Commission so long as it does not substantially obstruct or delay or otherwise frustrate compliance with the conditions in the NRC license.¹¹ It is therefore reasonable, and evinces respect for the Zoning Board's legitimate powers under New York law, to give it an opportunity to effectuate whatever local and incidental regulation it may deem appropriate, in conformity with the principles enunciated in ALAB-399. That is not the same thing as permitting it to "delay forever its approval of the construction."

HRFA further argues that ALAB-399 is arbitrary and capricious in that it erroneously assumes that there are provisions in Buchanan's municipal laws which would permit regulation short of blocking construction altogether. While we do not have access to the Village's body of municipal law, we must assume that it would permit some local and incidental regulation for, if it did not, then the Appellate Division's modification of the Supreme Court's order would have been meaningless. Moreover, the wide scope of most local zoning laws might well permit some sort of limited regulation. This question can only be answered by permitting the Zoning Board to take some action. There is nothing before us which would justify a conclusive presumption that any form of limited, incidental regulation by the Zoning Board would be a legal impossibility.

Finally, HRFA contends that ALAB-399 is arbitrary "in that it extends the termination date past May 1, 1980, without any analysis of the environmental impacts of such an action and effectively grants to Con Edision the relief sought in an entirely separate proceeding in which Con Edision seeks permission to operate Indian Point 2 through another spawning season." The first part of this argument is a quarrel with the license condition itself. The last sentence of paragraph 2.E.(1)(b) of the license states:

In the event the applicant has acted with due diligence in seeking all such governmental approvals, but has not obtained such approvals by December 1, 1975, then the May 1, 1979, date shall be postponed accordingly.

The word "shall" is mandatory and postponement is required without any

¹⁰ LBP-76-43, NRCI-76/11 598, 604.

¹¹ See ALAB-399, 5 NRC at 1169-1170. Of course, it is open to the Commission to review and overturn our decision.

reference to the resulting impact upon the striped bass population which customarily spawns in the Hudson River. If HRFA was of the view that this did not provide adequate safeguards against environmental damage, it could have sought judicial review of ALAB-188.¹² Even after its time to do that had expired, it could have requested the staff to institute a show cause proceeding to modify the license under 10 CFR §2.206. It did neither of these things. In this proceeding, we were, therefore, bound by the license condition as written. This condition, in turn, was founded on our decision in ALAB-188 wherein we clearly indicated that we had considered the possible adverse environmental effects of extending the period of operation with once-through cooling. We stated there that continued operation with once-through cooling to May 1, 1979, "or to any date subsequent thereto which may be authorized, is conditioned on the existence and use of controls to assure that any significant adverse impact on the Hudson River fishery is detected and that mitigating measures are initiated."¹³

Moreover, there was a way in which HRFA could have raised the issue of environmental impact in this proceeding. Paragraph 2.E.(1)(a) of the license provides that:

interim operation shall only be permitted to the extent that the requirements of this license to protect the aquatic biota of the Hudson River from any significant adverse impacts are satisfied; any necessary mitigating measure shall be promptly taken; such measures to include any authorized remedy deemed to be appropriate by the Atomic Energy Commission, including an advancement of the May 1, 1979, date to an earlier date which is deemed reasonable and warranted by the circumstances.

If HRFA believed that the striped bass were not being sufficiently protected under the provisions of the license governing operation with the once-through cooling system, it could have asked the Licensing Board, pursuant to paragraph 2.E.(1)(a), to consider this question in connection with the required governmental approvals issue under paragraph 2.E.(1)(b). As the issues under paragraph (a) affect the date as much as do the issues under paragraph (b), we do not see how the Licensing Board could have justifiably refused a request to consolidate them for hearing.¹⁴ Thus, HRFA has no one to blame but itself for our failure to take a fresh look in ALAB-399 at the issue of damage to the striped bass from continued operation with the present cooling system.

¹² 7 AEC 323 (1974). Con Ed's Answer to the instant motion states (in a footnote on p. 4): "A petition for review of the Indian Point 2 operating license case was filed by HRFA in 1974 in the U.S. Court of Appeals for the Second Circuit, but was later abandoned. *Hudson River Fishermen's Ass'n v. A.E.C.*, No. 74-2113 (2nd Cir.)."

¹³ 7 AEC 323, 407.

¹⁴ Of course, if it were to prevail on a paragraph 2.E.(1)(a) application, HRFA would have had to make out an evidentiary case. A mere expression of concern for the fish would not have been sufficient.

2. Irreparable Injury

HRFA takes the position that, “[i]f a partial stay is not granted, the time elapsing during the appeal process may well undercut the efficacy of any relief which Commission review of the ALAB decision could afford.” It states that this is because suspension of the construction schedule required by the Licensing Board’s decisions of November and December might make it impossible for Con Ed to meet the May 1, 1980, date. What HRFA’s motion papers do not say is why this would cause irreparable injury to it. It does not even allege that irreparable injury would occur because another year of operation with once-through cooling would seriously damage the striped bass that spawn in the Hudson River, or state what it believes the extent of the damage might be. We do not mean to suggest that mere allegations would be enough. The effect of the once-through cooling system on striped bass larvae and juveniles has been and continues to be a hotly contested issue in these proceedings. 10 CFR §2.788(b)(4) states: “To the extent that an application for a stay relies on facts subject to dispute, [it shall contain] appropriate references to the record or affidavits by knowledgeable persons.” We find significant HRFA’s failure even to attempt to make a case on the issue of irreparable injury. In that circumstance, we have no choice but to resolve the issue against HRFA.

3. Harm to Other Parties

HRFA maintains that the grant of its motion would not harm Con Ed because Con Ed declined to seek a stay of the Licensing Board’s decisions. That is a *non sequitur*. While there are many possible reasons which might have prompted Con Ed not to seek a stay of the Licensing Board’s rulings, it is not for us to speculate upon them. Rather, it is for the moving party to make a showing on the factors relevant to the disposition of its motion. Besides, we are not at a different point in time from when the Licensing Board’s orders were issued. This may well affect the existence or extent of the harm that imposition of a May 1, 1980, date might bring to Con Ed.

We find that Con Ed would suffer substantial injury if the stay were granted. Con Ed states in its answer to the motion that the “point in time has now been reached when construction activities in the field would have to be commenced in order to meet a May 1, 1980, date.” This cannot be seriously disputed. Indeed, counsel for HRFA, in the argument before us on February 9, 1977, admitted that the year beginning in June of 1977 would be “primarily devoted to excavation.”¹⁵ Excavation is not cheap. If the Zoning Board were to put conditions on the variances which might require that the excavation be done

¹⁵ Tr. 54.

differently or in a different spot and the Commission were to hold that these conditions were not inconsistent with its license conditions, Con Ed would suffer substantial harm.¹⁶ This is precisely the kind of harm from which the license condition in question was designed to protect Con Ed.

We also take notice of the Licensing Board's initial decision of June 17, 1977, which extended the date for termination of operation with once-through cooling to May 1, 1982, in the hope that Con Ed's application for elimination of the license requirement for conversion to closed-cycle cooling might be decided "before excavation would have to begin for a cooling tower."¹⁷ Of course, we can have no opinion at present as to the correctness of that decision or as to the merits of the application for elimination of the conversion requirement. But should that decision be upheld on appeal and should Con Ed succeed in obtaining either the elimination of the conversion requirement from the license or similar relief from the Environmental Protection Agency,¹⁸ Con Ed is likely to suffer substantial financial harm from a stay which, in effect, requires it to engage in excavation activities pending disposition of the appeal.¹⁹ Moreover, the duration of the stay (and hence the damage) would probably be greater than usual because, beginning July 1, 1977, the Commission will, in all likelihood, lack sufficient members to constitute a quorum. No one can confidently predict when that situation will end.

4. The Public Interest

HRFA advances two reasons as to why the public interest would be served by granting the stay. One is that failure to do so would undercut "the important public policy of protecting the Hudson River fishery. . ." by permitting once-through cooling for another spawning season. However, as we stated in considering irreparable injury, HRFA has totally failed to refer us to any evidence of the damage to fish that failure to grant the stay would entail. Its other reason is to assure HRFA "the opportunity for meaningful review." While we endorse the goal of providing the opportunity for meaningful review, we fail to see why it requires giving HRFA relief which we held in ALAB-399 it was not entitled to get, at the expense of possible substantial harm to Con Ed. If meaningful review meant that every petitioner for review were entitled to a stay, the Commission would presumably have provided for one automatically. It did not do so. In-

¹⁶We intimate no view whatsoever here as to whether such action by the Zoning Board would be valid for it would be premature to do so now. See ALAB-399, 5 NRC at 1170.

¹⁷LBP-77-39, 5 NRC at 1469.

¹⁸See ALAB-399, Part I (5 NRC at 1164-1166).

¹⁹Not only would it incur useless expenses for excavation but it would have to fill in the hole and probably, at least to some extent, restore the site. See paragraph 7 of the affidavit of Carroll H. Dunn appended to Con Ed's answer to the motion.

stead, it recognized, as do the Federal courts, that, in deciding whether to grant a stay pending appeal, fairness requires that the interests of an appellee be considered as well as those of an appellant. It is for that reason that the *Virginia Jobbers* criteria evolved. They permit a weighing of the equities on all sides. Here, there has been no showing of a likelihood of success on appeal, no showing of irreparable injury if the stay is not granted and a showing of possible substantial harm to Con Ed if it is granted.²⁰ These factors all militate in favor of denying the stay. We can discern no public interest which compels a different result unless continued operation with once-through cooling is causing serious environmental harm—a matter which none of the parties has seen fit, or been able, to call to our attention. We cannot grant a stay on the basis of sheer speculation. Absent a showing on the four criteria, precedent as well as equity require that the party who won below²¹ be permitted to enjoy the fruits of its victory pending appeal.

CONCLUSION

For the foregoing reasons, the motion of HRFA for a partial stay pending review of ALAB-399 is *denied*.

It is so ORDERED.

FOR THE ATOMIC SAFETY AND
LICENSING APPEAL BOARD

Margaret E. Du Flo
Secretary to the Appeal Board

²⁰The harm to Con Ed, consisting of the incurring of possibly unnecessary costs, would probably be passed on to ratepayers and, to that extent, would not be in the public interest. Moreover, the commencement of construction would involve "destruction of a wooded area and excavation of a hillside." Affidavit of Carroll H. Dunn, paragraph 7, attached to Con Ed's answer. It would not be in the public interest to incur this environmental cost if it should be decided that conversion to closed-cycle cooling is unnecessary, absent a showing (not made here) that serious harm would befall the striped bass if construction were not to begin immediately.

²¹Of course, we are aware that Con Ed did not prevail on all issues in the case and that it, too, has petitioned for review of ALAB-399.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Michael C. Farrar, Chairman
Richard S. Salzman
Dr. W. Reed Johnson

In the Matter of

Docket No. 50-389

FLORIDA POWER & LIGHT COMPANY

(St. Lucie Nuclear Power Plant,
Unit No. 2)

June 28, 1977

Upon intervenors' motion for a stay pending appeal of the Licensing Board's initial decision authorizing issuance of a construction permit, LBP-77-27, 5 NRC 1038 (1977), the Appeal Board holds that under the standards of *Virginia Petroleum Jobbers Assn v. FPC*, 259 F.2d 921, 925 (D.C. Cir. 1958), a stay is not warranted.

Motion denied

RULES OF PRACTICE: STAY PENDING APPEAL

In Commission proceedings the criteria laid down in *Virginia Jobbers Assn v. FPC*, 259 F.2d 921, 925 (D.C. Cir. 1958), govern disposition of motions seeking a stay pending appeal. These criteria are formally incorporated into the Commission's Rules of Practice, 10 CFR §2.788(e), effective June 1, 1977, 42 Fed. Reg. 22128.

RULES OF PRACTICE: STAY PENDING APPEAL

Where the movant has failed to establish irreparable harm, he must make a compelling showing on the other three factors in 10 CFR §2.788(e) in order to obtain a stay pending appeal.

Mr. Harold F. Reis, Washington, D.C. (with whom Mr. Norman A. Coll, Miami, Florida was on the brief), for the applicant, Florida Power & Light Company.

Mr. Martin Harold Hodder, Miami, Florida, *pro se* and as counsel for Rowena E. Roberts, *et al.*, intervenors.

Mr. William J. Olmstead (with whom Mr. William D. Paton was on the brief) for the Nuclear Regulatory Commission staff.

MEMORANDUM AND ORDER

In ALAB-404, 5 NRC 1185 (May 31, 1977), we established a schedule for briefing and oral argument on the intervenors' motion for a stay pending appeal of the effectiveness of the initial decision of the Licensing Board authorizing the issuance of a construction permit for Unit 2 of the St. Lucie nuclear facility.¹ Having now fully considered the positions of the respective parties as developed in their papers and at argument, we conclude that a stay is not warranted under the standards laid down in *Virginia Petroleum Jobbers Ass'n. v. Federal Power Commission*, 259 F.2d 921, 925 (D.C. Cir. 1958). As observed in ALAB-404, 5 NRC at 1187, fn. 4, those standards have been customarily applied by us in acting upon stay motions. Beyond that, the Commission has just formally incorporated them into the Rules of Practice. 10 CFR §2.788(e), effective June 1, 1977, 42 Fed. Reg. 22128, 22130.² See *Kansas Gas and Electric Co.* (Wolf Creek Generating Station, Unit No. 1), ALAB-412, 5 NRC 1415, 1416 (June 15, 1977).

At oral argument, intervenors acknowledged with commendable candor that "the amount of work the applicant seeks to do in the next few months" would have an "insignificant [environmental] effect" (App. Tr. 8).³ Rather, their claim of irreparable injury was bottomed entirely on the possibility that construction undertaken by the applicant while the appeal is before us would prove sufficient of itself to tilt the environmental cost-benefit balance in favor of allowing the

¹ LBP-77-27, 5 NRC 1038 (April 19, 1977). ALAB-404 also denied intervenors' request for an immediate emergency stay.

² Section 2.788(e) provides that

... In determining whether to grant or deny an application for a stay, the Commission, Atomic Safety and Licensing Appeal Board, or presiding officer will consider:

- (1) Whether the moving party has made a strong showing that it is likely to prevail on the merits;
- (2) Whether the party will be irreparably injured unless a stay is granted;
- (3) Whether the granting of a stay would harm other parties, and
- (4) Where the public interest lies.

³ In this connection, intervenors' counsel noted, as had we in ALAB-404, 5 NRC at 1187, that the site is not a virgin one.

plant to be completed. *Ibid.*⁴ But our review of the record and our understanding of the nature and amount of work likely to be completed in the next few months satisfies us that in no event could that work significantly affect our ultimate decision on the appeal. In this circumstance, to justify a stay the intervenors must be found to have made an especially compelling showing on the other three factors. *Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), ALAB-338, NRCI-76/7 10, 14-15 (1976). Without implying that the Licensing Board's decision will ultimately be affirmed by us, it must be accorded presumptive correctness at this stage for the intervenors have not demonstrated that there is a particularly strong probability that their appeal will be successful. Nor have they persuaded us that the two remaining factors—the public interest and the absence of a likelihood of injury to others—weigh heavily in favor of granting a stay. See ALAB-404, *supra*.

The motion for a stay is *denied*.
It is so ORDERED.

FOR THE ATOMIC SAFETY AND
LICENSING APPEAL BOARD

Margaret E. Du Flo.
Secretary to the Appeal Board

⁴Intervenors' appeal raises, *inter alia*, the question whether adequate consideration was given to alternative sites for Unit 2.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Alan S. Rosenthal, Chairman
Dr. John H. Buck
Michael C. Farrar

In the Matter of

Docket Nos. 50-443
50-444PUBLIC SERVICE COMPANY OF
NEW HAMPSHIRE, et al.

(Seabrook Station, Units 1 and 2)

June 29, 1977

Upon applicants' motion to reinstate the construction permits suspended by ALAB-366, 5 NRC 39, *affirmed with modifications*, CLI-77-8, 5 NRC 503 (1977), grounded upon the EPA Administrator's June 17, 1977, reversal of the Regional Administrator and approval of once-through cooling for the Seabrook site, the Appeal Board denies the motion, on the basis that the Commission in CLI-77-8 expanded the hearing on remand ordered by ALAB-366 to include a NEPA comparison of the Seabrook site with southern New England sites and that, absent such a comparison, the permit suspension must remain in effect. The Appeal Board also defers action pending receipt of responses to it from other parties on the staff's motion to vacate the remand to the Licensing Board except as it pertains to southern New England site considerations.

MEMORANDUM

The applicants have moved for an order reinstating the construction permits for Units 1 and 2 of the Seabrook Station. Although the motion was filed simultaneously with the Commission, this Board and the Licensing Board, we consider it to be properly before us for disposition. The permits were suspended by virtue of our order. ALAB-366, 5 NRC 39 (1977). Further, the merits of the several appeals on other issues remain before us. In affirming ALAB-366 with certain modifications,¹ the Commission did not evince an intent to transfer supervisory jurisdiction over the future course of the suspension to either itself

¹ CLI-77-8, 5 NRC 503 (1977).

or the Licensing Board. This being so, there is every reason to assume that the Commission was leaving the matter of whether, and if so when, the suspension should be lifted to us (subject, of course, to its own possible later review of any action which we might take in that regard).^{1a}

1. The applicants ground their claim of entitlement to restoration of the Seabrook permits upon the June 17, 1977, decision of the Administrator of the Environmental Protection Agency.² In that decision, the Administrator (1) reversed the initial decision rendered last November by the EPA Regional Administrator for Region I; and (2) held that the record adduced at a formal public hearing in March-April 1976 was sufficient to allow approval of the proposed once-through cooling system for the Seabrook facility which the Regional Administrator himself had preliminarily determined to be acceptable in 1975.³ According to the applicants, the Administrator's action has removed the basis underlying the suspension of the permit in ALAB-366; viz. the uncertainty (engendered by the Regional Administrator's initial decision) respecting whether the Seabrook facility would be permitted by EPA to employ once-through cooling or, instead, would be required to use cooling towers. This uncertainty had assumed decisive significance because of our determination that, in authorizing the issuance of construction permits in its own initial decision,⁴ the Licensing Board had erred as a matter of both law and fact in its comparative environmental analysis of (1) the Seabrook site assuming the use of cooling towers and (2) the 19 northern New England sites which had been considered as possible alternative locations for the Seabrook facility. See ALAB-366, 5 NRC at 59-64.

In placing total reliance on the recent EPA decision, the applicants do not mention a crucial additional factor. On its review of ALAB-366, the Commission did not confine itself to a ratification of our view that, at least so long as the Regional Administrator's initial decision remained in effect, Seabrook construction could not proceed until the Licensing Board had conducted a further hearing and rendered a supplemental decision with regard to a NEPA comparison of (1) the Seabrook site with cooling towers and (2) the 19 northern New England sites previously identified. In addition, the Commission addressed the claim of certain intervenors that the Licensing Board had erred in failing to consider, for

^{1a}Last evening, after this memorandum had been prepared, we were informed that earlier in the day the Commission entered an order which confirms the correctness of this assumption.

²*In the Matter of Public Service Co. of New Hampshire et al.* (Seabrook Station, Units 1 and 2), Case No. 76-7.

³The 1975 "preliminary determinations" of the Regional Administrator had been made before the adversary public hearing was conducted. In his initial decision, that official revoked those determinations on the basis of his evaluation of the record of that hearing. See ALAB -366, 5 NRC 42-43, 45. This left in doubt whether EPA would eventually allow once-through cooling.

⁴LBP-76-26, 3 NRC 857 (1976).

comparison purposes, potential sites in southern New England as well. We had rejected that claim for the reason that it had not been timely raised. ALAB-366, 5 NRC at 65-67. But, appearing to accept the NRC staff's confession of error on that point, the Commission directed that the alternate site inquiry on the remand extend to a comparison of the Seabrook site with southern New England sites. CLI-77-8, 5 NRC 503, 536-41.

This direction plainly has not lost its force by reason of the EPA Administrator's recent approval of once-through cooling for the facility if it is to be located at Seabrook. For unlike the situation with regard to the northern New England sites, there has been to date no comparison of Seabrook using once-through cooling with any southern New England site.

In these circumstances, the permit suspension must remain in effect at least until the Licensing Board has made the findings required of it by the Commission's order with respect to the comparison of the Seabrook site using the EPA approved once-through cooling system with southern New England sites. *Hodder v. NRC* (D.C. Cir No. 76-1709), discussed in ALAB-366, 5 NRC at 68-71. The staff's contrary view is without merit. It is totally irrelevant that, as the staff stresses, the permit suspension was not imposed by us because of the need to consider southern New England sites. What is of significance is that (1) the Commission perceived such need and instructed that the inquiry be undertaken; and (2) until the Licensing Board has completed its task, the NEPA review of the facility will remain incomplete. Nor do we find persuasive the staff's suggestion that the Commission would not have given that instruction had not a remand already been ordered on cooling tower questions. Without our speculating on that matter, the fact remains that the Commission did not indicate that, were the cooling tower questions to become of less moment by reason of an intervening EPA ruling in the applicants' favor, the southern New England alternate site inquiry was to be terminated or to be relegated to a position of little or no importance.

2. The staff has coupled its endorsement of the applicants' motion for permit reinstatement with a request of its own that we vacate the remand to the Licensing Board contained in ALAB-366 "except as it pertains to Southern New England site considerations." We must defer action on that request pending receipt of responses to it from the other parties. In doing so, however, we would emphasize that the Licensing Board not only need not, but should not, hold in abeyance its decision on the southern New England site inquiry to await our ruling on the staff's request. To be sure, there may be no need for an immediate determination on how the Seabrook site with cooling towers compares with any other site—either in southern or in northern New England. But, in contrast, for obvious reasons there is warrant for an expeditious resolution of the alternate site question involving the Seabrook site with once-through cooling and the southern New England sites.

It appears from the Licensing Board's June 22, 1977, order that it has already elected to factor out that question for separate consideration. We have every confidence that the Board will decide it on a priority basis once all of the proposed findings of fact and conclusions of law are in hand.

**FOR THE ATOMIC SAFETY AND
LICENSING APPEAL BOARD**

**Margaret E. Du Flo
Secretary to the Appeal Board**

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Michael C. Farrar, Chairman
Richard S. Salzman
Dr. W. Reed Johnson

In the Matter of

Docket Nos. 50-329
50-330

CONSUMERS POWER COMPANY

(Midland Plant, Units 1 and 2)

June 29, 1977

The staff moved for directed certification of its motion filed with the Licensing Board (but not yet acted upon by that Board) asking that the attorney representing certain intervenors be censured for what the staff deemed unwarranted personal attacks upon its counsel. The Appeal Board rules that it is in the first instance the Licensing Board's province to pass judgment on a censure motion based on conduct before the Licensing Board; accordingly at most the Appeal Board would issue an instruction to the Licensing Board to act with dispatch. It declines to do so, however, given the present posture of this proceeding and the explanation provided by a Licensing Board memorandum as to why it had not yet ruled on the censure motion.

Motion for directed certification denied.

RULES OF PRACTICE: APPELLATE REVIEW

A protracted withholding of action on a request for relief may be treated as tantamount to a denial of the request. *Detroit Edison Co.* (Greenwood Energy Center, Units 2 and 3), ALAB-376, 5 NRC 426 (1977), citing *Environmental Defense Fund v. Hardin*, 428 F.2d 1093, 1099 (D.C. Cir. 1970).

RULES OF PRACTICE: DISCIPLINE

It is in the first instance the province of the Licensing Board to pass judgment on a censure motion based on counsel's conduct during the course of the Licensing Board's proceedings.

LICENSING BOARD: AUTHORITY TO REGULATE PROCEEDINGS

The Commission's Rules of Practice require licensing boards to regulate the course of the hearing and the conduct of the participants in the interest of insuring a fair, impartial, expeditious and orderly adjudicatory process. 10 CFR §2.718(e).

Mr. Myron M. Cherry, Chicago, Illinois, for the intervenors
Saginaw Valley Nuclear Study Group *et al*.

Mr. L. W. Pribila, Midland, Michigan, for the Dow Chemical
Company.

Messrs. Milton J. Grossman, James R. Tourtellotte and
William J. Olmstead, for the Nuclear Regulatory Commis-
sion Staff.

MEMORANDUM AND ORDER

In this proceeding on remand from the court of appeals¹ the NRC staff moved on March 25, 1977, to censure the attorney representing certain intervenors for what it deemed unwarranted personal attacks upon staff counsel. The Licensing Board neither acted nor explained its reasons for not doing so, even though the staff renewed its motion three times: twice orally during the course of the hearing and once in writing.² On June 6, 1977, the hearing having been concluded without Board action on the censure motion, the staff came to us with a motion for directed certification. Invoking the principle that "a protracted withholding of action on a request for relief may be treated as tantamount to a denial of the request,"³ the staff maintained that our intercession was needed. We were told that intervenors' counsel continued in the course of conduct to which the censure motion was addressed, and that the Board's failure

¹ See *Aeschliman v. NRC*, 547 F.2d 622 (D.C. Cir. 1976), *certiorari granted, sub nom. Consumers Power Co. v. Aeschliman*, 45 U.S.L.W. 3570 (February 22, 1977).

² See, Tr. 5220-24; 5849; and NRC Staff's Response to Intervenors' Motion to Strike Certain Pleadings, dated May 20, 1977.

³ *Detroit Edison Co. (Greenwood Energy Center, Units 2 and 3)*, ALAB-376, 5 NRC 426, 428 (1977), citing *Environmental Defense Fund, Inc. v. Hardin*, 428 F.2d 1093, 1099 (D.C. Cir. 1970). We note that in responding to the staff's certification motion, counsel against whom that sanction was sought to be imposed also invoked that principle, informing us that, in his view, "the Licensing Board has by its inaction denied the Staff's motion . . ." Intervenors' Response to NRC Staff's Motion for Directed Certification, p. 3 (June 14, 1977).

to act "is prejudicial to the rights of individual Staff Counsel" and also has public interest implications.

In light of the staff's directed certification motion, the Licensing Board issued a memorandum on June 15 in order to place in "the public record some of its reasons for deferring rulings" on all disciplinary matters, which it considered to be secondary to the "main issue" before it; *viz.*, whether construction of the Midland facility should be suspended. The Board opined that both the public and the private interests involved required its concentration to be focused initially on the suspension issue and emphasized that time to research the questions presented by the staff's censure motion could only have been purchased at the expense of delaying the suspension hearing. It went on to stress, however, that it was "conscious . . . of the seriousness of the matters involved in this motion for censure", and that as soon as it issued its decision on suspension, "all matters involving conduct of attorneys" would be "resolve[d] promptly."

1. We note at the outset our conviction that the Licensing Board should have revealed far earlier than it did its decision to withhold action on the censure motion for censure," and that as soon as it issued its decision on suspension, "all prompt ruling and made repeated endeavors to obtain one; all were met with silence on the part of the Board. Not until the staff sought to elicit our assistance through the vehicle of its directed certification motion did the Board below disclose it had no intention of disposing of the censure motion before rendering its decision on the merits of the case—a decision apparently still some time in the offing.

We do not suggest that a licensing board (any more than an appeal board) must always act promptly upon a request for relief or undertake some elaborate explanation why it had not done so. But when a board decides to defer ruling indefinitely on issues of the stripe presented by the censure motion, considerations of simple fairness require that all parties be told of that fact. Whether the Licensing Board here had good reason to put the censure motion on the shelf or not, the staff's concern regarding the lack of action on it was reasonable. Certainly after that concern was repeatedly brought to the Board's attention, it warranted at the least some form of acknowledgment and response.

It might be added that if the Board had made its purpose known earlier, the burden since imposed upon both it and ourselves might well have been avoided. Indeed, no motion for directed certification might have been forthcoming had the staff been seasonably told why the censure motion remained *sub judice*. Beyond that, in its June 15 memorandum the Board complains that "[w]riting this Memorandum has taken time which would have been better spent deciding the suspension issue." But an oral announcement from the bench during the hearing that the ruling on the censure motion was being deferred (coupled with a brief summary of the underlying reasons) might well have obviated the need to take the time to prepare any formal memoranda at all, including this one.

2. As we read the staff's papers, it would have us decide the merits of the censure motion. However, what is alleged by the staff to be deserving of reprimand is counsel's conduct during the course of the Licensing Board proceedings. In such circumstances, the question whether formal reproof is in order or not is manifestly one for that Board to pass judgment on in the first instance.

Because of this consideration, the most that the staff might have obtained from us would have been an instruction to the Licensing Board to rule on the censure motion with dispatch. There are several factors, however, which persuade us that even that limited relief now should be withheld. First, we are disinclined to second-guess the Board below on the relative priorities attaching to resolving the issue of construction suspension and to ruling on the censure motion. Although we are uncertain precisely why deciding the latter would require that substantial time be spent in "[t]he definition of issues and research," the Licensing Board thinks that this will prove necessary. Because that Board must make the decision, its judgment about the time it might need to spend on the matter must be accepted.

Secondly, the necessity for an expeditious ruling on the censure motion has been overtaken by events. The trial proceedings on the suspension issue are over and opposing counsel are otherwise engaged. Consequently, little if any additional harm is likely to be sustained by a continued deferral of action on the censure motion pending decision on the suspension issue. The Licensing Board has committed itself to a prompt resolution of the motion as soon as that decision is rendered—a commitment which we have no doubt will be honored.

3. Although sympathetic to the concerns which prompted the motion for directed certification, we are constrained to deny it for the reasons just explained. We note that the Licensing Board has before it not only the censure motion but a number of similar pleadings filed by other parties. Some observations of more general applicability are therefore in order.

A cursory examination of the transcript of the evidentiary hearings reveals that there passed between counsel more than a few exchanges of a personal character and dubious propriety. Whether, and if so to what degree, the Code of Professional Responsibility has been offended is for the Licensing Board to decide. But it is appropriate to record now our impression that what transpired scarcely enhanced the proceedings. For want of a greater familiarity with the record, we are unable to say who was at fault. Neither are we in a position now to judge whether adequate on-the-spot efforts were made to curtail if not cut off those affronts to the dignity of the proceedings. But it should be needless to add that the obligation to make such efforts exists. And it exists regardless of whether a board has been formally asked to take disciplinary action or, if so, whether the board decides for some reason to hold that request temporarily in abeyance. We close with the reminder that Commission regulations not only empower the licensing boards to "[r]egulate the course of the hearing and the

conduct of the participants" in the interest of insuring a fair, impartial, expeditious and orderly adjudicatory process—they impose a duty that this be done. 10 CFR §2.718(e).

Motion for certification denied.
It is so ORDERED.

FOR THE ATOMIC SAFETY AND
LICENSING APPEAL BOARD

Margaret E. Du Flo
Secretary to the Appeal Board

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Sheldon J. Wolfe, Chairman
Dr. Oscar H. Paris
Dr. Hugh C. Paxton

In the Matter of

Docket No. 50-564

EXXON NUCLEAR COMPANY, INC.

**(Nuclear Fuel Recovery and
Recycling Center)**

June 17, 1977

Upon direction by the Appeal Board, Licensing Board issues a supplemented certification of the question whether the instant proceeding should remain in suspension in light of the Commission's May 3, 1977, Order indicating its intent to assess the impact of the President's Statement on Nuclear Power Policy on recycle-related license applications.

**SUPPLEMENTED CERTIFICATION OF
A QUESTION TO THE ATOMIC SAFETY
AND LICENSING APPEAL BOARD**

Pursuant to the Memorandum And Order of the Atomic Safety and Licensing Appeal Board filed on June 7, 1977, we herewith supplement our Certification Of A Question as filed on May 27, 1977.

Background

On February 10, 1977, the Nuclear Regulatory Commission published a Notice of Hearing On Application For Construction Permit which gave notice that a hearing would be held before this Board to consider the application filed by Exxon Nuclear Company, Inc., for a permit to construct, in Roane County, Tennessee, a reprocessing plant designated as the Nuclear Fuel Recovery and Recycling Center which would have the capacity to store up to approximately 7,000 tons of irradiated nuclear fuel and to process 2,100 tons of fuel per year.

Interested persons were notified therein that petitions to intervene must be filed by March 14, 1977 (42 Fed. Reg. 8439).

Pursuant to the aforementioned Notice, on April 4, 1977, this Board issued a Notice and Order Scheduling Special Prehearing Conference, which, as supplemented on April 15, 1977, gave notice that the conference would be held in Knoxville, Tennessee, on April 28, 1977. In attendance at this Section 2.715(a) Special Prehearing Conference were the following: (1) counsel for the Applicant; (2) counsel for the NRC Staff; (3) counsel for the State of Tennessee, which, on March 11, 1977, had requested permission to participate as an interested state pursuant to 10 CFR §2.715(c); (4) Mrs. Jeannine Honicker, a resident of Nashville, Tennessee, who had filed a petition to intervene on March 14, 1977; and (5) counsel for Friends of the Earth, Inc., (FOE) Washington, D. C., which had filed a petition for leave to intervene on March 14, 1977.¹

At the beginning of the conference, we admitted the State of Tennessee as a participating state. (Applicant and the NRC Staff had supported Tennessee's request.) The Board proceeded to hear oral arguments upon FOE's and Mrs. Honicker's petitions for leave to intervene but did not rule whether or not said petitioners were permitted to intervene as parties. Instead we granted FOE's oral request to withdraw a motion for an indefinite suspension of proceedings previously filed on April 22, 1977, and to file an amended motion by May 2, 1977. The Board also noted that in a letter dated April 7, 1977, Mrs. Honicker had requested that the "entire matter be cancelled" because of President Carter's decision to abandon recycling. Recognizing that neither of the two aforementioned petitioners was a party, nevertheless in an effort to expedite the ultimate disposition of the application, the Board directed that responses be filed within ten days after the receipt of FOE's amended motion. We indicated that, if we decided to deny FOE's Motion to Suspend Proceedings, an Order would be issued reflecting that determination as well as whether the two petitioners were admitted as parties (Tr. 21-25, 69). On May 2, 1977, FOE filed its Motion to Suspend Proceedings. On May 13, 1977, the Applicant's Answer and the NRC Staff's Response were filed. (The State of Tennessee did not file a response although invited to do so by the Board.) On May 27, 1977, we issued an Order Granting Suspension Of Proceedings And Certification Of A Question As Revised, and also issued a Certification Of A Question which we are herewith supplementing.

DISCUSSION

In its Motion To Suspend Proceedings, FOE urges that, in light of President

¹In a letter dated March 12, 1977, an attorney for the Friends of the Earth, Inc., Tennessee Branch, requested an extension of time within which to file a petition to intervene, but, in letters dated April 5 and 26, 1977, notified the Board that it was not going to intervene in deference to the petition filed by its national organization.

Carter's "Statement on Nuclear Power Policy" issued on April 7, 1977, and in light of the GESMO hearing board postponement of proceedings on April 12, 1977, the instant proceedings should be suspended and that the question of how long the order of suspension remains effective should be certified to the Commission. FOE advances two basic arguments. FOE's first basic argument is that, if the instant proceedings are not suspended, time and resources will have been wasted should the Commission eventually decide to suspend GESMO. The second basic argument is that to continue these proceedings would presumably conflict with the President's foreign policy objectives wherein he seeks to persuade other countries to abandon reprocessing.²

In its Response, the NRC Staff stated that it felt "that the circumstances of this proceeding are sufficiently relevant to the Commission Order of May 3, 1977, for the Board to certify to the Commission pursuant to 10 CFR §2.718(i) the motion for suspension of the proceeding."

In its Answer, the Applicant advances several arguments in opposition to FOE's motion. First, it states that the Commission's policy statement of November 11, 1975, (40 Fed. Reg. 53056) is still in force in directing the Staff to commence and continue its review of license applications for reprocessing plants prior to the Commission's decision on the wide-scale use of mixed oxide fuel and in unequivocally directing that public proceedings should commence and continue during this interim period. Second, Applicant argues that this Board is not authorized under Section 2.178(e) to suspend proceedings under the circumstances herein. Third, Applicant urges that it would be unfair and unreasonable for the Board to suspend proceedings after so much energy and expense have been expended by both the Applicant and the NRC Staff. Finally, it contends that that part of FOE's motion requesting certification is moot because the Commission's Order on Mixed Oxide Fuel of May 3, 1977, (42 Fed. Reg. 22964) makes it clear that it has already determined the method to receive views on the future course of the instant proceeding and that it wishes this Board to proceed pending further guidance from the Commission.

As reflected in our Order granting Suspension Of Proceedings And Certification Of A Question As Revised, which was filed on May 27, 1977, we granted FOE's motion solely on the ground that the certified question, as revised by us, was "directly related to a major policy decision which the Commission alone can

²As noted in our Order issued on May 27, 1977, we granted the motion to suspend solely on the ground that the question being certified was directly related to a major policy decision which the Commission alone could make. We also noted that we deferred ruling on other arguments advanced by FOE. These arguments were that proceedings should be suspended pending a showing by Applicant (a) that government land controlled by ERDA will be sold or leased for the purpose of building the plutonium reprocessing and recycling center and (b) that it is likely a Federal repository, when operational, would accept wastes generated by the operation of this facility.

make and the ultimate resolution of which will govern future proceedings herein." We would have denied the motion to suspend and the concomitant request for certification but for the issuance of the Commission's Mixed Oxide Fuel Order of May 3, 1977. Said Order reads in pertinent part:

On April 7, 1977, President Carter issued a "Statement on Nuclear Power Policy" The Statement deals in part with the subject matter similar to that of the Commission's November 11, 1975, policy statement on mixed oxide fuel, 40 Fed. Reg. 53056, and the related ongoing proceeding on the generic environmental statement on mixed oxide fuel (GESMO). . . .

The issues raised by the President's statement are sufficiently fundamental that Commission guidance is called for. *The Commission therefore intends to assess the impact of the President's statement on the entire November 11, 1975, policy statement. Thus the future course and scope of GESMO, the review of recycle-related license applications and the matter of interim licensing will all be among the topics subject to Commission scrutiny.* Public contribution to this assessment will aid the Commission in the formulation of sound policy. Accordingly, all GESMO participants and other interested persons are invited to submit their views on the impact of the President's statement on the November 11, 1975, policy statement in comments filed by June 3, 1977. Comments are invited on all aspects of this matter including, for example, whether the GESMO proceeding should continue or at what point it might be suspended if suspension were appropriate. (Emphasis added.)

Proper evaluation of the President's statement also requires that the Commission obtain the views of the Executive Branch on matters, such as the conduct of foreign policy, which are the responsibility of the Executive Branch and which may impact on the Commission's statutory obligations . . . (Emphasis added.)

On April 12, 1977, the GESMO Hearing Board postponed the ongoing GESMO hearings until further notice. *Such further notice will be issued by the Commission, which intends to perform its assessment of the November 11 policy statement as promptly as possible consistent with reasoned decisionmaking.* (Emphasis added.)

Since the Commission's Mixed Oxide Fuel Order states that it intends to assess the impact of the President's Statement on the entire November 11, 1975, policy statement and that the review of recycle-related license applications (as well as the matter of interim licensing) will be among the topics subject to

Commission scrutiny, an immediate policy question arises as to whether proceedings herein should remain in suspension pending the Commission's assessment which could substantially affect our view of the instant application. Said Order is silent on this point. We also note that the May 3rd Order continued until further notice the postponement of the GESMO proceeding. Accordingly, we are certifying the question as set forth below. The Appeals Board has requested our views on the proper resolution of this question and we comply although we believe an expression of our views upon policy matters is outside our bailiwick. Because of our statutory obligations, because we are in place to proceed expeditiously, and because it would be in the public interest to have a timely rendered initial decision in the event the Commission's assessment does not substantially affect our review of the application, we believe that the suspension should be lifted and that this Board should be directed to proceed up to the point of licensing if we ultimately decide that the construction permit should be issued. Obviously, we have not assessed the relationship between such a course and the President's foreign and domestic policy — in a letter dated May 5, 1977, the Chairman of the Commission specifically requested President Carter's views on the relationship of his nuclear non-proliferation and national nuclear energy policies to the issues confronting the Commission.

QUESTION BEING CERTIFIED

In light of the Commission's Mixed Oxide Fuel Order of May 3, 1977, should the instant proceedings remain in suspension pending the Commission's assessment of the impact of the President's "Statement on Nuclear Power Policy" issued on April 7, 1977, upon the Commission's "Policy Statement on Mixed Oxide Fuel" of November 11, 1975 (40 Fed. Reg. 53056)?

**FOR THE ATOMIC SAFETY AND
LICENSING BOARD**

Sheldon J. Wolfe, Esquire
Chairman

Dated at Bethesda, Maryland
this 17th day of June 1977.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Samuel W. Jensch, Chairman
R. Beecher Briggs
Franklin C. Daiber

IN THE MATTER OF

CONSOLIDATED EDISON COMPANY
OF NEW YORK, INC.

Docket No. 50-247
OL No. DPR-26
(Extension of Interim
Operation Period)

(Indian Point Station,
Unit No. 2)

June 17, 1977

Upon licensee's motion to extend the interim period of operation with once-through cooling to May 1, 1981, in order to permit consideration of licensee's data on the issue of whether once-through cooling is acceptable on a permanent basis, Licensing Board finds that (1) consideration of said data in a new proceeding could lead to the conclusion that closed-cycle cooling is not needed, (2) the economic benefits of such an extension outweigh the costs, and (3) based on the time required to evaluate licensee's data in a new proceeding, the preferred alternative to the proposed action is extension of interim operation until May 1, 1982.

Interim operation extended to May 1, 1982.

TECHNICAL ISSUE DISCUSSED: Cooling systems.

INITIAL DECISION
EXTENDING TIME OF ONCE-THROUGH COOLING
UNTIL MAY 1, 1982

Appearances

Leonard M. Trosten, Esq., Eugene R. Fidell, Esq., M.
Reamy Ancarrow, Esq., Edward J. Sack, Esq., Joyce P.
Davis, Esq., on behalf of Consolidated Edison Company of
New York, Inc., Applicant

Sarah Chasis, Esq., on behalf of Hudson River Fishermen's Association, Intervenor

Carl R. D'Alvia, Esq., on behalf of the Village of Buchanan, New York

Richard C. King, Esq., on behalf of the New York State Energy Office

Paul S. Shemin Esq., Assistant Attorney General of the State of New York

Stephen H. Lewis, Esq., Michael W. Grainey, Esq., Marcia E. Mulkey, Esq., on behalf of the Regulatory Staff of the U.S. Nuclear Regulatory Commission

Preliminary Statement

Consolidated Edison Company of New York, Inc., (Con Edison) is the holder of Facility Operating License No. DPR-26 (the License), a full-term, full-power license for operation of Indian Point Station Unit No. 2 (Indian Point 2). On June 6, 1975, Con Edison filed an application with the Director of Nuclear Reactor Regulation for an amendment of paragraph 2.E(1)(c) of the License (see Attachment A) to extend the interim operation period with once-through cooling from May 1, 1979, to May 1, 1981. An environmental report, as supplemented,¹ was submitted in support of the application for the amendment. The environmental report proposed that the empirical data collected to that time justify the extension requested. The purpose of the extension was to enable Con Edison to complete a program of study of the effect on the ecology of operation of Indian Point 2 with once-through cooling and to enable the Staff to evaluate the results of the study before irretrievable commitments to closed-cycle cooling had been made.

Notice of the filing of the application for extension of the period of interim operation appeared in the *Federal Register* on October 3, 1975 (40 FR 45874). Con Edison filed a timely request for a hearing on the application. The New York State Atomic Energy Council and the Hudson River Fishermen's Association (HRFA) petitioned for leave to intervene in the proceeding. The Atomic Safety and Licensing Board (the Board) established for the proceeding, granted leave to intervene to the two parties. Petitions for leave to intervene in this

¹ Environmental Report to Accompany Application for Facility License Amendment for Extension of Operation with Once-Through Cooling for Indian Point Unit No. 2, June 1975; Supplement No. 1, July 1975; Supplement No. 2, August 1975.

proceeding were filed on October 13, 1976, by the Village of Buchanan, and on November 18, 1976, by the Attorney General of the State of New York (the Attorney General). On finding good cause for the late filings, the Board granted those petitions.

In July 1976, the Regulatory Staff (Staff) issued a "Draft Environmental Statement for Facility License Amendment for Extension of Operation with Once-Through Cooling for Indian Point Unit No. 2," NUREG-0080 (DES), which supported the proposed amendment. In comments on the DES, the amendment was opposed by Region II Administrator for the Environmental Protection Agency, the U. S. Department of Commerce, the U. S. Department of Interior, the Attorney General of the State of New York, and various environmental groups. The proposed extension was supported in comments by the Village of Buchanan, the New York Public Service Commission, the Town of Cortlandt, the Mayor and Planning Commission of Peekskill and the Westchester County Board of Legislators. The New York State Department of Environmental Conservation considered the DES to be inadequate to support the proposed extension.

The Final Environmental Statement, NUREG-0130 (FES), was issued in November 1976. After considering the comments on the DES, the Staff concluded that an extension of one year until May 1, 1980, was warranted, but a longer extension could not be justified.

In a parallel proceeding, this Board issued a Partial Initial Decision on November 30, 1976,² that designated the natural-draft wet cooling tower system as the preferred type of closed-cycle cooling system for Indian Point 2 and determined that issuance of an amendment to the License implementing the decision would constitute the final governmental approval necessary for construction to begin. The amendment was issued by the Director of Nuclear Reactor Regulation on December 1, 1976. In a Supplemental Partial Initial Decision on December 27, 1976,³ the Board ruled that the new termination date for once-through cooling, under the extension provision of paragraph 2.E(1)(b) of the License should be May 1, 1980.⁴

Amendment 27 to the License, issued on January 12, 1977, changed the termination date to conform to the Board's decision. Therefore, the issue before

²LBP-76-43, NRCI-76/11, p. 598.

³LBP-76-46, NRCI-76/12, p. 659.

⁴In ALAB-399 (May 20, 1977), the Appeal Board determined that a variance from the Village of Buchanan was a required governmental approval and directed the Board to fix a date for termination of once-through cooling on the basis of ALAB-399. The Appeal Board also held that if the Village's Zoning Board did not act within 45 days from date of issuance of ALAB-399 to determine local and incidental regulations, then the Licensing Board could, upon the request of a party, determine, in effect, that a variance was not necessary and that Con Edison, by that delay, could be deemed to have theretofore received all governmental approvals. That decision in effect extends the May 1, 1980, date to some later date.

the Board in this proceeding became whether an extension of one year, from May 1, 1980, to May 1, 1981, in the date for termination of once-through cooling is warranted. The parties to this proceeding were:

Con Edison
NRC Staff
Hudson River Fishermen's Association
New York State Energy Office (successor to the New York State Atomic Energy Council)
New York State Attorney General
Village of Buchanan

The Staff, HRFA, and the Attorney General opposed granting of the one-year extension. The other parties favored granting the extension.

A prehearing conference was held in Silver Spring, Maryland, on October 27, 1976. Evidentiary hearings were held in the Westchester County Courthouse in White Plains, New York, on December 7-10, 1976, and February 23-25, 1977. Several persons, representing themselves, local governmental bodies or other organizations, made limited appearances during the proceeding. All made statements in favor of granting the extension. Following the hearing, all parties, except the Attorney General, filed findings and conclusions and/or memoranda in support of positions taken during the hearings.

The record in this proceeding contains the testimony of fifteen witnesses, three presented by the Staff and twelve presented by Con Edison. Exhibits, two by the Staff and eighteen by Con Edison, are listed in Attachment B to this Initial Decision. In addition, the Board, over objections of Con Edison, has taken official notice of large parts of the Indian Point 3 FES merely to note the Staff's position, but not as to the verity of all FES assertions, as to the once-through cooling system issues (when the report was published in February 1975) and at present, to the extent that Staff witnesses have so stated on the record. The Board has also taken official notice of Con Edison Exhibits OT-18 and OT-19. Exhibit OT-18 is a letter from EPA Region II to Mr. Carl L. Newman, a Vice President of Con Edison, which informs Mr. Newman of EPA's determination to issue a National Pollutant Discharge Elimination System (NPDES) permit for Indian Point 2. The letter includes a discharge permit under Section 402 of the Federal Water Pollution Control Act, calling for closed-cycle cooling at Indian Point 2 by May 1, 1979. This date was subject to extensions for good cause until as late as July 1, 1981. Exhibit OT-19 transmitted a copy of the notice of hearing granted to Con Edison to review the NPDES determination. This letter stated that "the effectiveness of these contested conditions is stayed pending final EPA action pursuant to 40 CFR 125.36."

In the EPA comment on the Regulatory Staff's DES, EPA suggested that the NRC should not adjudicate the cooling tower matter because such a determi-

nation might interfere with the EPA jurisdiction. In ALAB-399, the NRC Appeal Board referred to the status of proceedings pertaining to EPA pollutant regulations, which include waste heat to waterways. Those proceedings set aside certain EPA regulations (*Appalachian Power Co. v. Train*, 545 F.2d 1351). In any event, as ALAB-399 identifies the issue, the instant proceeding involves: "... our basic concern ... with the cooling system necessary to deal with waste heat" (ALAB-399, 5 NRC at 1165). In addition, the Appeal Board held: "... we may not avoid interpreting and applying the provisions of our own license dealing with the subject of thermal emissions from the plant into the river" (5 NRC at 1166).

Background and Issues

The License for operation of Indian Point 2 was granted after many months of hearings during which safety and environmental issues were vigorously contested. Only the ecological issues are relevant here. In its initial decision,⁵ the Atomic Safety and Licensing Board in that proceeding (the 1973 Board) concluded that operation with once-through cooling could have a seriously adverse effect on the fishery which included the Middle Atlantic striped bass fishery. Although impressed by Con Edison's Ecological Research Program, the 1973 Board concluded that the program was unlikely to resolve the major issues in the time sought by Con Edison and established May 1, 1978, as the date for termination of once-through cooling. It pointed out, however, that a substantial part of the research program was scheduled to be completed by May 1, 1975. If the results were favorable to its position, Con Edison should have sufficient evidence, before excavation for a cooling tower would have to begin, to apply for permission to delay the construction until the program was completed.

In a ruling on Con Edison's exceptions to the 1973 initial decision, the Appeal Board changed the date in ALAB-188⁶ for termination of once-through

⁵ LBP-73-33, 6 AEC 751.

⁶ One reason given by the Appeal Board to change the date from 1978 to 1979 was to give a "... modest amount of time. . . . For the applicant, staff and interested governmental bodies to analyze the data with the objective of reaching an informed decision on the permanent cooling system for Indian Point No. 2 . . ." (ALAB-188, at p. 326).

Another expression to the same effect by the Appeal Board was in reference to applicant's report "... must be submitted . . . set March 1, 1975, as a 'reasonable' time limit for completion of review" (ALAB-188, at p. 391). Further, the Appeal Board stated: "... we consider the construction schedule for the tower on the basis of the present record in terms of the *reasonableness* of the time which the parties assert is needed . . ." (p. 391). Again, the Appeal Board stating: "... we find 12 months to be a *reasonable* time for excavation" (p. 394). Finally, to a similar effect: "... we find that a period of 48 months, to run from the date at which all governmental approvals necessary for the initiation of tower construction have been received, is a *reasonable* time . . ." (emphasis added) 7 AEC 326, 391, 394 (1974).

cooling to May 1, 1979, and defined the conditions for adjusting that date that were incorporated in paragraph 2.E of the License. Among other things, the May 1, 1979, date was intended to allow a modest amount of time for Con Edison to collect data on the environmental impact of once-through cooling and for Con Edison, the Staff, and interested governmental bodies to analyze the data with the objective of reaching an informed decision on the permanent cooling system for Indian Point 2.

The primary issues before the Board in this proceeding are the following:

- (a) Whether Con Edison's Ecological Research Program has produced a substantial amount of information that was not available at the time of the Indian Point 2 operating license hearings and that could, after careful evaluation, lead to a conclusion that closed-cycle cooling is not required for Indian Point 2.
- (b) Whether the benefits of extending the termination date for once-through cooling from May 1, 1980, to May 1, 1981, exceed the costs and, if benefits do exceed costs, whether some alternative to the proposed action is superior.

For the purposes of this Initial Decision, the Board defines information as being data and measurements taken, analytical methods developed and analyses made that are relevant to the evaluation of the effects of once-through cooling at Indian Point 2 and other plants on the Hudson River and that were not available for presentation in 1973 at the operating license hearing. HRFA and the Staff would limit consideration to empirical data collected when Indian Point 2 was operating, on the basis that this was the intent of the Appeal Board in ALAB-188. The Board does not believe that ALAB-188 should be given such a narrow interpretation. In the Board's view, any new information that might help to provide a better assessment of the impact of operation of Indian Point 2 on the ecology merits consideration in this proceeding. In accordance with this view, the Board admitted, as exhibits, reports that were published as late as December 1976 and had not been reviewed by the Staff. These reports were admitted for the sole purpose of showing that certain new information exists, but the reports were not subjected to thorough cross-examination and the contents are not deemed evidentiary in this proceeding.

Findings of Fact

The Board finds that Con Edison's Ecological Research Program has produced, and continues to produce, a substantial amount of information related to the need for closed-cycle cooling at Indian Point 2. This information includes data taken from the plant and the Hudson River with Indian Point 2 operating. Data have also been obtained at other power plants on the river which help in

the assessment of the combined impact of all the plants on the ecology of the Hudson River. New information has also been developed on the contribution of the Hudson River striped bass to the Atlantic coastal fishery, the hatchery rearing and stocking of Hudson River striped bass, and other matters. Whether this new information warrants an extension of interim operation with once-through cooling depends primarily on whether it relates to crucial issues of the 1973 proceeding and whether it can be interpreted to support Con Edison's position that the impact of Indian Point 2 on the ecology of the Hudson River can be limited to an acceptable level without resort to closed-cycle cooling.

The principal method of assessing the impact of power plant operation on the ecology makes use of mathematical models that attempt to account for the hydrological conditions of the river and the behavior of fish eggs, larvae, and juveniles and other organisms in the river. Part of Con Edison's new information is a mathematical model called the Real-Time, Two Dimensional Model of the Hudson River. This model is said to be an improvement over the earlier Transport Model. Predictions of the plant impact by use of the Real-Time Model are said to substantiate the earlier predictions obtained with the Transport Model. Concern about the values assigned to certain parameters in the Transport Model far outweighed concern about the structure of the model in the decision of the 1973 Board. Also, the Appeal Board found no fault with the Transport Model. Apparently, the values assigned to the crucial parameters in the calculations with the Real-Time Model are about the same as those used in calculations with the Transport Model. Under these circumstances, the Board finds that the availability of an improved model can be given little weight in deciding whether to extend the interim operation period. The Board notes that the Staff also has an improved mathematical model and has not changed its position that closed-cycle cooling is needed at Indian Point 2.

One of the crucial parameters in the model is the "combined f-factor" which is the product of several separate f-factors. The f-factors relate the concentrations of an organism throughout the river to the concentration in the water entering the plant and include f_c , the fractional mortality in passing through the plant. The f-factors, except for f_c , are determined from measurements of the concentrations of eggs, larvae and juvenile striped bass as a function of position in the river and time. The f_c -factor is determined from measurements of the damage to organisms as they pass through the plant.

Data from which the f-factors can be estimated are now available for the entrainment seasons of 1973-1975. In 1973, Indian Point 2 was just beginning to operate. In 1974 and 1975, the condenser cooling water system operated at flows that were mostly above 80 percent of full flow. Recent data suggest that the values of f_c derived from measurements at Indian Point 2 may be too high because of mortality caused by the high water velocity through the sampling nets in the discharge canal. The new data are said by Con Edison to provide

additional basis for its use of values much less than 1 for the combined f-factors.

During the 1973 proceeding, the Staff advocated use of values near 1 for the combined f-factors. Based on further analysis of data obtained through 1973, the Staff seems to have concluded in the FES for Indian Point 3 that the combined f-factors are in the range of 0.4 to 1.⁷ The Staff has examined the 1974 data and finds no reason to change its evaluation. The Staff agrees, however, that a reassessment should be made of the f-factors and entrainment mortality taking into account the more recent data.

The Board finds that the 1973-1975 measurements of the distributions of organisms constituting the various life stages of striped bass in the Hudson River considerably enlarges and can be expected to substantially improve the data base that was available for the 1973 proceeding. Analyses based on the data can be expected to yield more reliable values for the f-factors than were available in 1973.

The other crucial parameters determine the extent to which compensation reduces the impact of plant operation on the fish population. Compensation is a phenomenon involving density dependent processes that cause the fractional mortality in the stock to increase as the population rises and to decrease as the population falls. Con Edison had incorporated compensation in its mathematical model for the 1973 proceeding on the basis of a considerable knowledge of compensation in fish populations in general but absent any empirical observations on operation of compensatory processes during the different life history stages of striped bass in the Hudson River. Inclusion of the compensation function in the mathematical model and the choice of values for the parameters in that function were the major reasons for Con Edison's estimate of the impact of plant operation on the striped bass population being so much less than that calculated by the Staff. The Staff has included compensation in its new mathematical model but has not changed its reservations concerning the magnitude of the effect of compensation during the first year of life of the striped bass.

Since the 1973 proceeding, Con Edison's program has produced empirical data and/or analyses with respect to density-dependent growth, predation, cannibalism, and stock recruitment that are said to indicate the operation of compensatory mechanisms on the Hudson River striped bass population. This information has been used to determine the level of compensation employed in the Real-Time Life Cycle Model. The compensation level obtained is said to fall in the midrange level of compensation for other fish stocks for which data have been developed. The Staff considers the evidence on compensation to be the most interesting new information that has come from the research program since issuance of the Indian Point 3 FES in 1975. The Staff witness testified that the

⁷Obtained from a plant intake f-factor = 0.5 to 1 and an optimum survival percentage = 0 to 0.2.

new information suggests that compensation has been or is occurring in the Hudson River striped bass population but does not provide values for parameters in the calculations or the level of the compensatory reserve. The Board finds that significant new information related to compensation in the striped bass population in the Hudson River has been developed since the 1973 proceeding. The extent to which the information supports Con Edison's analysis is disputed but the information does merit a thorough independent evaluation.

Another of the important questions that was considered during the 1973 proceeding was the magnitude of the Hudson River contribution to the Atlantic coastal fishery. Con Edison contended that the Hudson River contribution could not be more than ten percent. The Staff and the Intervenors contended that the Hudson River provided 80 percent or more of the recruits to the coastal fishery. Two types of information can be helpful in estimating the contribution of the Hudson River to the Atlantic coastal fishery. They are information about the number of young striped bass produced in the Hudson River and about the fraction of the striped bass caught in the coastal fishery that can be shown to have originated in the Hudson River. Data from the Hudson River Ecology Study can be used to estimate the number of year old striped bass produced in 1973, 1974 and 1975. The results should be more reliable than estimates based on earlier data. More importantly, meristic, morphometric and/or biological characters have been used as tags to determine the rivers of origin of coastal striped bass.

Con Edison's first analysis of the data resulted in an estimate of 23 percent as the Hudson River contribution to the Atlantic coastal fishery. This estimate was reduced to 6 to 7 percent on further statistical analysis. The Board notes that in the Indian Point 3 FES the Staff reduced its estimate of the contribution of the Hudson River to the Atlantic coastal fishery and considers the initial estimate of 23 percent to be consistent with its more recent hypothesis that the Hudson River contribution to the outer zone is ten to fifty percent. Con Edison's lower estimates were introduced in testimony at the hearings in December 1976 and February 1977 so the other parties had not had an opportunity to make an independent assessment of those results. The Board finds that Con Edison has provided significant new data on the contribution of the Hudson River to the Atlantic coastal fishery and that these data should help to resolve an uncertainty that led to the decisions requiring that closed-cycle cooling be installed for operation after the interim period.

The Board finds that Con Edison's research program has also provided improved information on other subjects that relate to the assessment of the need for closed-cycle cooling at Indian Point 2. These data include the distributions of salinity, temperature, dissolved oxygen and other water quality factors. Population data have been obtained for other fish species to provide a basis for assessing the impact of plant operation on those species. More data have been pro-

duced for use in evaluating the impact on other biota in the river and in particular the impact on species that provide food for the fish larvae and juveniles. Con Edison proposed during the 1973 hearings that hatchery rearing and stocking of striped bass should be considered as a method of mitigating the effects of once-through cooling. No data were available in 1973 on the rearing and stocking of Hudson River striped bass. Since that time, Hudson River striped bass have been reared in hatcheries, stocked in the Hudson River and found to survive through the winter months. The new information in these and other areas provides a better basis than was available in 1973 for evaluating the impact of power plant operation and alternatives to closed-cycle cooling for mitigating adverse effects.

Having found that Con Edison's Ecological Research Program has produced substantial new information based primarily on empirical data, the Board must consider whether careful evaluation of the new information could lead to a conclusion that measures short of closed-cycle cooling might suffice at Indian Point 2. By this Board's reading, ALAB-188 rejects most of the 1973 analyses and positions of the Staff and the conservative approach taken by the 1973 Board with regard to ecological matters. Although the Appeal Board in ALAB-287⁸ stated that: "In ALAB-188 we viewed—and we still view—the cooling system question as open, and we required that there be a full NEPA review of that question," the Commission determined upon the basis of the same record that: "No further Commission consideration of the once-through versus closed-cycle question is necessary for either unit."⁹ The Commission decision was, of course, based upon the records then in existence, and the stipulation for the Indian Point No. 3 determination was, in a sense, a stop gap action by the parties awaiting development of all the data Con Edison proposed to assemble for its position seeking an open-cycle cooling system. The Board infers from these decisions that new information which bears on the issues in the Indian Point 2 proceeding and which can reasonably be interpreted to support Con Edison's position offers the possibility of a change in the license condition. It is important to bear in mind that ALAB-188 largely discredited the value of evidentiary presentations by the Staff and the intervenors in the 1973 proceeding. The evidence was said by the Appeal Board to be insufficient to show whether or not a closed-cycle cooling system was necessary. The lack of data with plants in operation apparently persuaded the parties to enter into a stipulation for Indian Point 3. The net result of these actions and proceedings is that now that Con Edison has gathered further evidence, whether open-cycle cooling shall be permitted by the NRC license for Indian Point 2 will depend upon the complete and thorough examination of its submitted study.

Con Edison's experts have interpreted the new information, in exhibits and

⁸ 2 NRC 383 (1975).

⁹ 2 NRC 839 (1975).

testimony, as being supportive of its earlier conclusion that closed-cycle cooling is unnecessary. In the FES for Indian Point 3, the Staff raised its analyses in taking a new look at the data through 1973 and reached a contrary conclusion. Moreover, the Staff, after considering 1974 data in the FES for this proceeding and with limited knowledge of other new information, has stated that the new information, although meriting detailed evaluation, is unlikely to change its conclusion. However, despite that assertion, the Staff has stated that a reassessment of the new data was "essential," the data do require "reconsideration," and the Staff witness would have to reassess his whole family of impact curves, might change his estimate of entrainment mortality, and might also change the Staff view regarding compensation factors affecting the striped bass.

The Board considers the differences in conclusions to represent fundamental differences between technical experts as to the interpretation of data and assessment of uncertainties in conclusions based on the data. This proceeding was not concerned with the validity of the analyses or the uncertainty of the conclusions. These are to be tested in another proceeding. However, the Board notes that, in the FES for Indian Point 3, the Staff established new criteria for deciding on whether closed-cycle cooling should be required at Indian Point. The Indian Point 3 proceeding and the stipulation¹⁰ did not require acceptance of the Staff's analyses and criteria and they were not tested during that proceeding or any other proceeding. Although the adequacy of the FES for Indian Point 3 was confirmed by the Commission in a separate decision,¹¹ this confirmation is not viewed by the Board as a certification of the methods and criteria. Most importantly, however, the Commission emphasized that new data that would be gathered during a period of limited operation may be most determinative of the impacts from once-through cooling system:

Although the staff concluded that short-term use of once-through cooling at Indian Point was acceptable, it decided that, on present knowledge, the environmental risks of long-term use of once-through cooling at Indian Point were such that a closed-cycle method of operation was required. The staff's conclusion, supported by the intervenors, was grounded on extensive data concerning the aquatic organisms in the Hudson River and the probable impact thereon of discharges from a once-through cooling system. For example, the staff predicted the impact of once-through cooling, as opposed to closed-cycle operation using cooling towers, on the striped bass fishery in the Hudson River. FES, Section XI. But as the staff recognized, cooling towers have environmental impacts of their own and because of their cost, materially affect the plant's cost-benefit ratio. FES, pp. XI-12 to -31.

Environmental data obtained during actual operation may shed new

¹⁰ LBP-75-31, 1 NRC 593.

¹¹ CLI-75-14, 2 NRC 835.

light on the impact of once-through cooling, and during the same period other data may emerge regarding the impacts of closed-cycle systems. In these circumstances, the stipulation before us was a proper means to resolve an issue concerning the preferable cooling system, and yet provide a mechanism for considering additional information. In this regard, the stipulation is in harmony with the established rule that NEPA determinations need not be based on every scrap of data which could conceivably be gathered. *Jicarilla Apache Tribe v. Morton*, 471 F.2d 1275 (9th Cir. 1973). Likewise, the fact that the environmental impacts of Indian Point Units 2 and 3 will be further studied in no way undermines the adequacy of the Commission's NEPA review. *Environmental Defense Fund v. Corps of Engineers*, 492 F.2d 1123 (5th Cir. 1974). 2 NRC 839.

In consideration of these factors and the opinions of the Appeal Board and the Commission, the Board must find that a new proceeding, which involves consideration of all the data now available, could lead to a conclusion that closed-cycle cooling is not needed for Indian Point 2. The record contains much testimony and cross-examination about the new information and the validity of Con Edison's conclusions. The testimony, requested by the Board, summarized the changes that have occurred since the 1973 proceeding. There is marked disagreement among the parties as to whether consideration of the new information is likely to lead to a change in the present License requirement. Because the matter is to be considered in a future proceeding, the Board makes no finding in that regard.

Costs vs. Benefits of the Proposed Action

The Staff and Con Edison testified that the biological costs of the proposed extension are insignificant. The Staff concluded that

... the incremental long-term impact on the Hudson River ecosystem, the striped bass and other fish populations in particular, due to a two-year extension of operation with once-through cooling for Indian Point Unit No. 2 would not be expected to be large and has essentially no risk of being irreversible.¹²

The Staff's estimate of the effect on the striped bass fishery of a two-year extension is illustrated by Figure 3-1 of the FES. The Staff uses the number of years that operation of power plants would cause the relative yield¹³ to the

¹²NUREG-0130, p. 3-8.

¹³Relative yield is here defined as the yield with all power plants on the river operating, except Cornwall, divided by the yield with no plants operating.

fishery to fall below 0.5 as one index of irreversible damage to the striped bass population. A two-year extension would increase this time from 28 years to 31 years. Another index of risk is the change in cumulative yield from the fishery over a period of about 80 years. According to the calculation, terminating once-through cooling on May 1, 1979, would increase the cumulative yield by one percent of the cumulative yield that would be obtained if once-through cooling were terminated on May 1, 1981. The results were based on an intake f-factor = 1 and are, therefore, conservative. The Staff did not make calculations for a one-year extension but simply assumed that the impact would be only about half that for a two-year extension. The Board considers this assumption to be reasonable.

Con Edison estimated the impact on the striped bass population of one and two-year extensions in the date for terminating once-through cooling. The calculations, like those of the Staff, included the effect of operation of the other plants on the river. The results indicated that one and two-year extensions would cause reductions of 0.5 and 0.6 percent, respectively, in the populations of adult striped bass after six years. The calculations were made by use of the LMS Life Cycle Model. Con Edison's "best estimate" values for f-factors and "low compensation" were used in the calculations.

The Board finds that the impact on the striped bass fishery of one and two-year extensions of the termination date for once-through cooling of Indian Point 2 can be expected to be small. No party to this proceeding provided evidence or testimony to the contrary. The Board notes that the 1973 Board also agreed that there is unlikely to be a serious permanent effect on the fishery by a delay of a year or two in starting construction of a closed-cycle cooling system. However, the accumulative effect of a series of such extensions is uncertain.

Con Edison computed the monetized costs of the extension principally in terms of the value associated with the reduction in the mid-Atlantic striped bass sport fishery. Estimates of the impact of extension of once-through cooling on the striped bass population were converted into a reduction in recreation days in the sport fishery. By assuming \$10 for the value of a recreation day for striped bass fishing, the analysis arrived at the \$283,200 and \$112,000 (both sums present worth to 1975) that Con Edison considers to be reasonable estimates of the costs for two-year and one-year extensions, respectively. Actually, a parametric study was made and the costs ranged from about \$30,000 to about \$900,000 for a two-year extension, Indian Point 2 considered in conjunction with other plants on the river, and \$10 as the value of a recreation day. The impacts on commercial fishing and other species were considered and Con Edison concluded that an extension to May 1, 1981, would result in no measurable impact on other species of fish.

The Board finds that the method used by Con Edison to estimate the

monetary cost is of a type that is generally accepted by economists for measuring the economic value of recreation. The calculation is replete with uncertainties. If, however, the impact on the striped bass population is within the ranges estimated by Con Edison, the monetized cost to the fishery can be expected to be less, possibly much less, than \$1 million for a two-year extension and \$500,000 for a one-year extension.

The Staff did not include a cost-benefit analysis in the FES but provided such an analysis during the hearing at the request of the Board. The Staff took the approach that the 1973 Board, with knowledge of the estimates of cost, required that a closed-cycle cooling system be installed for Indian Point 2. Therefore, the 1973 Board had concluded that the Hudson River striped bass population was of sufficient worth and the probability of irreversible damage sufficiently high that incurring the cost (monetary and environmental) of constructing and operating a natural-draft wet cooling tower system in order to reduce the probability of loss was justified. The Staff pointed out that the Appeal Board had not removed the requirement and that the Commission had confirmed the requirement for closed-cycle cooling at Indian Point 2 and Indian Point 3.

Proceeding from its initial assumptions, the Staff calculated a measure of the reduction in risk of irreversible damage to the fishery that would result from the installation of cooling towers at Indian Point 2 and 3 as scheduled. Then the change in the risk resulting from a two-year delay in the installation was estimated. The ratio of these two measures of risk multiplied by the cost of the cooling tower system gives a monetary value of \$22 million as the cost of a two-year delay in installation of the closed-cycle cooling system at Indian Point 2. The cost of a one-year delay is \$11 million.

Con Edison made many objections to the Staff's analysis. Some of these relate to the concept being novel and untested by field data. Others are concerned with the relationship between probability and proxy probability as used by the Staff. The Board finds no fault with the Staff's premise that the benefits expected from a decision, monetary and otherwise, should be expected to be at least equal to the cost. For reasons that need not be detailed here, the Board accepts as being reasonable the Staff's method of calculating measures of risk from its data for relative yield vs. time. Regardless of these findings, the Board finds that the costs arrived at by the Staff are unacceptable for the purposes of this proceeding.

Several factors are important to the Board's finding that the Staff's cost figures are unacceptable. The most important factor is that the Staff related costs accepted by the 1973 Board to the Staff's 1975 assessment of risks. The Staff's new criteria for relating risk to relative yield of striped bass to the fishery had not been developed and were unknown to the 1973 Board. Moreover, there is no clear relationship between the risks proposed by the Staff, and accepted by

that Board in the 1973 proceeding, and those projected by the 1975 FES. A reading of the 1973 Board's decision suggests that the potential risks envisioned then were greater than might be inferred from the Staff's present analysis.

The record of the Staff's February 1977 testimony shows that the calculated cost is highly sensitive to several factors and particularly to the choice of critical relative yield. Lowering the critical relative yield from 0.5 to about 0.4 would reduce the cost to 0. Decreasing the discount rate or the f-factors would also result in reduced costs. Increasing the critical relative yield from 0.5 to the range of 0.53 to 0.58 would appear to greatly increase the cost. In their testimony, the Staff witnesses were unwilling to state that the conditions on which the estimate of cost was based were their best estimate of existing conditions or that the estimate of cost was realistic. The impact curves represented a case that was more severe than the average of those studied. The cost calculation was said to illustrate that a situation does exist where the cost of the proposed delay exceeds the benefits. Since the Staff was unable to provide its own relationship between cost and risk, the Board must reject its estimate of cost in this proceeding.

The Board finds that it is impossible to place an accurate monetary value on the impact of a one or two-year extension of operation of once-through cooling at Indian Point 2. Based on the evidence of record, the Board finds costs of one and two-year extensions are unlikely to exceed \$500,000 and \$1,000,000, respectively. The costs might be substantially less. The Board considers this to be consistent with the finding of negligible long-term damage to the striped bass fishery. None of the evidence suggests that other aquatic biota might be damaged severely.

By use of a generally accepted method, but somewhat different assumptions, the Staff and Con Edison calculate \$10,620,700 and \$6,797,000, respectively, as the economic benefit of a one-year extension of the termination date for once-through cooling. The calculations are replete with assumptions concerning discount rates, taxes, replacement capacity, etc., that can cause the results to vary widely. A simple calculation based on the fact that an extension of one year would remove one year's costs for operation and maintenance of the closed-cycle system and for compensating for the 25 MW overall derating of the plant yields a benefit of about \$5 million. The Board finds that the economic benefit of a one-year extension of once-through cooling will be in the range of \$5 million to \$10 million.

Con Edison proposes that the principal benefit of an extension of the interim operation period is to provide time for review of the results of the Ecological Research Program for Indian Point 2 by the Staff and by other governmental bodies. The Board notes that Con Edison submitted a report describing the results of the study to the Commission in February 1977, and in March 1977 applied for an amendment to the License to eliminate the require-

ment for termination of once-through cooling. According to Con Edison, the Commission could decide on the basis of the review that closed-cycle cooling is unnecessary at Indian Point 2, and this would result in a saving of more than \$300,000,000.

Throughout the proceeding, the Staff took the position that there was no measurable benefit in this regard. This position was based on the Staff's conclusion that the new information is unlikely to change the Staff position with regard to the need for closed-cycle cooling. The Staff stated, further, that a thorough review of the results of the Ecological Research Program and reassessment of its position would take many months. It concluded that a one-year extension would not be sufficient to prevent an irretrievable commitment of resources to a closed-cycle cooling system or to permit a substantial saving to be realized if it were finally decided that closed-cycle cooling is unnecessary. Con Edison contended that even if a cooling tower system were completed, a decision permitting once-through cooling would result in a substantial saving by eliminating the operating costs. In addition, Con Edison asserted that in the event of such a decision, a year's delay in beginning construction could result in a substantial saving in construction expenditures.

The Board concurs in the Staff view that an extension of one year is unlikely to be enough to prevent an irretrievable commitment of some resources to a closed-cycle cooling system. On the other hand, the record shows clearly that the extension would substantially reduce the magnitude of such commitment if a closed-cycle system were found to be unnecessary.

In the DES the Staff found, as a major benefit, that an extension of the termination date for once-through cooling to May 1, 1981, would provide time for EPA hearings concerning the cooling tower to be completed and a decision reached before Con Edison would be required to begin construction under the NRC license condition. The EPA hearing, referred to by the Staff, concerns Con Edison's request for an exemption from EPA thermal standards and a determination that once-through cooling is the best technology available within the meaning of the Federal Water Pollution Control Act. Con Edison's discharge permit requires termination of once-through cooling at Indian Point 2 by May 1, 1979, but provides for extensions of this period up to July 1, 1981, on showing of good cause. The Board notes that Con Edison's request for a hearing has automatically stayed the provisions of the permit pursuant to EPA regulations.

In commenting on the DES, Region II of the EPA objected to the proposed extension for a variety of reasons, so the Staff no longer considered time for resolution of the EPA proceeding to be a benefit. Elimination of this benefit was one of the important reasons for the Staff's conclusion that the termination date for once-through cooling should only be extended to May 1, 1980.

The NRC has a mandate under the National Environmental Policy Act (NEPA), separate from that of EPA under the Federal Water Pollution Control

Act Amendments of 1972, which NRC must meet. The parties agree that the pendency of the EPA proceeding has no legal effect on the conduct of the Commission's licensing under NEPA and the Atomic Energy Act. The Board agrees with the parties and also finds that a decision in this proceeding to grant or to deny an extension in the period of interim operation need not prejudice the EPA proceeding.

On the basis of the considerations stated in the paragraphs above, the Board finds that an extension in the interim operation period from May 1, 1979, or May 1, 1980, to May 1, 1981, would not cause extensive or irreversible damage to the ecology. The record shows that the economic benefits of an extension are substantially greater than the costs. It is the Board's judgment that the costs that cannot be quantified do not change the balance.

Alternatives to the Proposed Action

The National Environmental Policy Act requires that the Board consider whether some alternative is preferable to the proposed action. In the FES the Staff considered greater or lesser extensions of time and reduced flow during the extension period as possible alternatives. Con Edison suggests that the Staff should also have considered stocking with hatchery reared striped bass to mitigate the impact of plant operation during an extension of the interim operation period. The findings in the paragraphs above eliminate a lesser extension of time from consideration. The Board agrees with the Staff that the higher cooling water temperature or the reduced power output during the summer months makes operation with reduced flow an undesirable alternative. Because the impact of the requested extension does not appear to be severe and the record does not show that stocking is an economical or feasible method of mitigating the impact of plant operation, the Board does not regard stocking as an acceptable alternative. It is the Board's conclusion that a greater extension of time is the only alternative meriting further consideration.

The principal benefit of extending the period of interim operation beyond May 1, 1981, would be to provide time for the Staff, other governmental bodies and interested groups and individuals to analyze Con Edison's reports and conclusions and arrive at a better based determination of the need for closed-cycle cooling at Indian Point 2. According to the Staff's testimony and findings, it could take two years or more to complete an evaluation of the new information and complete an FES on Con Edison's request for an amendment to the License to eliminate the requirement for termination of operation with a once-through cooling system. The Board assumes that this work has been in progress since March 1977 when the request for an amendment was submitted. In the normal course of events, the FES would be issued by about May 1979. Past experience

indicates that a lengthy hearing would follow but that a decision could be reached by May 1980.

The Board believes that the process need not take so long. The issues and the need to resolve them are so important that an extraordinary effort to reduce the time is warranted. A schedule which produces a DES by March 1978 and an FES by September 1978 could lead to a decision by May 1979. The fact that the principal parties in the future proceeding are likely to be those that participated in past proceedings and are familiar with the issues, the analyses, and part of the new information leads the Board to believe that such an expedited schedule is attainable.

According to the construction schedule determined to be reasonable by the Appeal Board in ALAB-188 if closed-cycle cooling is directed, excavation for a cooling tower beginning in June 1979 would be consistent with shutdown of Indian Point 2 on May 1, 1982, for a conversion to a closed-cycle cooling system. Considering that the Staff and Con Edison found that an extension of two years in the interim operation period would not be expected to have a serious or irreversible impact on the aquatic biota and that Indian Point 2 did not operate during the striped bass spawning season of 1976, the Board finds ample evidence in the record to support extension of interim operation to May 1, 1982. The cost-benefit balance would be similar to that determined by the Board for an extension to May 1, 1981, and would favor the extension.

Extension of interim operation to May 1982 would, at best, permit a decision to be reached on Con Edison's request for the amendment to the License before excavation would have to begin for a cooling tower. At worst, it should provide time for the FES to be completed and the hearings on that request to begin. The Board notes that Con Edison has requested, in its application to vacate the license condition, ancillary relief in the form of an extension of interim operation until a final agency decision has been reached and judicial review (if any) has been completed with respect to the principal relief sought. Under the Commission's procedures, the request for ancillary relief could require the preparation of environmental statements, the conduct of additional hearings, and the resolution of exceptions to decisions. With an extension to May 1, 1981, these actions, to be meaningful, would have to begin now and proceed during a time when the efforts of all parties might better be spent on evaluation of the new information. With an extension to May 1, 1982, information developed for the FES should provide a better basis for Commission action on the request for ancillary relief if such action is required.

On the basis of the above, the Board finds that extension of interim operation until May 1, 1982,¹⁴ is a preferred alternative to the proposed action. In

¹⁴The 1982 date will extend operations through another spawning season but the date appears to provide the time needed by the Regulatory Staff in order to complete its review

Continued on next page

arriving at this conclusion, the Board recognizes that each year for many years a study might be made to show that the impact produced by an additional year's extension would be small by comparison with the impact that had occurred in prior years and would occur in future years. The repetition of year by year extensions must not be permitted to occur. Con Edison has submitted the reports showing the results of its research program and its assessment of the impact of plant operation. It is now important that the governmental agencies and all other interested groups, with all reasonable assistance from Con Edison, make a concerted effort to arrive at a final decision at an early date. The Board will expect the Staff and its consultants not only to thoroughly analyze the Con Edison data already submitted, but also to keep informed, on a daily basis if advisable, of the operations of Indian Point 3 as well as Indian Point 2, which are in such proximity as to be suppliers of useful data. This procedure will enable the analysis to determine if additional information received will modify or contribute to the totality of the present Con Edison submission.

The Board recognizes that authorizing an extension greater than that sought by Con Edison is unusual, if not unprecedented. Study of the record indicates that the parties who opposed granting an extension to May 1, 1981, could be expected to oppose a longer extension on the basis now in the record. The parties who favored the extension to May 1, 1981, did so because they considered the impact to be small and that more time should be provided to evaluate the results of Con Edison's Ecological Research Program. The record indicates that those parties would not be likely to object to an extension of an additional year to better satisfy the time-for-evaluation objective. On this basis, the Board concludes that in granting the longer extension the rights of no party will be infringed, no party would be denied due process, and the public interest would be better served.¹⁵

Finally, the Board calls attention to the fact that the License and the Environmental Technical Specifications for Indian Point 2 require Con Edison to conduct a monitoring program to determine whether operation of the plant is having a significant adverse impact on the aquatic biota. If the monitoring or the Staff's evaluation of the new information indicates that an unacceptable impact

Continued from previous page

of the massive Con Edison study. The Board believes that it would be as much or more of a denial of the public interest to fail to provide for a thorough review as the public interest may suffer from plant operations through another spawning season.

The Licensing Board also determines the 1982 date upon the basis that the expeditious and efficient (including elimination of duplicative and unnecessarily repetitious proceedings) disposition of pending cases requires recognition of the likely reality of developing events that would eventually lead to the 1982 date, in any subsequent proceeding.

¹⁵ All parties were asked if some basic considerations applied to a 1982 date as were presented respecting the 1981 date. No answers or objections were received by the Board.

is occurring, the Commission can direct Con Edison to take such mitigating measures as are appropriate. The measures could include advancement of the May 1, 1982, date.

Rulings on Specific Proposed Findings

In making the findings of fact and conclusions of law in this Initial Decision, the Board considered the entire record of the proceeding and the findings of fact and conclusions of law submitted by all the parties. All the proposed findings of fact and conclusions of law submitted by the parties that are not incorporated directly or inferentially in this Initial Decision are rejected for the reason that they are not supported by reliable, probative and substantial evidence. The reasons for rejecting particular findings of HRFA and the Staff are summarized below:

HRFA Findings and Conclusions:

III A The Applicant's Research Program

The findings were largely rejected because they dealt with the validity of conclusions reached in Con Edison's analyses of the new data and whether the data were sufficient in quantity and quality to support those conclusions. These issues are to be decided in a future proceeding and are not issues in this proceeding.

Contrary to the HRFA finding, the Board found that Con Edison had carried the burden of proving that interim operation should be extended. To the extent that the finding concerning the benefits of the extension differ from the Board's, they are rejected as being unsupported by reliable, probative and substantial evidence.

III B Other Alleged Benefits

The findings here are contrary to the Board's finding that the benefits of an extension exceed the costs to the fishery and are rejected for lack of reliable, probative and substantial evidence.

III C Costs of the Proposed Action

Although the Board found that the costs may be higher than those proposed by Con Edison, these findings are mostly contrary to those of the Board and are largely rejected as being unsupported by reliable, probative and substantial evidence.

III D Relationship to EPA Proceeding

The evidence of record and legal analysis do not support the finding that an extension would tend to undercut EPA's authority.

Staff Findings and Conclusions:

15. To the extent that the subissues stated here differ from the issues defined by the Board, they are rejected as not requiring resolution in this proceeding.
19. Rejected as being contrary to the Board's finding and unsupported by reliable, probative and substantial evidence.
20. The scheduling of Con Edison's research program was not an issue in this proceeding.
21. Statements concerning plant flows are inconsistent with the evidence of record, and thus are not supported by reliable, probative and substantial evidence. Whether the data are sufficient to predict the impact of plant operation is not an issue in this proceeding.
22. The finding, in its entirety, is not supported by reliable, probative and substantial evidence, but the proposed finding is legally supported only in part.
23. Con Edison's management and scheduling of its research program were not an issue in this proceeding, so related parts of this finding are unnecessary to a decision.
24. The finding is not supported by reliable, probative and substantial evidence.
25. through 35. These findings were rejected because they deal primarily with the validity of Con Edison's conclusions and analyses and whether they are supported by the new data. The findings are therefore rejected as argumentative and not a proposed finding of fact.
36. Rejected as being unsupported by reliable, probative and substantial evidence.
37. Rejected in part because of lack of support by reliable, probative and substantial evidence.
- 39 through 43. Rejected for reasons stated in the Board's findings.
45. Although the Board accepts much of this finding, it rejects the conclusion that the economic benefit cannot be quantified as being contrary to the evidence in the record, and thus, the proposed finding is not supported by reliable, probative and substantial evidence.
47. This proposed finding is contrary to the evidence of record, and thus is not supported by reliable, probative and substantial evidence.

Conclusions

WHEREFORE, IT IS ORDERED, in accordance with the Atomic Energy Act of 1954, as amended, the National Environmental Policy Act of 1969, and the Rules of Practice of the Nuclear Regulatory Commission, that

- (1) Based upon the record of this proceeding, including all the exhibits

admitted into evidence, the transcript of the hearings, and the matters of which official notice has been taken by the Board, the Board concludes that the new information obtained by Con Edison justifies an extension of the interim period of operation with once-through cooling.

(2) Based upon considerations of costs and benefits, the Board concludes that an alternative is preferable to the action proposed by Con Edison in its application for an amendment to the License and that the interim operation period should be extended to May 1, 1982.

(3) Based on the findings in this Initial Decision, the Final Environmental Statement must be modified in accordance with Section 51.52(b)(3) of the Commission's regulations. The FES shall be deemed modified to the extent that it is inconsistent with the findings and conclusions of this Initial Decision.

(4) The Director of the Office of Nuclear Reactor Regulation shall, after making the requisite findings, issue an amendment extending the termination date for interim operation of Indian Point 2 to May 1, 1982, by substituting the date "May 1, 1982," for the date "May 1, 1980," wherever the latter now appears in paragraph 2.E.(1) of the License.

(5) The Director of the Office of Nuclear Reactor Regulation shall expedite the review of Con Edison's March 15, 1977, Application to Vacate License Condition and the associated Environmental Report and the February 1977 Final Research Report, and shall issue a schedule for the preparation of the Final Environmental Statement.

(6) The May 1, 1982, date specified in this Initial Decision relates only to the Commission's obligation under NEPA. It is not intended to supersede nor to affect termination dates imposed by any other governmental authority.

IT IS FURTHER ORDERED, in accordance with Sections 2.760, 2.762, 2.764, 2.785 and 2.786 of the Rules of Practice of the Nuclear Regulatory Commission, that this Initial Decision shall be effective immediately and shall constitute the final action of the Commission forty-five (45) days after its date, unless exceptions are taken or the Commission directs that the record be certified to it for final decision. Within seven (7) days after service of this Initial Decision, any party may take an appeal to the Atomic Safety and Licensing Appeal Board by filing exceptions. A brief in support of exceptions shall be filed within fifteen (15) days thereafter (twenty (20) days in the case of the Staff). Within fifteen (15) days after the service of the brief of the appellant (twenty (20) days in the case of the Staff), any other party may file a brief in support of, or in opposition to, the exceptions.

ATOMIC SAFETY AND LICENSING BOARD

R. Beecher Briggs

Franklin C. Daiber

Sameul W. Jensch, Chairman

Issued:
June 17, 1977
Bethesda, Maryland

[Attachment B has been omitted from this publication but is available in the NRC Public Document Room, 1717 H Street, N.W., Washington, D.C.]

ATTACHMENT A

Condition 2.E.(1) of the Con Edison Operating License for Indian Point No. 2 is as follows and is in the form of the condition as it existed when the requested amendment was filed:

Operation of Indian Point Unit No. 2 with the once-through cooling system will be permitted during an interim period, the reasonable termination date for which now appears to be May 1, 1979. Such interim operation is subject to the following conditions, none of which shall be interpreted to limit or to affect in any way such other conditions as are imposed by the Atomic Energy Commission or any other governmental body in accord with applicable law:

(a) interim operation shall only be permitted to the extent that the requirements of this license to protect the aquatic biota of the Hudson River from any significant adverse impacts are satisfied; any necessary mitigating measure shall be promptly taken; such measures to include any authorized remedy deemed to be appropriate by the Atomic Energy Commission, including an advancement of the May 1, 1979, date to an earlier date which is deemed reasonable and warranted by the circumstances.

(b) The finality of the May 1, 1979, date also is grounded on a schedule under which the applicant, acting with due diligence, obtains all governmental approvals required to proceed with the construction of the closed-cycle cooling system by December 1, 1975. In the event all such governmental approvals are obtained a month or more prior to December 1, 1975,

then the May 1, 1979, date shall be advanced accordingly. In the event the applicant has acted with due diligence in seeking all such governmental approvals, but has not obtained such approvals by December 1, 1975, then the May 1, 1979, date shall be postponed accordingly.

(c) If the applicant believes that the empirical data collected during this interim operation justifies an extension of the interim operation period or such other relief as may be appropriate it may make timely application to the Atomic Energy Commission. The filing of such application in and of itself shall not warrant an extension of the interim operation period.

(d) After the commencement of the construction of a closed-cycle cooling system, a request for an extension of the interim operation period will be considered by the Atomic Energy Commission on the basis of a showing of good cause by the applicant which also includes a showing that the aquatic biota of the Hudson River will continue to be protected from any significant adverse impacts during the period for which an extension is sought.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Samuel W. Jensch, Chairman
R. Beecher Briggs
Franklin C. Daiber

In the Matter of

Docket No. 50-247

OL No. DPR-26

CONSOLIDATED EDISON
COMPANY OF NEW YORK, INC.

(Determination of Preferred
Alternative Closed-Cycle
Cooling System)

(Indian Point Station,
Unit No. 2)

June 23, 1977

Licensing Board issues, in light of ALAB-399, Second Supplemental Partial Initial Decision with respect to the role of the Village of Buchanan Zoning Board of Appeals in the approval of installation of closed-cycle cooling for the unit.

The Licensing Board considered the 45-day limit prescribed by ALAB-399 for action to be taken by the Zoning Board on the request for variance. The Licensing Board indicated its concern whether proceedings, if initiated by the Zoning Board, should be a basis for a further extension of the 45-day limit. The Village is not a party to the preferred type of cooling system phase of the Con Edison proceedings.

SECOND SUPPLEMENTAL PARTIAL INITIAL DECISION

The Atomic Safety and Licensing Board, following the issuance of ALAB-399, 5 NRC 1156 (May 20, 1977), issues this statement, or supplemental initial decision, to note that in a separate initial decision respecting the application of Consolidated Edison Company of New York, Inc. (Con Edison) to extend the time for open-cycle cooling system operation, the Board has extended the date to 1982 (Initial Decision Extending Time of Once-Through Cooling Until May 1, 1982, June 17, 1977). This determination may fulfill the direction in ALAB-399 requiring the Atomic Safety and Licensing Board to designate "... the termination date for operation of the plant with the once-through cooling system. . . ." (5 NRC at 1174).

The Atomic Safety and Licensing Board will, however, proceed to other

steps in the consideration of the necessity of governmental approvals as prescribed in ALAB-399, namely: if the Village of Buchanan Zoning Board of Appeals does not issue an order within 45 days from May 20, 1977, granting variances embodying local and incidental regulations consistent with the Con Edison license conditions, then the Licensing Board will declare, upon the request of a party, the Federal preemption applies,¹ and the Zoning Board approval is no longer required as a governmental approval. However, if the Zoning Board of Appeals issues an order consistent with license conditions, then the Licensing Board will find that all governmental approvals have been obtained. In other words, whether all governmental approvals have been received will depend upon the nature of the action and the time taken by the Zoning Board of Appeals. If the Zoning Board needs further time than 45 days for its action, presumably that Board will request the allowance of additional time from the Appeal Board. If hearings or deliberations regarding the local and incidental regulations are in progress beyond the 45-day allowance permitted by the Appeal Board, presumably a party could request the Licensing Board to issue a determination that Federal preemption supersedes the Village Board's activities: alternatively, a party could render useless the 45-day permission by waiting six months (to file a request) within which the Zoning Board could conduct hearings and hear appeals, and when all was concluded, only then would the Licensing Board be authorized to act.

ATOMIC SAFETY AND LICENSING BOARD

R. Beecher Briggs
Franklin C. Daiber
Samuel W. Jensch, Chairman

Issued:
June 23, 1977
Bethesda, Maryland

¹If the Nuclear Regulatory Commission reverses the Appeal Board, and the preemption ruling no longer applies, the Licensing Board may need to rely upon the New York Supreme Court's ruling that a zoning variance is not a governmental approval required by the operating license.

Separate Statement of Samuel W. Jensch, Concurring:

This statement provides further agreement with the unanimous decision to extend the time within which to commence construction of the closed-cycle cooling system, but also cites some aspects of the guidance that the Appeal Board has prescribed in ALAB-399, particularly at 5 NRC 1163, 1169-1173.

The Licensing Board has noted the determinations by the Appeal Board made on the preemption issue. One is that:

The Zoning Board's attempt to prevent construction of a cooling tower is preempted under all of these tests. And the fact that there may be some permissible scope for the operation of local zoning laws with respect to nuclear power plants does not matter. (5 NRC at 1169.)

The Licensing Board can be rightfully concerned that if the local zoning is preempted whether any further declaration is needed. Especially this would be a concern in view of the Appeal Board's disregard of the determination (whether it be called a "somewhat" (of course not identical) law of the case, or a less inflammatory description) by the Supreme Court of New York that: "the provision of the license which refers to 'governmental approvals' to exclude zoning approvals" (NRCI-76/11, p. 604) and the Appeal Board's ruling on court action not yet issued that the New York Court of Appeals "could not give the Zoning Board of Appeals any greater powers than those afforded to it by the decision of the Appellate Division and still remain consistent with Federal law" (5 NRC at 1170). The Licensing Board may conclude that the guidance provided is to declare the Village of Buchanan action on zoning, yet to be issued, preempted if any conflict develops or is likely to prevent easy access to and continuation of construction of the closed-cycle cooling system.

The Licensing Board found that Con Edison had performed with due diligence in the procurement of all needed governmental approvals. The Con Edison action respecting the Village variance was not determined respecting diligence in view of the determinations that, consistent with the New York Court ruling, the variance was not needed as a governmental approval. Thus, there was no issue to be heard on due diligence respecting the Village variance, but Con Edison did orally present its views by its attorneys based on the same record utilized by the Appeal Board. No other evidence was sought to be presented. The hearing need not include further evidence. All substantive issues were thus fully heard in accordance with due process, and no substantial issue on due diligence was decided against Con Edison.

The transcript in this proceeding (page 314) states clearly in reference to the Atomic Safety and Licensing Board decision on preferred alternative on closed-cycle cooling system, as follows:

MR. BRIGGS: . . . all that's said in this decision is that the Board

examined the transcript of the proceedings (before the Village of Buchanan Zoning Board of Appeals), and the Board agrees that HRFA has a substantial basis for its comments. (In other words, HRFA could find a basis for its belief.) It says that if we were to look into the due diligence, we'd take into account what Ms. Chasis has said, and we'd look at it further.

And then, we went on to say that if we had decided that that was an issue, that a further examination of your efforts to obtain the variances from the village might be warranted.

MR. SACK: Well, if that is all you're saying, I'm glad to have that clarification.

(Parentheses added.)

Following this discussion, Con Edison at no time sought any hearing on the matter of due diligence, which had theretofore been decided in its favor. It is not clear what Con Edison would have been afforded by a hearing that it did not seek. Con Edison, after the discussion, at no time before the Licensing Board made any claim of a denial of due process. From ALAB-399, it appears that Con Edison has raised a matter before the Appeal Board that was not presented to the Licensing Board. If Con Edison had raised the serious charge of "... fundamental unfairness (which bordered on the edges of a denial of due process). . ." (5 NRC at 1174), the matter would have been thoroughly considered and decided by the Licensing Board. No such serious charge was made by any party and the issue never arose.

It is therefore clear that Con Edison had about ten pages in the transcript to present its views and as a result of discussion, Con Edison realized, and apparently agreed, that no decision had been made by the Atomic Safety and Licensing Board that there was any lack of due diligence on Con Edison's part. To have construed a phrase, that HRFA had a substantial basis for its comments on diligence, as a decision adverse to Con Edison "bordered on" the unusual. Thus, the consideration of due diligence has been expanded far beyond the context of the initial decision and subsequent discussion. The Atomic Safety and Licensing Board stated positively² that a hearing would be granted on due diligence if that

²The Licensing Board did not "seem(ed) to forget" nor did it have a "lapse of memory" for which "it made amends" respecting the termination date for receipt of all governmental approvals in the November 30 decision (ALAB-399, 5 NRC at 1163) (parentheses added). In the November 30 decision, it was specifically stated: "Determination of a new termination date is a separate issue that will be resolved by a later partial initial decision." (NRCI-76/11, p. 602) The May 1, 1979, termination date attributed to the Licensing Board by the Appeal Board (ALAB-399, 5 NRC at 1163) was not a Licensing Board pronouncement, but was part of a quotation from a decision of the New York Supreme Court (NRCI-76/11, p. 605). In that quotation, the Court concluded "While the license provisions do not on their face constitute an informative direction to build, the effect is the same." The Licensing Board agreed with that interpretation. The termination date for once-through cooling was determined in the December 27 decision as had been stated (NRCI-76/12, p. 661). Attention is directed to both decisions in this particular regard for accuracy.

ever became an issue in reference to a Village variance, and thus due process was fully accorded based upon standard principles. Since there was no issue specifically raised on due diligence, no hearing was granted, and since issues are needed for hearings, there was nothing "unfortunate" in not having a hearing without an issue.

The provisions that may be made by the Village respecting use of highways and roads are within the exclusive jurisdiction of the Village, but such provisions are unrelated to the variance considerations.

Con Edison contends that to force the issuance of a variance "... would be frivolous" (5 NRC at 1173). The Appeal Board direction, to take action if the Village does not issue a variance within 45 days, could well be a concern to the Licensing Board since the Village is not a party to the proceeding (having expressly refrained from being a party in the hearings respecting the variance) and the Licensing Board has no direction over the Village. While the Appeal Board undertook a *sua sponte* review of the proceeding from the Village's *amicus curiae* brief, the Village has not indicated, as the Appeal Board expects: "The Zoning Board of Appeals must have a pretty good idea by now of what kind of local and incidental regulation it wishes to impose under existing local ordinances" (5 NRC at 1170).³ The record in this case reflects that the Zoning Board denied the variance and the inference is that that was the end of the matter for them. If the Zoning Board desires to have further hearings, the 45-day limit of the Appeal Board may be fully utilized in such a proceeding. The Appeal Board has authorized the Licensing Board to declare a preemption of the variance matter for closed-cycle cooling after 45 days, while the Zoning Board is assumed to be concerned⁴ only with the "local and incidental regulation." With such a limitation on the Zoning Board, the preemption issue may have been already determined, and thus confirm the original Licensing Board determination that the "... Zoning Board's permission to build a cooling tower will no longer be a required governmental approval. . ." (5 NRC at 1171). The further direction is that if the Zoning Board issues regulations consistent with the construction of the closed-cycle system, then the Licensing Board may declare all

³The expectation of the Appeal Board of what the Zoning Board must have been thinking since the denial of the variance contrasts with the Appeal Board ALAB-188, 7 AEC 390 (1974), determination of the Licensing Board's consideration of expressions from other agencies, as follows:

We can find no record justification for the Licensing Board's statement that

(t)he time allowed for review and approval by state and Federal agencies reflects the view that agencies, which have already taken a position in favor of cooling towers, should be able to expedite the approvals.

⁴It is not clear that the Village Zoning Board has any authority to enact local or incidental regulations for street use, etc., which might ordinarily be handled by the Village Council.

governmental approvals have been received. If the Zoning Board has hearings still underway in the 45-day time period, the Licensing Board may need to certify the inquiry for this developing dilemma.

Samuel W. Jensch, Chairman

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Michael L. Glaser, Chairman
Marshall E. Miller
Kenneth G. Elzinga

In the Matter of

Docket Nos. 50-348A
50-364A

ALABAMA POWER COMPANY

(Joseph M. Farley Nuclear Plant,
Units 1 and 2)

June 24, 1977

Upon inability of the parties to reach a settlement after Licensing Board's determination that licenses in question would maintain a situation inconsistent with the antitrust laws (LBP-77-24, 5 NRC 804), Licensing Board issues initial decision determining that, based on the nature of the situation inconsistent with the antitrust laws and appropriate public interest considerations, relief should encompass unit power participation, such transmission or wheeling as is reasonably necessary to make effective use of that power including obtaining supplemental power, and opportunity to obtain bulk power during outages.

ATOMIC ENERGY ACT: SITUATION INCONSISTENT WITH THE ANTI-TRUST LAWS—REMEDY

Congress, in enacting §105(c)(a), gave the Commission flexibility to consider and weigh various interests and objectives in determining what form of access to nuclear generated power is appropriate to remedy a situation inconsistent with the antitrust laws.

INITIAL DECISION (ANTITRUST, PHASE II)

Appearances

S. Eason Balch, Sr., Esq., and Robert A. Buettner, Esq., of Balch, Bingham, Baker, Hawthorne, Williams & Ward, Birmingham, Alabama, and Terence H. Benbow, Esq., Stephen

Berger, Esq., and David Long, Esq., of Winthrop, Stimson, Putnam & Roberts, New York, for the Applicant, Alabama Power Company

Bennett Boskey, Esq., D. Biard MacGuineas, Esq., Edwin E. Huddleson III, Esq., Thomas S. Moore, Esq., and James C. Hair, Jr., Esq., of Volpe, Boskey and Lyons, Washington, D.C., for Intervenor, Alabama Electric Cooperative

Reuben Goldberg, Esq., David C. Hjelmfelt, Esq., and Michael D. Oldak, Esq., of Goldberg, Fieldman & Hjelmfelt, Washington, D. C. and Maurice F. Bishop, Esq., of Bishop, Sweeney & Calvin, Birmingham, Alabama, for Intervenor, Municipal Electric Utility Association of Alabama

David A. Leckie, Esq., C. Kent Hatfield, Esq., and John D. Whitley, Esq., for the Antitrust Division, Department of Justice

Joseph Rutberg, Esq., and Jane A. Axelrad, Esq., for the Staff, U. S. Nuclear Regulatory Commission

I. PRELIMINARY STATEMENT

This proceeding arises under Section 105c of the Atomic Energy Act of 1954, as amended, 42 U.S.C. Section 2135(c). On April 8, 1977, this Atomic Safety and Licensing Board (Board) issued an Initial Decision (5 NRC 804) in the first phase of this proceeding, which concluded that the activities under the licenses for the Joseph M. Farley Nuclear Plant, Units 1 and 2, would maintain a situation inconsistent with the antitrust laws and the policies underlying those laws. This Board further concluded that certain relief was necessary and indicated that additional proceedings were required to determine the exact nature of the relief.

Earlier in this proceeding we had granted the motion of Alabama Power Company (Applicant) to divide this proceeding into two phases. At that time we ordered the first phase to be directed toward a determination of whether the activities under the licenses would create or maintain a situation inconsistent with the antitrust laws. In the event such inconsistency was found, we ordered that a second evidentiary phase be held to determine the appropriate relief in terms of conditions to be placed on the licenses for the Farley Nuclear Plant. As noted above, in our Initial Decision, we held it reasonably probable that Applicant's activities under the licenses for the Farley Nuclear Plant would maintain a situation inconsistent with the antitrust laws, and that it was, therefore, neces-

sary to attach conditions to the licenses in order to prevent such a result. We further stated in the Initial Decision that since this proceeding had been bifurcated and the issue of inconsistency was ventilated in the first phase, it was necessary to continue the second phase to consider the appropriate remedy.

Our Initial Decision stated, as the legislative history of Section 105c of the Act disclosed, that the issue of fair access to nuclear facilities to obviate anti-competitive consequences of licensing should be approached on a case-by-case basis, and could be satisfied by several means, including contractual arrangements for unit power or ownership shares.¹ Since our Initial Decision dealt only with the first or liability phase, we stated that any conclusions the Board expressed in the Initial Decision concerning the appropriate remedy were necessarily preliminary or tentative, offered simply to aid the parties in possible negotiations or to focus on the issues for consideration in the remedy phase of hearings.² We stated that our tentative belief was that the furnishing of unit power by Applicant to Intervenor Alabama Electric Cooperative (AEC) from the Farley Plant and future units, together with such transmission or wheeling services as are necessary to enable AEC to make effective use of nuclear-generated power as a wholesale supplier in central and southern Alabama, would obviate anti-competitive consequences of unconditioned licenses for the Farley Plant.³ Although we expressed this tentative view regarding relief, we determined that no access to the Farley Plant was required in the case of Intervenor Municipal Electric Utility Association of Alabama (MEUA) or its members, because of our finding on the basis of evidence of record that there was no significant actual or prospective competition between Applicant and these entities at the retail distribution level, nor other conduct of Applicant toward MEUA or its members which was inconsistent with the antitrust laws within the meaning of Section 105c of the Atomic Energy Act.⁴ We concluded that if access to nuclear facilities were granted to MEUA in the face of our findings of no significant actual or prospective competition at the retail distribution level, and of no other anti-competitive conduct of Applicant toward MEUA, such a ruling might be considered an unwarranted attempt to restructure the electric power industry at the retail level, rather than fulfilling the statutory mandate of antitrust review under Section 105c.⁵

¹ Initial Decision (Antitrust) (5 NRC at 960 (April 8, 1977)).

² *Id.* at p. 960

³ *Id.* at pp. 959, 960-961.

⁴ *Id.* at p. 961.

⁵ MEUA attempted to participate in the second phase of this proceeding by seeking to offer evidence that MEUA and its members were prospective competitors of Applicant in the wholesale market, which we found was the relevant market for purposes of this antitrust review. The Board ruled that MEUA could not participate in the second phase on grounds that our findings as to MEUA in the first phase were controlling and that the purpose of phase two was to fashion a remedy consistent with our findings in the first phase. (Tr. 27,189)

Before actually commencing the second phase of this proceeding, however, we urged the parties to adopt the procedure recommended by the Supreme Court in a somewhat similar situation as appeared in *United States v. Terminal Railroad Association of St. Louis*, 224 U.S. 383, 411-412 (1912), where the Supreme Court remanded the case with directions that a decree be entered directing the parties to submit to the lower Federal court within a time certain a plan for reorganization of certain contractual arrangements which had been found in restraint of trade. Upon the failure of the parties to reach an agreement which was in substantial accord with the Supreme Court's opinion, the lower court would, after holding a hearing, enter such order or decree as might be required. We further directed the parties to report to us in writing through their counsel by April 22, 1977, whether they had been successful in negotiating the terms of proposed license conditions consistent with our Initial Decision, or whether there was a reasonable likelihood of arriving at an expeditious agreement. If no agreement were possible, we ordered that a hearing on the second or remedy phase of this proceeding would commence on May 9, 1977.⁶

On April 22, 1977, the Board was informed by all parties that no agreement had been made, and that it was reasonably unlikely that such agreement would be reached. Accordingly, we issued a Notice of Resumption of Antitrust Evidentiary Hearings (Remedy Phase, License Conditions) on April 27, 1977, establishing May 9, 1977, as the date for commencement of evidentiary hearings to determine the exact nature of the relief to be imposed in the form of conditions to be attached to the licenses for the Farley Nuclear Plant.

Evidentiary hearings commenced on May 9, 1977, in Charlottesville, Virginia, and continued until May 17, 1977, when the record was closed. We directed the parties to file proposed findings of fact, conclusions of law, and briefs by May 27, 1977. Pursuant to the suggestion of the parties,⁷ we dispensed with the filing of replies. All parties filed their proposed findings, conclusions and briefs on the specified date. The Board has given careful consideration to the record developed in this second phase, to the relevant evidence previously included in the record during the first phase, as well as to the findings and briefs of the parties. Before we approach that aspect of this decision on the remedy to be imposed in the form of license conditions, we believe it will be helpful to discuss the purpose of the second phase in this proceeding, and how our Initial Decision, in the first phase, is significantly related to the relief we have decided is appropriate.

II. PURPOSE OF PHASE II

The purpose of Phase II of this proceeding is to fashion a remedy in the

⁶*Id.* at pp. 961-962.

⁷Tr. 28,391.

form of conditions to be attached to the licenses for the Farley Plant, consistent with the Board's findings in the first phase, that the activities under the Farley Plant licenses would maintain a situation inconsistent with the specified antitrust laws and the policies underlying those laws. After such findings have been made under Section 105c(5), the relevant statute, Section 105c(6), provides:

(6) In the event the Commission's finding under paragraph (5) is in the affirmative, the Commission shall also consider, in determining whether the license should be issued or continued, such other factors, including the need for power in the affected area, as the Commission in its judgment deems necessary to protect the public interest. On the basis of its findings, the Commission shall have the authority to issue or continue a license as applied for, to refuse to issue a license, to rescind a license or amend it, and to issue a license with such conditions as it deems appropriate. (Section 105c(6), of the Atomic Energy Act of 1954, as amended, 42 U.S.C. Section 2135(c)(6).)

The Report by the Joint Committee on Atomic Energy on the 1970 amendments to the Atomic Energy Act describes our responsibility under Section 105c(6) as follows:

While the Commission has the *flexibility* to consider and weigh the various interests and objectives which may be involved, the committee does not expect that an affirmative finding under paragraph (5) would normally need to be overridden by Commission findings and actions under paragraph (6). The Committee believes that, except in an extraordinary situation, Commission-imposed conditions should be able to *eliminate the concerns* entailed in any affirmative finding under paragraph (5) while, at the same time, *accommodating the other public interest concerns* found pursuant to paragraph (6). Normally the committee expects the Commission's actions under paragraphs (5) and (6) will *harmonize both antitrust and such other public interest considerations* as may be involved. (Emphasis supplied) [H.R. Rep. No. 91-1470, reprinted in U.S. Code Cong. Serv. 5011-12 (1970).]

The Appeal Board has also observed that:

Section 105c(6) simply directs the Commission to place "appropriate" conditions on licenses where necessary to rectify anticompetitive situations. This is an invocation of the Commission's discretion, not a limitation on its powers.⁸

It thus appears that in fashioning remedies by means of license conditions, the Board is to exercise an informed discretion to discern and identify both antitrust

⁸ *Kansas Gas & Electric Co. and Kansas City Power and Light Co.* (Wolf Creek Generating Station, Unit 1), ALAB-279, 1 NRC 559, 571 (1975).

concerns and other public interest considerations, and to harmonize and accommodate those various interests and objectives. This suggests that a careful analysis must be made on a *case-by-case* basis to determine the appropriateness of requiring license conditions. Since the remedy should address the malady, there is no simple panacea by the attempted imposition of all-purpose, standardized license conditions which seek to treat alike varied market situations involving nuclear facilities.

Since rather broad license conditions have been proposed in this proceeding by the Department of Justice (Department) and the NRC Staff (Applicant's Exhibit 1, Phase II), and to a somewhat lesser degree by AEC, we believe it is necessary to delineate the nature and extent of the anticompetitive situation we found in our Initial Decision. This analysis is not merely an attempt to catalog various actions and conduct of Applicant in order to frame conditions directed against specific actions. Rather, it is an effort to describe that kind of situation which could reasonably arouse antitrust "concerns entailed in any affirmative finding under paragraph (5)" (*Joint Committee Report, supra.*, p. 5011). It would be pointless to draft license conditions directed toward those aspects of a market situation which the Board has found do not involve proscribed anticompetitive conduct.

Indeed, the Department, the Staff and AEC have previously recognized the interrelationship between alleged anticompetitive conduct and appropriate remedies. In opposing bifurcation of this proceeding, these parties stated that:

... since, in this complex industry, the inconsistency is not always obvious, it must be shown by contrasting the proper behavior with the existing behavior. Compelling conduct paralleling competitive behavior is the remedy. . . . Accordingly, the inconsistency and the remedy are inextricably intertwined because the same evidence will prove the inconsistency and also suggest the remedy.⁹

Logically, it must follow that where the evidence does not prove inconsistency with the antitrust laws, no license condition is appropriate as to that aspect of the market situation. For example, these parties urged that:

Central to the existing inconsistency is the fact that small systems in Alabama are not presently accorded access to the "regional power exchange market"—the market in which certain of the factors of production of a competitive bulk power supply are bought and sold.¹⁰

⁹ Response of the Department of Justice, AEC Regulatory Staff and the Intervenor's Opposing Applicant's Motion to Bifurcate the Hearing, filed May 6, 1974, at p. 4.

¹⁰ *Id.*, at p. 2.

Since the Board rejected this proffered "regional power exchange market,"¹¹ a remedy granting access to the nuclear facilities in question which is based upon this concept would likewise be inappropriate.

In order to keep the proposed remedies in the form of license conditions consistent with our findings as to Applicant's liability in the first phase, it may be useful at the outset to consider what aspects of the situation were found not to be inconsistent with the antitrust laws. The various types of coordination for economy and reliability which Applicant obtained as a member of the Southern Company pool were found not to be anticompetitive. This pool formed by the operating companies of a valid electric utility holding company is legal, and cannot be analogized with a pool formed by some competitors which excludes other competitors for anticompetitive reasons, as in the case of a "bottleneck monopoly." It would not be appropriate to require license conditions admitting AEC to membership in this holding company pool, nor to achieve the same result indirectly by conditions "compelling conduct which parallels" the so-called competitive conduct in the "regional power exchange market."¹²

Applicant's opposition to AEC obtaining REA loans for the construction of new generation and transmission lines, on the grounds of wasteful and unnecessary duplication of facilities contrary to the purpose of the statute and the public interest, was held not to be inconsistent with the antitrust laws. The issues were reasonably open to dispute, and the use of administrative and judicial fora was appropriate under the circumstances.¹³

We found that various wholesale rate reductions by Applicant were made for legitimate business reasons, and were not made to forestall self-generation by AEC. In fact, the REA at times encouraged Applicant to offer lower wholesale rates, to which it responded in good faith.¹⁴

There was no evidence that Applicant refused to deal with AEC in providing emergency maintenance service in the mid 1950's, and it was quite willing to negotiate a special rate for emergency and maintenance service during periods of routine inspection of equipment.¹⁵ However, after the Federal courts ruled in

¹¹ Initial Decision, 5 NRC at 886-887.

¹² Responses to Bifurcation Motion, *supra.*, at pp. 4-5. At one time, the Department argued that access to the Farley units could take one of several forms, which for illustration were described as ownership participation, unit power, and "A third method could be to add, on request, third party systems to the Southern Company pool." Compulsory membership in this pool is neither reasonable nor realistic under the facts in the record, and probably does not represent the current position of the Department or the other parties. See Statement of Legal Theory and Supporting Facts of the Department of Justice, p. 13 (September 11, 1972).

¹³ Initial Decision, 5 NRC at 902-908.

¹⁴ *Id.*, pp. 908-913.

¹⁵ *Id.*, pp. 913-916 .

1968 that AEC's thirty-five-year all-requirements contracts with its members were valid, Applicant consistently refused until 1972 to offer fair interconnection and coordination arrangements with AEC, with the purpose of maintaining and protecting Applicant's wholesale customer business from competition with AEC. Applicant's conduct was found to be anticompetitive in these circumstances.¹⁶

Although the Board found that Applicant acted inconsistently with the antitrust laws in refusing to offer AEC fair coordination from the time of the Federal court decisions in 1968 affirming the validity of AEC's thirty-five-year all-requirements contracts until February 1972, when an Interconnection Agreement between Applicant and AEC was entered into, we specifically held that the agreement in and of itself did not deny AEC access to power exchange or coordinating services in an anticompetitive manner.¹⁷ We did observe, however, that the "protective capacity" provision in the Interconnection Agreement which specified AEC's reserve obligation was an unusual one, and should be eliminated. Accordingly, the Board indicated it would require Applicant and AEC to redefine AEC's reserve obligation on a different basis in the future, but left it up to the parties to decide how best to state the obligation of sharing their reserves.¹⁸

The Board found no evidence that Applicant had denied AEC and MEUA ownership participation in the Farley Plant.¹⁹ Likewise, we found no basis for holding that Applicant refused to consider coordination with a generating plant proposed to be constructed by the City of Dothan, Alabama.²⁰ We also rejected the contention that Applicant inserted contractual provisions in its various agreements with AEC and municipal systems in order to prevent competing self-generation and transmission, but we found that such provisions were anticompetitive because they had the effect of precluding alternative sources of wholesale power.²¹

The Board was unable to find that Applicant opposed construction by the Southeastern Power Administration (SEPA) of high voltage transmission lines for anticompetitive reasons.²² We did hold that Section 4.2 in the 1970 agreement between Applicant and SEPA, which provided that unless a preference customer purchases all of its supplemental power (that is, power needed over and above the SEPA allotment and power generated by such a customer's own resources) from Applicant, the company is not obligated to wheel SEPA power

¹⁶ *Id.*, pp. 916-925.

¹⁷ *Id.*, pp. 925-928.

¹⁸ *Id.*, p. 928.

¹⁹ *Id.*, pp. 928-929.

²⁰ *Id.*, pp. 930-931.

²¹ *Id.*, pp. 931-932.

²² *Id.*, pp. 932-933.

to the preference customer, was tantamount to an exclusive dealing arrangement inconsistent with the antitrust laws.²³

The Board found no "price squeeze" practiced by Applicant at the wholesale level, as alleged by MEUA.²⁴ We also determined that Applicant did not misuse judicial and administrative processes against AEC to prevent its acquisition and expansion of generation and transmission, and that Applicant's resort to the courts and administrative agencies was wholly appropriate and constitutionally protected under the Noerr-Pennington doctrine. We found no pattern of baseless claims nor repetitive law suits bearing the hallmark of insubstantial claims in connection with such judicial and administrative processes.²⁵

Finally, the Board rejected as unsupported in fact or law a multitude of other proffered allegations of Applicant's anticompetitive conduct such as offers to purchase various distribution systems, attempted acquisition of certain transmission lines, and efforts to serve a new shopping center near Enterprise, Alabama.²⁶

The Board did find that Applicant's conduct in respect to AEC's efforts to bid competitively for the supply of wholesale power to Ft. Rucker, Alabama, constituted an unfair method of competition proscribed by Section 5 of the Federal Trade Commission Act, and that such conduct was inconsistent with the antitrust laws and their underlying policies.²⁷

We also found that Applicant, in concert with others, had acted to preclude small electric utilities in central and southern Alabama from obtaining the benefits of economic coordination during the period of the development and formation of regional electric reliability councils in the mid and late 1960's.²⁸

Thus, in our Initial Decision, we found but five instances of conduct on the part of Applicant which can be termed inconsistent with the antitrust laws. These instances began in the early 1960's with the Ft. Rucker transaction, continued through the period of the mid and late 1960's in connection with the development and formation of regional electric reliability councils and in regard to negotiations with AEC for an interconnection agreement, and were also manifested in Section 4.2 of Applicant's 1970 agreement with SEPA, as well as in certain agreements with AEC and municipal distributors. We found no evidence that indicated conduct on the part of Applicant which is inconsistent with the antitrust laws beyond early 1972. In fact, the record before us shows that, in at

²³*Id.*, pp. 933-937. This provision has now been removed from the agreement between SEPA and Applicant as of June 1, 1976. *See* Tr. 28, 316-28, 319.

²⁴*Id.*, at pp. 937-940.

²⁵*Id.*, at pp. 940-942.

²⁶*Id.*, at p. 957.

²⁷*Id.*, at pp. 942-945.

²⁸*Id.*, at pp. 946-957.

least one instance, Applicant is engaging in significant and beneficial coordination of transmission lines with AEC.²⁹

Accordingly, we held it reasonably probable that Applicant's activities under the licenses for the Farley Nuclear Plant would maintain a situation inconsistent with the antitrust laws on the basis of the five instances of conduct inconsistent with the antitrust laws and determined that AEC must be given reasonable access to these nuclear facilities.

Our task in this phase, therefore, is to fashion conditions attached to the licenses for the Farley Plant which would prevent the maintenance of the anti-competitive situation by Applicant in central and southern Alabama, the market relevant for the antitrust review. These conditions clearly must be established in the context of our findings in Phase I of this proceeding and should not address the situation as if all of the numerous rejected allegations of anticompetitive conduct on the part of Applicant had been proven.

III. ACCESS TO NUCLEAR GENERATION

The Department, Staff and AEC submit that AEC should have the unilateral option to choose among wholesale power purchases, unit power purchase, and ownership participation if AEC is to be afforded reasonable access to nuclear power. These parties have proposed broad license conditions which encompass such an option (Applicant Exhibit No. 1; Phase II). AEC further contends that the option of ownership participation in the Farley units, which option AEC intends to exercise, is the only appropriate form of access in this case.

Applicant contends that access to Farley generation on the basis of unit power is reasonable and adequate because it would enable AEC to obtain power for its use in competing in the wholesale-for-resale market in central and southern Alabama on the same unit cost as would be available to Applicant for purposes of competing in the same market. It raises numerous objections to the imposition of ownership participation in this case, and urges that joint ownership was never intended to be the sole method of providing reasonable access to nuclear facilities. Applicant has submitted a proposal (APP II-2) which it contends offers unit power on a proportionate basis and insures that such power will be available for the life of the Farley Plant. Applicant further asserts that wholesale power sales, with the assumed low costs of the Farley power included in the fully allocated costs of power, is another reasonable form of participation in these nuclear facilities.

A. Legislative History

The question of what constitutes reasonable access to nuclear facilities runs

²⁹Tf. 28,060.

through the hearings of the Joint Committee, which drafted the 1970 amendments of Section 105c. Intertwined with this issue is the approach to be taken in dealing with the licensing of nuclear plants which are the products of joint ventures by some competitors which exclude other competitors on the one hand, and those which are constructed by a single entity to serve its own needs on the other. These troublesome questions were not explicitly resolved by the provisions of Section 105c(6), but the Commission was given flexibility to consider and weigh the *various* interests and objectives which might be involved after a finding of inconsistency under Section 105c(5). A consideration of the legislative history may be helpful in discerning the Congressional intent.

In 1968, Donald F. Turner, Assistant Attorney General, discussed these matters in an exchange with Representative Hosmer as follows:

[Mr. Turner] We are not suggesting that the only form of access should be by ownership participation. It may well, indeed, be access to the power on the purchasing basis.

There may well be situations in which, for one good reason or another, it would not be feasible to permit a system to participate on an ownership basis, but it still may be perfectly feasible to give them access by purchase.

[Representative Hosmer] You state that you support the principle that participation in a large scale nuclear project should be available to all to a fair and reasonable extent.

Again, are you talking about ownership as well as assured supply of electricity at a fair rate, or are you talking about both?

[Mr. Turner] Either or both. We are not suggesting that, as I said earlier, that access on an ownership basis must necessarily be given.

[Representative Hosmer] Your objective is to protect the smaller companies, public or private, as to availability of power at reasonable cost, and you did not say that in order to do this, such utilities must have an equity in the generation plant?

[Mr. Turner] That is correct.

[Representative Hosmer] It can be done by the requirement that the market be furnished at rates which somebody determines are reasonable?

[Mr. Turner] That is correct.

[Representative Hosmer] All right. (Hearings on Participation by Small Electrical Utilities in Nuclear Power, Pt. 1 at 62 (1968).)

In 1968, Chairman Seaborg of the AEC stated in a letter to the Executive Director of the Joint Committee that "in many cases an equitable sharing of benefits could be obtained by means other than ownership participation." (1968 Hearings, *supra.*, p. 17)

These matters were also discussed by Roland W. Donnem, Director of Policy Planning, Antitrust Division, Department of Justice, in a widely quoted address to the Federal Bar Association on October 15, 1969. Mr. Donnem's views were subsequently included in the report of hearings by the Joint Committee, and they were expressly stated by the Department to be "the views of the Antitrust Division." (Hearings Pt. 1, pp. 7-12, 118) Mr. Donnem stated:

Thus, the conclusion that all sectors of the electric utility industry should have adequate access to low cost power is, I think, compelled by the policy of the antitrust laws. When competitors have no reasonable alternative method to participate in similar large scale arrangements, they must be permitted fair participation in the plant under consideration. But there remains the question of what constitutes fair access in any given situation. Participation may be afforded by ownership shares, or by contract, or by a combination of the two.

Whatever participation device is employed, two basic principles should be observed. First, the small and municipally owned companies must be afforded the same opportunity to receive the low cost power for the same uses as the larger participating systems. For example, if the larger participants use the low cost power for existing requirements, then it must be available to all for that use. If the power is to be used for growth, then each of the competitors must have the opportunity to obtain the power for that use. Only in this way are the competitive opportunities equalized and decisive competitive advantage avoided.

Second, it may well be necessary in some circumstances to make explicit allowance for the competitive advantage conferred on municipally owned companies by virtue of their tax exempt status. Failure to make such allowance might confer an unfair competitive advantage on municipally owned companies who are permitted to participate, and thus hamper competition and perhaps discourage the very creation of large scale generating facilities. (Hearings Pt. 1, p. 10.)

In supporting the passage of the 1970 amendments to Section 105c, Walter B. Comegys, Acting Assistant Attorney General, Antitrust Division of the Department, testified:

Specifically, the industry is now going through a considerable controversy over the extent to which, and the means by which, small systems should

have access to large new generation and transmission facilities. As to this, I think the antitrust law provides some general guidance. Companies acting together to create or control a unique facility may be required by application of the rules of reason, to grant access on equal and nondiscriminatory terms to others who lack a practical alternative. (Citing the *Terminal Railroad*, *Associated Press*, *Gamco* and *Silver* cases discussed in our Initial Decision.) We have not wished to take the position that where competitive policies require that smaller firms have access to a large low cost power facility the access must always be furnished by ownership share in the new plant. Nor have we wished to assert that it will always be acceptable to have contracts for the sale of power from the plant. Either position would, in our opinion, unduly limit members of the industry in working out the most expeditious, fair, and efficient means of creating new facilities and sharing in their benefits. It may be that in some circumstances ownership share is required, as the Vermont Commission has recently decided with respect to the nuclear joint venture in Vermont. In other cases, contractual arrangements may be entirely adequate. In this connection, we have not been able to endorse the suggestion that it will invariably be satisfactory for contractual arrangements to provide for the sale of power at the average cost of the selling utility. In some circumstances, this might impose a substantial competitive disadvantage on the company buying the power. We do think that adequate access implies the same opportunity to receive low cost power for the same uses as those who have the unique low cost facility. (Hearings, Pt. 1, p. 128.)

Similar views were expressed by Mr. Comegys when he appeared before the Senate Subcommittee on Antitrust and Monopoly to testify in hearings concerning the Competitive Aspects of the Energy Industry. In explaining the Department's position on the pending amendments to Section 105c, he stated:

We do not consider such a licensing proceeding as an appropriate forum for wide-ranging scrutiny of general industry affairs essentially unconnected with the plant under review.

The principal problem area we foresee is that of access to a plant's output by outside utilities, public and private. To obtain the economies of scale possible under atomic generation, plants must be both very large and very expensive, in most cases too much so for one company to finance or to use wholly in its own system. Accordingly, most plants are organized as joint ventures among several utilities. At the same time, the reduction in marginal cost of power afforded by an atomic plant is so great that a competing utility, denied participation and without an alternative means of acquiring such benefits, is placed at a competitive disadvantage. . . .

The mode and terms of access must, of course, depend on the particular factual context surrounding each individual licensing application.

Under some circumstances, an ownership share may be required for an outside utility who desires to assume the risks as well as the benefits. In other cases, contractual arrangements for a portion of the plant's output may be entirely adequate. . . . (Record of Hearings before the Subcommittee on Antitrust and Monopoly pursuant to Senate Res. 334, Pt. 1, p. 142.)

The Joint Committee posed certain written questions to the Department regarding the form of fair access. One question asked, "In your opinion, would favorable wholesale rates which reflect a fair share of the costs of generation from new efficient units constitute 'fair access' to such low cost generation?" Richard W. McLaren, Assistant Attorney General, Antitrust Division, responded as follows:

If the "fair share of costs from new efficient units" resulted in wholesale rates which did not disadvantage the purchaser vis-a-vis the supplier, such rates would provide "fair access". . . . (Hearings, Pt. 1, p. 147.)

The Atomic Energy Commission (now Nuclear Regulatory Commission) adopted similar positions before the Joint Committee. When asked to comment on Mr. Donnem's speech, *supra.*, Commissioner James T. Ramey stated in a letter dated February 4, 1970:

The speech does not draw a clear distinction between single-owner units and multi-owner (joint venture) units as regards the categories of antitrust issues which may be involved and the actions which might be required to resolve them satisfactorily. Mr. Comegys in his testimony appeared to recognize that a multi-owner situation would present antitrust considerations different than those involved in a single-owner case. . . . With respect to Mr. Donnem's discussion of the acquisition of ownership shares by public entities originally excluded from a joint venture nuclear power plant, I note that Mr. Comegys testified that the Department of Justice does not wish to take the position that "access must always be furnished by ownership share in the plant." I have long felt that publicly owned utilities as well as private utilities and regulatory bodies should be aware of the fact that there are risks as well as possible advantages to such ownership. My experience dealing with consortia of private and public participating groups indicates that such joint ownership may well create significant management problems that must be taken into account. (Hearings, Pt. 1, pp. 283-284.)

The Commission further stated in responses to questions posed to it by the Joint Committee:

Normally, where the organization and financing of the project and the plant construction had been completed, it would probably be undesirable and contrary to the public interest if the need for power is to be satisfied on a timely basis to require substantial changes in the organization and financial plan to permit the participation of nonmembers, such as small utilities, in the organization and management of the project. Participation in ownership normally should not be necessary to assure that nonmember organization has access to the economic advantages that can be realized from large scale nuclear generating stations. It would still be feasible and appropriate to consider whether the antitrust situation is such as to require the applicant for an operating license to make power available to other utilities and to consider the terms and conditions of such availability. (Hearings, Pt. 1, p. 100.)

Another licensing board reviewing the legislative history has concluded that the only special circumstance mentioned as probably requiring joint ownership was the case where some competitors have formed a joint venture which deliberately excluded other competitors. It found no case where the sole owner of nuclear facilities was compelled to enter a joint venture with a competitor.³⁰

B. Public Interest Considerations

It is indisputable that these antitrust laws embody a fundamental national policy regarding the preservation of competition in our economic system.³¹ But a finding of inconsistency with the antitrust laws under Section 105c(5) does not end the inquiry, but leads to a consideration of other public interest factors in accordance with Section 105c(6). The latter section requires the Commission then to consider "such other factors, including the need for power in the affected area, as the Commission in its judgment deems necessary to protect the public interest" (42 U.S.C. Section 1235(c)(6)). As the Joint Committee observed in its Report,

³⁰*Louisiana Power & Light Co.* (Waterford Steam Generating Station, Unit No. 3), LBP-74-78, 8 AEC 718, 730 (1974), holding: "The question of the appropriate form of access was given considerable coverage during the Hearings of the Joint Committee on Atomic Energy, herein-before identified. The consensus appears to be that, while in specific cases it may be desirable to require joint ownership, in general access either in the form of unit power or of joint ownership is adequate (Joint Committee Hearings, Part 1, pages 75, 128, 134 and 147; Part 2, pages 361, 409-10, 429). The only special circumstance mentioned as probably requiring joint ownership was in the case where there was already a joint venture which deliberately excluded some potential participants (Joint Committee Hearings, Part 1, page 134). Turning now to the decisions of courts and administrative tribunals, this Board has found no case where the sole owner of a facility has been required to enter a joint venture with a competitor. Certainly, no such case has been cited to the Board."

³¹*Kansas Gas and Electric Co., et al.* (Wolf Creek Generating Station, Unit 1), ALAB-279, 1 NRC 559, 568 (1975).

On the basis of all its findings—the finding under paragraph (5) and its findings under paragraph (6)—the Commission would have the authority to issue or continue a license as applied for, to refuse to issue a license, to rescind a license or amend it, and to issue a license with such conditions as it deems appropriate. . . . The Committee believes that, except in an extraordinary situation, Commission-imposed conditions should be able to eliminate the concerns entailed in any affirmative finding under paragraph (5) while, at the same time accommodating the other public interest concerns found pursuant to paragraph (6). Normally, the committee expects the Commission's actions under paragraph (5) and (6) will harmonize both antitrust and such other public interest considerations as may be involved. (H. R. Rep. No. 91-1470, reprinted in U.S. Code Cong. Serv. 5011-12.)

We now turn to a consideration of those other public interest concerns which are to be harmonized with and accommodated to antitrust values.

In his statement of principles, Mr. Donnem noted that "it may well be necessary in some circumstances to make explicit allowance" for the competitive advantage enjoyed by municipally owned companies because of their tax exempt status, because a failure to do so might confer an unfair competitive advantage and "thus hamper competition and perhaps discourage the very creation of large scale generating facilities" (Hearing, Pt. 1, p. 10). Applicant has urged that the granting of compulsory joint ownership to AEC, which enjoys tax and lower interest advantages as well as 35-year all-requirement contracts with some of its members, would amount to "competitive overkill." The Department, Staff and AEC contend that the latter's tax and financing advantages are the result of governmental policies, which should be maintained by the form of remedy and which should not be taken into account in a negative manner as perhaps suggested by analogy to Mr. Donnem's statement.

The Board has concluded that a consideration of AEC's tax and other advantages is irrelevant for all purposes under the facts of the instant case. We thereby adopt in part the Department's suggestion that "one takes his competitors as he finds them." It would be time consuming and probably fruitless to attempt to trace with certainty all of the economic impacts of AEC's advantages for a long period of time in the future, and then to seek an elusive formula to compensate for such competitive advantages. By the same token, there is no good reason to fashion a remedy deliberately designed to extend and multiply such preexisting advantages to a situation not expressly contemplated by Congress. All parties give lip service to the principle that antitrust remedies should not be punitive, and their purpose is not to punish the wrongdoer.³² The most

³²*Hartford Empire Co. v. United States*, 323 U.S. 386 (1946); *United States v. National Lead Co.*, 332 U.S. 319 (1947).

equitable way to harmonize this principle with the public interest considerations of Section 105c(6) is neither to discount nor to deliberately extend AEC's advantages in imposing license conditions.

Another circumstance to be weighed in any public interest consideration in this case relates to the "grandfathered" nature of the antitrust review. Applicant filed its original application for a construction permit on October 10, 1969, and an amendment for authority to construct a second nuclear facility on June 26, 1970, prior to the December 1970 amendments to Section 105c. The Commission issued a notice of antitrust hearing on June 28, 1972. Applicant's prior planning contemplated the utilization of all of the Farley Plant's capacity on its own system. Had a preclicensing antitrust review been conducted at the construction stage, Applicant would have been advised of any license conditions which affected its utilization of Farley power. While it is true that Applicant had been apprised at the construction stage that antitrust allegations were being asserted by the Department and others, it could not have known what ultimate findings would be made on liability. Indeed, Applicant does not know today what remedies will be imposed with finality.

While the equities flowing from the "grandfathered" situation are less compelling than if construction had been completed before the antitrust provisions of Section 105c were adopted, nevertheless some of the same equitable considerations are applicable. The Joint Committee was concerned about such a situation and queried both the Commission (then Atomic Energy Commission (AEC)) and the Department about such a result. The Commission replied:

We would expect both the Department of Justice and the AEC, in conducting their preclicensing review, to take into account the status of the project at the time it is being reviewed. Normally, where the organization and financing of the project and the plant construction had been completed, it would probably be undesirable and contrary to the public interest if the need for power is to be satisfied on a timely basis to require substantial changes in the organization and financial plan to permit the participation of nonmembers, such as small utilities, in the organization and management of the project. Participation in ownership normally should not be necessary to assure that the nonmember organization has access to the economic advantages that can be realized from large scale nuclear generating stations. (Hearings, Pt. 1, p. 100.)

The Department took a similar view with respect to plants which had received a construction permit:

We would expect that in recommending any action in such circumstances we would take account of a practical situation in which the utility would find itself at the time of the advice. Our intention would be to make our advice as accurate and clear as is possible with respect to antitrust problems,

but also to recommend corrective action which would cause as little dislocation as possible, to the end of producing an overall gain to the public. (Hearings, Pt. 1, pp. 136-137.)

The Commission also has recently considered the public policy reasons underlying an "anticipatory" antitrust review in connection with licensing. In a case involving the availability of antitrust review subsequent to the issuance of a construction permit but prior to the commencement of operating license proceedings, the Commission said:

An area of special concern during consideration of the 1970 amendments centered on whether antitrust review should take place at both the construction permit and operating license stages. The AEC proposed that review take place at both stages, with a mechanism to "exclude from consideration at the operating license stage cases that had been handled at the construction permit stage to the satisfaction of the Justice Department."

Chairman Holifield expressed considerable concern about this suggestion. (Hearings at 37-38):

I am concerned with the mandatory requirement in the AEC bill to review at both the construction and operating license stages. It seems to me that the Joint Committee's bill which requires mandatory review on the antitrust problem at the construction stage is a practical and sound way to approach it. I think if you hold over the head of any investors of \$100 million in a plant, let us say, the fact that he builds the plant to channel the power into his own system of distribution, at that point he should be made aware of any diversion from that plant to another source. He should not be put in a position, it seems to me, of double jeopardy in that he is given the construction permit to proceed without antitrust review and then suddenly 6 years later, or 7 years, whenever his plant is finished, he is faced with an intervenor or a legal situation in which he has to go again through the process of antitrust review.

... here again you have a permissive act on your part, and a benevolent act on your part, or an antagonistic act at this time, 5 or 6 or 7 years later, after the investment has been made and the plans of the utility, regardless of who they might be, were made at the time of construction as to the feed-in of that power into their systems.

Suddenly they are faced with a diversion, let us say, of 25 or 30 or 40 percent of their power into another system. So, it seems to me that the Joint Committee's position of mandatory review before construction as

far as the antitrust problem is concerned ought to be final in fairness to the investors. They go in then with their eyes open and they are treating the problem on the basis of a determined fact which does not damage their prior planning and the reason for investing in the first place.

Chairman Holifield's concerns were reflected in the final language of the section, providing for thorough review at the construction permit stage, and a second review only upon the finding of "significant changes." (*Houston Lighting & Power Company, et al.* (South Texas Project, Unit Nos. 1 and 2), CLI-77-13, 5 NRC 1303 at 1315-1316 (1977).)

In harmonizing antitrust with other public interest considerations under the directions of Section 105c(6), the need for power in the affected area is expressly included in the statute. The evidence shows that using the projected peak demands of Applicant for the years 1977-80, the percentage of reserves from its own resources will fall as low as a negative 1.2 percent without inclusion of the Farley capacity (APP. X II-5). The desired level of reserves would range between 20 and 25 percent (Tr. 28,099-100). While the Applicant could and would purchase capacity from other members of the Southern Company pool, these facts show that the Farley plant was planned to utilize all of its capacity by Applicant. Although this would not constitute an "extraordinary situation" sufficient to override our affirmative findings under Section 105c(5), it should be taken into consideration in fashioning a remedy adequate to prevent anti-competitive activities but with the least disruption of the planned use of the Farley facilities.

Applicant contends with some merit that its conduct since 1972, the date of its last anticompetitive conduct, should militate against the imposition of unnecessarily harsh or onerous remedies. As the Supreme Court observed in a case involving injunctive relief for a violation of Section 8 of the Clayton Act,

To be considered are the bona fides of the expressed intent to comply, the effectiveness of the discontinuance and, in some cases, the character of the past violations.³³

With reference to the alleged cessation of anticompetitive conduct as a mitigating factor, the Board has identified five types of conduct from which a pattern was discerned (p. 1490-1491, *supra.*). All of this conduct began in the early 1960's, and did not extend beyond early 1972. The Ft. Rucker transaction in 1962-1973 involved a threatened refusal to sell wholesale power to AEC if the latter sought to use it to underbid Applicant in supplying the power needs of Ft.

³³ *United States v. W. T. Grant Co.*, 345 U.S. 629, 633 (1953).

Rucker, an existing customer of Applicant. The record shows no subsequent conduct of this type by Applicant, which for many years has conceded and fulfilled its duty to sell wholesale power to AEC, which can use such power to compete for Applicant's customers:

The second anticompetitive action occurred in the mid and late 1960's, in connection with the development and formation of SERC. There has been no subsequent concerted or individual conduct by Applicant to preclude small electric utilities in central and southern Alabama from obtaining the benefits of economic coordination, and this matter can be covered by appropriate license conditions. The third factor involved Applicant's refusal to offer AEC fair coordination from 1968 to 1972. However, the interconnection agreement entered into in February 1972 was reasonable and did not deny AEC access to power exchange or coordinating services in an anticompetitive manner (p. 1489, *supra*). We observed that the "protective capacity" provision was an unusual one and should be eliminated from the interconnection agreement. The parties reported at the Phase II hearing that they would be able to draft a mutually acceptable reserve sharing provision in its place. The Board also found anticompetitive conduct manifested in Section 4.2 of Applicant's 1970 agreement with SEPA, as well as in certain agreements with AEC and municipal distributors (pp. 1489, 1490, *supra*). Counsel have now stipulated that Section 4.2 has been removed from the SEPA contract (Tr. 28,317-28, 318). There is no evidence that established conduct inconsistent with the antitrust laws beyond early 1972. In addition, in at least one instance Applicant is engaging in beneficial and significant coordination of transmission lines with AEC (Tr. 28,060). And Applicant's president, Joseph M. Farley, has testified that the company is willing to negotiate an agreement with AEC regarding access to the future Barton plant if it is ever constructed, including prompt notice to AEC of all milestone decision steps in that regard (Tr. 27,955-27,956, 27,958-27,960).

The Board regards the above mitigating factors as significant in evaluating the public interest under Section 105c(6). The purpose of antitrust review and appropriate license conditions is remedial, not punitive. Such affirmative action as has taken place is in the public interest, since in the parlance of legislative politics it is better to have a bill than an issue. Long after counsel for the Department and Staff have moved on to other litigation, Applicant and AEC will be living together and competing for the generation, transmission and sale of wholesale power in central and southern Alabama. Whatever license conditions we impose should reflect this situation in the real world of the electric power industry.

IV. LICENSE CONDITIONS

After weighing and evaluating the various antitrust and other public interest

concerns described above, the Board has concluded that the license conditions should include an opportunity for AEC to have access to the Farley nuclear facilities on a proportionate unit power purchase basis for the entire actual life of the units in question. Unit power has been defined as power purchased on a contractual basis in the form of a percentage share of the output from a particular power plant. The cost of unit power includes the owner's cost of capital, costs of construction, cost of fuel and operation, and a rate of return on investment (Tr. 27,126-27,128, 27,133-27,134, 27,834-27,836). If unit power is the form of access employed, Applicant and AEC will have essentially equal costs for the nuclear power. Unit power participation on a proportionate share basis leaves the competitive situation in effect undisturbed, and AEC would retain its tax and financing advantages (Tr. 28,141), with the Farley plant neither adding to nor subtracting from AEC's ability to compete. This result is reasonable under all of the circumstances in this case. Unit power participation will ensure that "competitive opportunities are equalized and decisive competitive advantage avoided," as sought by the Department's Mr. Donnem (Hearing, Pt. 1, p. 10). It will also avoid the "significant management problems" that Commissioner Ramey of AEC envisioned from joint ownership (Hearings, Pt. 1, p. 284).

Some objections have been advanced to unit power participation on the grounds that it is not enough to provide AEC access to the presumably lower cost nuclear power at the same cost as Applicant's. Reference has been made to AEC being the "victim" of Applicant's business operations, with the corresponding requirement that the industry be "pried open," or the monopoly power "broken up."³⁴ This view fails to take into account the facts in this case, which show that Applicant's market dominance which had been achieved by 1962 was not a "market that has been closed by defendants' illegal restraints,"³⁵ nor the result of an illegal "combination" of defendants engaged in predatory conduct.³⁶

Applicant had built up its large generation and transmission system prior to 1962 by a series of business decisions and operations which we have found were not inconsistent with the antitrust laws. Its generating capacity was expanded to fulfill periodic load projections, not to preclude or hinder competition. The transmission lines were extended to supply customer needs for electricity, not to victimize AEC or others. Economies of scale, desirable for the best utilization of resources, were developed by legal business means common to the industry. Indeed, the causes for the disproportionate size of Applicant and its competitor AEC, which produced the dominant market position of the former in central and southern Alabama by 1962, were not the result of anticompetitive or illegal

³⁴Phase II Briefs; Staff, pp. 8, 20; AEC, pp. 14, 19; Department, pp. 15-16, 31, 42.

³⁵*Ford Motor Co. v. United States*, 405 U.S. 562, 577-578 (1972).

³⁶*United States v. Grinnell Corp.*, 384 U.S. 563, 577 (1966).

conduct. Rather, such dominance resulted from substantial advantages which Applicant obtained from its participation in the Southern Company pool. As we have previously pointed out, this holding company pool and its resulting economies of scale are perfectly legal and reflect the Congressional intent regarding electric holding companies.

We did identify five areas of anticompetitive conduct engaged in by Applicant from the Ft. Rucker transaction in 1962-1963 up to the execution of the interconnection agreement in early 1972, as discussed above (pp. 1500-1501). However, the record does not show that such course of conduct caused any appreciable increase in Applicant's preexisting size or market dominance. The delays in AEC's financing and building of its generating capacity and transmission system resulted largely from litigation during the 1960's, which we found to be reasonable under the circumstances and not anticompetitive misconduct (Initial Decision, 5 NRC at 907-908, 940-942).

Applicant's adversaries have had the benefit of the broad sweep of Section 5 of the Federal Trade Commission Act, as well as the "incipiency" line of cases under the antitrust laws, in our findings in the liability phase of a course of conduct during 1962-1972 which was anticompetitive in nature. The Staff particularly sought the benefit of Section 5 FTC cases which went beyond the narrower confines of Sherman and Clayton Act violations to establish liability under the "inconsistent with" language of Section 105c(5). It is not reasonable when we come to the remedy stage to equate the harshest or most onerous remedies meted out by the courts to repeated and deliberate antitrust violators, with the lesser types of inconsistent conduct shown by the record in this case. It is close to overreaching to demand the full panoply of license conditions granted by the licensing board in the *Davis-Besse* case, while ignoring any discussion of the flagrant, deliberate and repeated illegal conduct of the joint perpetrators in violation of Sections 1 and 2 of the Sherman Act which the Board found in that case.³⁷ We also decline to make any collateral study of the bases for the 19 settlement agreements resulting in accepted license conditions which the Department lists in its brief at pp. 25-27. For all we know from this record, all of those cases could have involved misconduct as flagrant as that described in *Davis-Besse, supra*. It is the normal policy of the law to encourage settlements, and to that end to shield from disclosure evidence as to settlement negotiations and matters said or done therein. In any event, it would be fruitless and unduly prolong this proceeding to engage in such collateral inquiry. It would be manifestly unfair to accept representations of counsel outside the record to establish facts which the

³⁷ *Toledo Edison Company, et al.* (Davis-Besse Nuclear Power Station, Units 1, 2 and 3), LBP-77-1, 5 NRC 133 (1977). See also Phase II Briefs: Department, pp. 11-13; Staff, p. 6; AEC, pp. 53, 67.

opposing party could neither address nor disprove. All such statements of counsel have therefore been disregarded as evidence in this case.³⁸

In addition to unit power participation, we have also held that AEC should be given such access to Applicant's transmission system as is reasonably necessary to enable AEC to make effective use of nuclear-generated power as a bulk power supplier (Initial Decision, 5 NRC at 959). The purpose of this transmission requirement is to allow AEC the effective use of its participation entitlement, not to transform Applicant into a common carrier of electric power by requiring it to wheel "anytime, anyplace, anywhere" (Tr. 27,419;28,219). Transmission or wheeling license conditions should have a reasonable relationship to AEC's effective use of Farley plant power, and should avoid the possibilities for mandatory or premature additions to Applicant's system in order to accommodate requests for transmission services as well as the inherent reliability problems associated with universal and on-demand services (Tr. 27,946-27,948; 27,973-27,975). The license conditions should also provide such supplementary or partial requirements as may be needed to satisfy the requirements of AEC's off-system members over and above the Farley power allocated to them, and over and above the SEPA allotment which Applicant is contractually committed to deliver to such customers.

The scope of appropriate remedies in connection with transmission or wheeling is inextricably tied up with the nature of the anticompetitive conduct. In some respects, the relief to be afforded by license conditions is the reverse side of the liability coin. The Commission addressed this problem in *Waterford I* as follows:

³⁸We do note that in one of the Waterford cases cited by the Department, Louisiana Power and Light Company (Waterford Steam Generating Station Unit No. 3), a licensing board subsequently stated:

This is not to say that the Applicant's Commitments have attempted to provide the maximum or even the optimum opportunity for competition. Nor will the conditions hereinafter fashioned by the Board provide the maximum conceivable possibilities for competition in the sale of power. Rather the Board considers that the latter conditions would provide *adequate* relief for the situation assumed *arguendo* . . .

It is certainly true, we believe, that joint ownership will be a less expensive form of access for the Cities than unit power. The savings is merely a monetary advantage to the Cities based on tax advantage and is not a savings of resources. If unit power is the form of access employed, the Applicant and the public-owned entities have essentially equal cost; while joint ownership form of access would give the latter a cost advantage.

The purpose of injunctive relief in an antitrust situation is not to punish the party to which the injunction is directed, but is to remedy an imbalance in competition. Similarly in the present proceedings, the purpose of conditions to the proposed license is neither to punish the Applicant nor to place Applicant at a competitive disadvantage versus other entities. The purpose of conditions is to prevent activities under the license from unduly hindering competition. Access in the form of unit power is adequate to accomplish that purpose since it places on a competitive basis Applicant and entities having access to Applicant's facilities. (LBP-74-78, 8 AEC 718, 731 (1974).)

Primarily, the pleadings fail to identify the specific relief sought by each petitioner, and whether, how and the extent to which the request fails to be satisfied by the license conditions proposed by the Attorney General. Apart from the Cities' references to access to the Waterford Unit, the various petitions discuss a wide array of alleged antitrust practices, including. . . (b) refusals to permit meaningful integration of generation and *transmission* facilities, (c) refusals to permit use of applicants' *transmission lines for "wheeling"* and other purposes. . . . However, the pleadings generally fail to specify the *relationship*, if any, between these practices and the "activities under the license" involved in this proceeding. In other words, although to describe practices may constitute "situations inconsistent with the antitrust laws" or the policies underlying those laws, it is not clear that they would be "created" or "maintained" by "the activities under the license." (*Louisiana Power & Light Co. (Waterford Steam Generating Station, Unit 3)*, 6 AEC 48, 49 (1973) (emphasis supplied).)

Again, in *Waterford II*, the Commission gave some guidelines to access to transmission:

At the same time, however, we must emphasize that the specific standard which Congress required for antitrust reviews—"whether the activities under the license would create or maintain a situation inconsistent with the antitrust laws specified in Subsection 105a"—has inherent boundaries. It does not authorize an unlimited inquiry into all alleged anticompetitive practices in the utility industry. The statute involves licensed activities, and not the electric utility industry as a whole. . . . As stated in our earlier memorandum in this proceeding, the statutory phrase does not necessarily include all of the applicant's generation, *transmission*, and distribution of electricity. Neither is that phrase automatically limited to the construction and operation of the facility to be licensed. In our view, the proper scope of antitrust review turns upon the circumstances of each case. The relationship of the specific nuclear facility to the applicant's total system or power pool should be evaluated in every case. *Denial of access to transmission systems would be more appropriate for consideration where the systems were built in connection with a nuclear unit than where the systems solely linked non-nuclear facilities and had been constructed long before the application for an AEC license.* (*Louisiana Power & Light Co., supra.*, 6 AEC 619, 620-621 (1973) (emphasis supplied).)

The Appeal Board has also considered the issue of access to transmission in its *Wolf Creek II* decision, a case that was decided at the pleading stage.³⁹ In

³⁹*Kansas Gas and Electric Co. and Kansas City Power and Light Co. (Wolf Creek Generating Station, Unit 1)*, ALAB-299, 2 NRC 740 (1975).

that case, an intervening cooperative had been offered ownership participation in the nuclear plant plus wheeling of its allotted share of power and some "wheeling in" and "wheeling out" of power from third party sources. However, the cooperative contended that these proposed conditions (which the Attorney General had recommended) were insufficient because they did not require the applicant to wheel supplemental power. It was alleged that the nuclear generated power could only be employed as base load power, and that without assured access to a source of supplemental power, the cooperative could not obtain the financing it needed to secure an interest in the facility. It was further alleged that the practical effect of the limitations upon wheeling supplemental power was to prevent participation in the nuclear plant. While the Appeal Board held that the amended petition adequately alleged that the applicant's refusal to wheel supplemental power would have an exclusionary effect on competition, it further stated:

But the applicant insists that the relief sought—in effect general wheeling—is much broader than any relief to which KEC conceivably might be entitled. The applicant might prove to be right in this belief. We agree with the staff, however, that it is not possible at this juncture to determine this matter; whether general wheeling, more limited wheeling or no additional wheeling at all should be directed will become clear only upon establishment of the relevant facts. (2 NRC at 750)

Under the facts in the instant case, we believe that AEC should have unit power participation in the Farley units, such transmission or wheeling as is reasonably necessary to enable it to make effective use of that power including obtaining supplemental power, and an opportunity to obtain bulk power when there is an outage at the Farley facilities for any reason. Appropriate conditions should provide for a long-term arrangement for the service life of the Farley nuclear units by which AEC can obtain a proportionate amount of the output of such units on a unit power cost basis. Such unit power participation should be on the basis of the proportion of AEC's on- and off-system wholesale loads in central and southern Alabama to the total loads of both parties in such area, such calculation being based on the proportion prevailing at the time of the most recent peak condition in 1976. AEC should be provided reasonable transmission services to enable it to deliver power from the Farley nuclear units to (a) the integrated electric system of AEC, and (b) the off-system members of AEC in south and central Alabama.

For the foregoing reasons, the Board adopts the following license conditions which shall be made a part of any licenses issued to Applicant for the Joseph M. Farley Nuclear Plant, Units 1 and 2:

1. Licensee shall recognize and accord to Alabama Electric Cooperative the status of a competing electric utility in central and southern Alabama, and

shall take no actions and engage in no course of conduct having the purpose and effect of treating AEC as a mere customer of licensee for the sale of wholesale power.

2. Licensee will sell to Alabama Electric Cooperative, Inc. ("AEC"), unit power from Units 1 and 2 of Joseph M. Farley Nuclear Plant. The amount of capacity to be sold by Licensee from such units to AEC shall be an amount based on a ratio of (a) the aggregate coincident demand of all wholesale-for-resale members of AEC in Alabama during the hour of peak demand on the electric system of Licensee in 1976 to (b) the sum of such coincident demands of AEC and the territorial peak-hour demands of Licensee (excluding therefrom the peak-hour demands imposed by members of AEC upon the electric system of Licensee) during the hour of peak demand on Licensee's electric system in 1976. Contractual arrangements will be entered into between Licensee and AEC by the terms of which AEC will be entitled to purchase and receive the percentage of electrical output of the respective Farley units determined in accordance with the foregoing ratio. Such output from the respective units will be supplied by Licensee to AEC for the entire commercial service life of the particular units. Such contractual arrangements will also provide that AEC shall pay Licensee on a monthly basis for the capacity portion of such unit power, amounts representing the percentage of Licensee's fixed costs in such nuclear units based upon the ratio described above. Such contractual arrangements shall also provide that AEC shall pay Licensee on a monthly basis for the energy portion of such unit power, amounts representing the percentage of Licensee's variable costs incurred in the operation of such units based upon the ratio of energy generated for AEC's account to the total energy generated by such units during the billing month. The provisions of such contractual arrangements shall clearly provide that the net effect of such payments to be made by AEC shall be that AEC will *pay its proportionate share* of Licensee's *total costs* related to such nuclear units including, but not limited to, all costs of construction, installation, ownership, licensing and operation of such units, but no more than such proportionate share. The contracts covering such unit power shares shall embrace pricing and charges reflecting conventional accounting and rate-making concepts established and applied by the Federal Power Commission or its successor in function, and any disputes concerning the identification or application of such concepts shall be determined by and in accordance with procedures of the Federal Power Commission or its successor in function.

3. Licensee will provide transmission services to enable AEC to receive on its electric system such portion of its entitlement to the output of the Farley

units as AEC requires in the operation of its integrated electric system, and, in addition, Licensee will provide transmission services to the existing members of AEC physically connected to Licensee to enable such members to utilize any of the allocation of AEC's portion of the output of the Farley units. Contractual arrangements will be entered into between Licensee and AEC or, at the option of AEC, between Licensee and such members by the terms of which Licensee will be paid for such transmission services on the basis of the ownership, maintenance and operation costs associated with such transmission services. The contractual arrangements covering such transmission services shall embrace rates and charges reflecting conventional accounting and rate-making concepts followed by the Federal Power Commission or its successor in function in testing the reasonableness of rates and charges for transmission services. Such contractual arrangements shall contain provisions protecting Licensee against any economic detriment resulting from transmission line or transformation losses associated with such transmission services.

4. Licensee will also provide AEC such other bulk power supply services as may be required by it or such members to cover situations where such unit power to which AEC shall become contractually entitled is unavailable because of forced outages, maintenance requirements or other unavailability of the Farley Nuclear Unit for any reason whatever. Such additional or supplemental services may be considered in the context of the 1972 Interconnection Agreement now in effect or as such agreement might be modified in accordance with paragraph four hereof. In addition, Licensee will supply the partial power requirements of the existing members of AEC physically connected to Licensee which may be reasonably necessary to cover their requirements over and above (a) the power available to them through their arrangements with SEPA and (b) the allocation of any unit power from AEC under the arrangements contemplated under paragraphs two and three above. The contractual arrangements covering the services described in this paragraph shall be on a basis reflecting Licensee's costs and at rates and charges reflecting Licensee's costs and at rates and charges reflecting conventional accounting and rate-making concepts followed by the Federal Power Commission or its successors in function.

5. Licensee will enter into appropriate contractual arrangements amending the 1972 Interconnection Agreement as last amended to provide for a reserve sharing arrangement between Licensee and AEC under which the reserve obligation of AEC is no greater than the reserve obligation undertaken by Licensee under the terms of the Southern Company Pool Interchange Agreement. It is the intent and purpose of such contract modifica-

tion to eliminate from the 1972 Interconnection Agreement between Licensee and AEC a provision relating to protective capacity purchased by AEC.

6. The foregoing conditions shall be implemented in a manner consistent with the provisions of the Federal Power Act and the Alabama Public Utility laws and regulations thereunder and all rates, charges, services or practices in connection therewith are to be subject to the approval of regulatory agencies having jurisdiction over them.

V. ORDER

IT IS ORDERED, in accordance with the Atomic Energy Act of 1954, as amended, and the rules and regulations of the Nuclear Regulatory Commission in accordance with Sections 2.760, 2.762, 2.764, 2.785 and 2.786 that this Initial Decision shall become effective immediately and shall constitute, with respect to the matters covered herein, the final action of the Commission forty-five (45) days after issuance hereof, subject to any review pursuant to the above-referenced rules. Exceptions to this Initial Decision may be filed by any party within seven (7) days after service of this Initial Decision. A brief in support of the exceptions must be filed within fifteen (15) days thereafter [twenty (20) days in the case of the NRC Staff]. Within fifteen (15) days of the filing and service of the brief by the Appellant [twenty (20) days in the case of the NRC Staff], any party filing such exceptions shall file a brief in support thereof.

IT IS SO ORDERED.

THE ATOMIC SAFETY AND
LICENSING BOARD

Marshall E. Miller, Member

Dr. Kenneth G. Elzinga, Member

Michael L. Glaser, Chairman

Dated at Bethesda, Maryland
this 24th day of June 1977.



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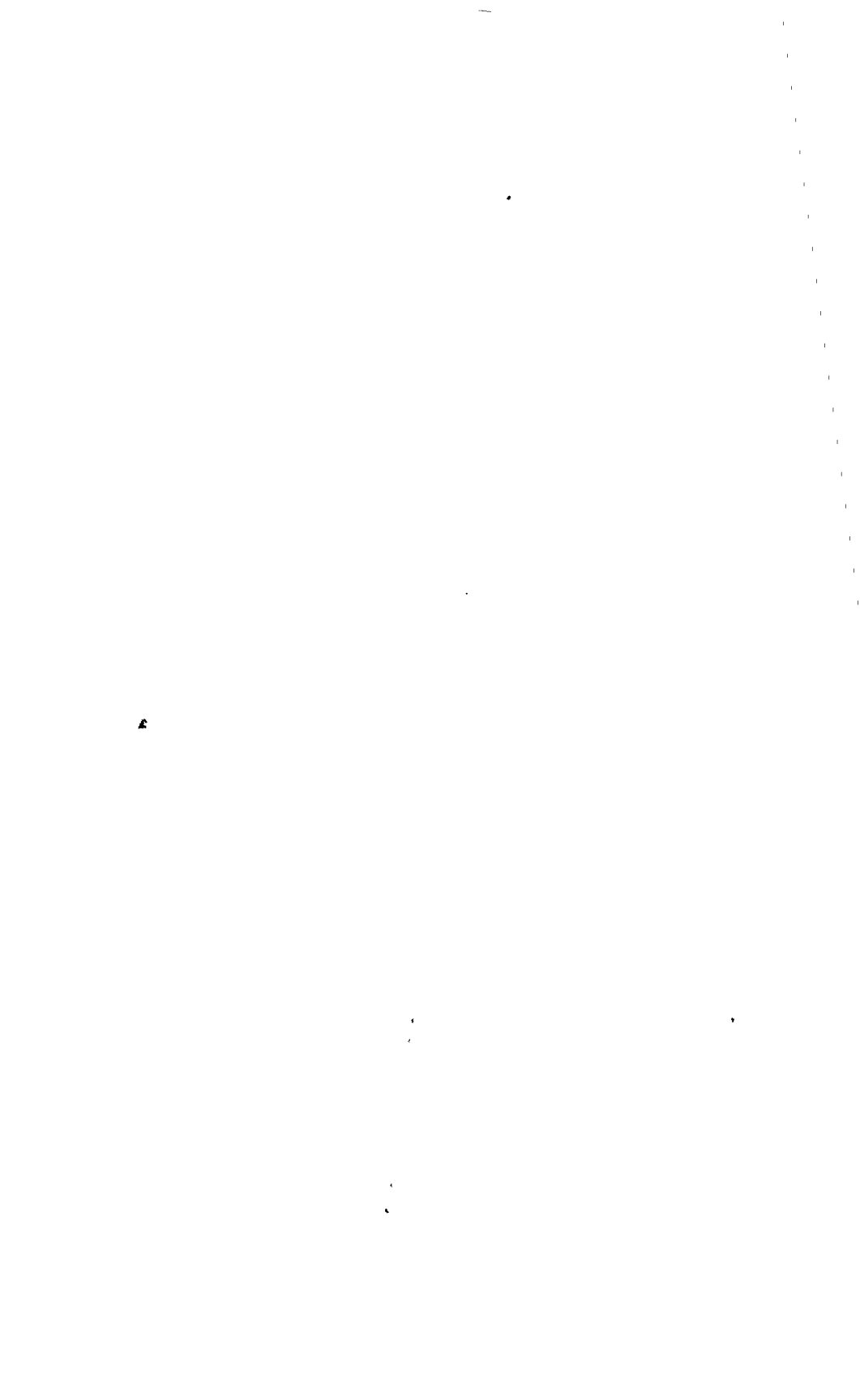
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