

NUCLEAR REGULATORY COMMISSION ISSUANCES

OPINIONS AND DECISIONS OF THE NUCLEAR REGULATORY COMMISSION WITH SELECTED ORDERS

July 1, 1996 – December 31, 1996

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PREFACE

This is the forty-fourth volume of issuances (1 - 432) of the Nuclear Regulatory Commission and its Atomic Safety and Licensing Boards, Administrative Law Judges, and Office Directors. It covers the period from July 1, 1996 to December 31, 1996.

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. Parties, however, are permitted to seek discretionary Commission review of certain board rulings. The Commission also may decide to review, on its own motion, various decisions or actions of Appeal Boards.

On June 29, 1990, however, the Commission voted to abolish the Atomic Safety and Licensing Appeal Panel, and the Panel ceased to exist as of June 30, 1991. In the future, the Commission itself will review Licensing Board and other adjudicatory decisions, as a matter of discretion. *See* 56 Fed. 29 & 403 (1991).

The Commission also has Administrative Law Judges appointed pursuant to the Administrative Procedure Act, who preside over proceedings as directed by the Commission.

The hardbound edition of the Nuclear Regulatory Commission Issuances is a final compilation of the monthly issuances. It includes all of the legal precedents for the agency within a six-month period. Any opinions, decisions, denials, memoranda and orders of the Commission inadvertently omitted from the monthly softbounds and any corrections submitted by the NRC legal staff to the printed softbound issuances are contained in the hardbound edition. 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 Boards--LBP, Administrative Law Judges--ALJ, Directors' Decisions--DD, and Decisions on Petitions for Rulemaking--DPRM.

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

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judge:

**Peter B. Bloch, Presiding Officer
Dr. Peter Morris, Special Assistant**

In the Matter of

**Docket No. 55-21849-OT
(ASLBP No. 96-716-01-OT)
(Re: License Amendment)
(Transfer to Southern
Nuclear)**

**EMERICK S. MCDANIEL
(Denial of Application for
Reactor Operator License)**

July 12, 1996

**MEMORANDUM AND ORDER
(Scheduling)**

Subject to change on the request of a party, Friday, July 19, 1996, at 9 a.m., there will be a telephone prehearing conference. Parties shall inform me by 4 p.m. on July 17 of their telephone address for this conference.

The purpose of the conference is to narrow the issues for hearing. The Presiding Officer proposes, subject to change in response to comments by the parties, that the conference be limited to whether or not Mr. McDaniel's written examination score should be increased because: (1) some of the questions should be struck as misleading, or (2) some of Mr. McDaniel's answers were incorrectly marked wrong. Other explanations for incorrect answers, including incorrect or misleading training for the examination, will not be considered. The NRC protects the public interest in health and safety by licensing reactor operators only if they have successfully demonstrated their knowledge of nuclear

power plant operation.¹ See *Alfred J. Morabito* (Senior Operator License for Beaver Valley Power Station, Unit 1), LBP-88-10, 27 NRC 417 (1988), and LBP-88-16, 27 NRC 583 (1988); *Roger W. Ellingwood* (Senior Operator License for Catawba Nuclear Station), LBP-89-21, 30 NRC 68 (1989).

If Mr. McDaniel has concerns about the adequacy of the training he received, he may raise those concerns with his employer, Georgia Power Company, and with the Staff of the Nuclear Regulatory Commission. An adequate training program contributes to an operator's ability to safely operate a nuclear power plant. However, an inadequate training program does not excuse incorrect examination answers and is not a basis for issuing an operator's license.

Peter B. Bloch, Presiding Officer
ADMINISTRATIVE JUDGE

Rockville, Maryland

¹ We note that Mr. McDaniel appears to be eligible to apply for a reexamination and that, upon request by him or facility management, the reexamination will be scheduled "shortly." Letter from Bruce A. Boger, NRC, to Mr. Emerick McDaniel, April 4, 1996. Hearing File Item #42. Parties may address the meaning and effect of this letter at the prehearing conference. If Mr. McDaniel can be denied reexamination, there may be a further issue in the case concerning the adequacy of his training.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

G. Paul Bollwerk, III, Chairman
Dr. Jerry R. Kilne
Dr. Thomas S. Elleman

In the Matter of

Docket No. 50-029-DCOM
(ASLBP No. 96-718-01-R)

YANKEE ATOMIC ELECTRIC
COMPANY
(Yankee Nuclear Power Station)

July 12, 1996

The Licensing Board grants a participant request to videotape a prehearing conference, finding that, although language in a 1978 policy statement appears to restrict television and still camera coverage of Board proceedings to accredited news media, it is apparent under current agency practice there is no such limitation.

**RULES OF PRACTICE: TELEVISION AND STILL CAMERA
COVERAGE OF PROCEEDINGS**

The Commission's general statement of policy on camera coverage of Licensing Board hearings sets conditions for the use of television and still cameras "by accredited news media." 43 Fed. Reg. 4294 (1978). However, under current agency practice, any individual or organization may videotape a Commission-conducted open meeting so long as their activities do not disrupt the proceeding. See U.S. Nuclear Regulatory Commission, "A Guide to Open Meetings," NUREG/BR-0128, Rev. 2 (4th ed.) ("*Conduct in the Meeting Room . . . e. You may . . . film, photograph or video tape meetings using cameras in designated fixed positions without additional lighting.*" (emphasis in original)).

As a consequence, the general policy statement on cameras at Board hearings, which was adopted in 1978 on a "trial basis," no longer appears to reflect agency practice to the degree it would preclude anyone other than the news media from videotaping Board proceedings.

**RULES OF PRACTICE: TELEVISION AND STILL CAMERA
COVERAGE OF PROCEEDINGS**

Videotaping of a Board proceeding must be done in a manner that does not present an unacceptable distraction to the participants or otherwise disrupt the proceeding.

To this end, anyone videotaping a proceeding held in the Atomic Safety and Licensing Board Panel Hearing Room must abide by the following conditions:

1. Cameras must remain stationary in the designated camera area of the Licensing Board Panel Hearing Room.
2. No additional lighting is permitted.
3. No additional microphones will be permitted outside of the designated camera area. A connection is available in the designated camera area that provides a direct feed from the hearing room audio system.

**RULES OF PRACTICE: TELEVISION AND STILL CAMERA
COVERAGE OF PROCEEDINGS**

As was noted in the 1978 policy statement, 43 Fed. Reg. at 4294, in instances when a Licensing Board is using other facilities, such as a state or federal courtroom, the Board generally will follow the camera policy governing that facility, even if it is stricter than the agency's camera policy. Nonetheless, the Board reserves the right to impose restrictions beyond those generally used at the facility to prevent disruption of the proceeding and maintain an appropriate judicial atmosphere.

**RULES OF PRACTICE: TELEVISION AND STILL CAMERA
COVERAGE OF PROCEEDINGS**

The Board may terminate videotaping at any time it concludes a videotape-related activity is being carried out in a manner that interferes with the good order of the proceeding.

MEMORANDUM AND ORDER
(Granting Motion to Videotape Prehearing Conference)

Petitioners Citizens Awareness Network, Inc. (CAN), and the New England Coalition on Nuclear Pollution (NECNP) have filed a request for permission to videotape the scheduled July 16, 1996 prehearing conference in this proceeding. The proceeding will be held in the Licensing Board Panel Hearing Room at the agency's Rockville, Maryland headquarters complex.

In their July 10 motion and July 12 supplemental response, the Petitioners assert that because of the public interest in this decommissioning proceeding in the locality of the Yankee Nuclear Power Station, an experienced videographer wants to tape the proceeding for possible use on local public access television channels. The Petitioners also represent that the Commonwealth of Massachusetts supports their request, while the NRC Staff takes no position on their motion. Licensee Yankee Atomic Electric Company (YAEC) has opposed the request in a July 10 response and July 10 and 12 supplemental responses, asserting that to ensure the proceeding is not disrupted, any videotaping should be done by NRC personnel under the direction of the Board.

As the Board noted in its July 10 order, the existing Commission general statement of policy on camera coverage of Licensing Board hearings sets conditions for the use of television and still cameras "by accredited news media." 43 Fed. Reg. 4294 (1978). By its terms, the policy statement appears to permit videotaping of Board hearings only by news organizations or individuals acting on their behalf. Whether the individual who apparently will be taping the prehearing conference or the organizations for which he is acting fall within the policy statement's terms is not altogether clear.

As the Board suggested in its July 11, 1996 memorandum and order, however, another factor arguably is relevant in this instance as well. Under current agency practice, any individual or organization may videotape a Commission-conducted open meeting so long as their activities do not disrupt the proceeding. See U.S. Nuclear Regulatory Commission, "A Guide to Open Meetings," NUREG/BR-0128, Rev. 2 (4th ed.) ("*Conduct in the Meeting Room . . . e. You may . . . film, photograph or video tape meetings using cameras in designated fixed positions without additional lighting.*" (emphasis in original)). As the Board understands this practice, there is no requirement that the taping be done by or on behalf of a news organization.

As a consequence, the general policy statement on cameras at Board hearings, which was adopted in 1978 on a "trial basis," no longer appears to reflect agency practice to the degree it would preclude anyone other than the news media from videotaping Board proceedings in the Licensing Board Panel Hearing Room. The Board thus does not consider the policy statement a bar to the Petitioners'

request, so long as any videotaping is done in a manner that does not present an unacceptable distraction to the participants or otherwise disrupt the proceeding.¹

To this end, anyone videotaping the prehearing conference (or any other Board proceeding held in the Panel Hearing Room²) must abide by the following conditions:

1. Cameras must remain stationary in the designated camera area of the Licensing Board Panel Hearing Room.
2. No additional lighting is permitted.
3. No additional microphones will be permitted outside of the designated camera area. A connection is available in the designated camera area that provides a direct feed from the hearing room audio system.

Based on the representations in the Petitioners' July 12, 1996 reply, it appears that the proposed videographer is aware of and will comply with these standards.

The Board and other Licensing Board Panel personnel will monitor the activities of anyone videotaping this prehearing conference to ensure the proceeding is not disrupted.³ Likewise, any participant promptly should bring to the Board's attention any videotape-related activity it believes is distracting or otherwise disruptive. The Board may terminate videotaping at any time it concludes a videotape-related activity is being carried out in a manner that interferes with the good order of the proceeding.

¹ Licensee suggests that the Commission's camera policy might be limited to Sunshine Act "open" meetings, which "does not extend to adjudicatory hearings." Further Supplemental Opposition of [YAEC] to "Motion for Leave to Videotape Pre-Hearing Conference" (July 12, 1996) at 1 (citing 5 U.S.C. § 552b(c)(10)). Although the Sunshine Act does permit the agency to close meetings involving the disposition of adjudicatory matters, thereby precluding either the public or the press from attending, neither the Act nor the Commission statement on open meetings suggests there are any additional limitations on the use of cameras for those adjudicatory proceedings that otherwise are open.

² As was noted in the policy statement, in instances when a Licensing Board is using other facilities, such as a state or federal courtroom, the Board generally will follow the camera policy governing that facility even if it is stricter than the agency's camera policy. Nonetheless, the Board reserves the right to impose restrictions beyond those generally used at the facility to prevent disruption of the proceeding and maintain an appropriate judicial atmosphere.

³ The Board anticipates that the prehearing conference will begin promptly at 9:30 a.m. Those videotaping the proceeding should arrive in time to ensure that all equipment is set up and tested by this starting time. Licensing Board Panel employee James "Mac" Cutchin (301-415-7397) is the contact for any questions regarding videotaping in the Panel Hearing Room.

The Petitioners' July 10, 1996 motion to videotape the July 16, 1996 prehearing conference is *granted*, subject to the conditions set forth above. It is so ORDERED.

FOR THE ATOMIC SAFETY
AND LICENSING BOARD⁴

G. Paul Bollwerk, III, Chairman
ADMINISTRATIVE JUDGE

Rockville, Maryland
July 12, 1996

⁴Copies of this Memorandum and Order have been sent this date to counsel for YAEC, CAN, NECNP, and the Commonwealth of Massachusetts by facsimile transmission and to Staff counsel by E-mail transmission through the agency's wide area network.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

G. Paul Bollwerk, III, Chairman
Dr. Jerry R. Kilne
Dr. Thomas S. Elleman

In the Matter of

Docket No. 50-029-DCOM
(ASLBP No. 96-718-01-R)

YANKEE ATOMIC ELECTRIC
COMPANY
(Yankee Nuclear Power Station)

July 31, 1996

In this proceeding concerning citizen group challenges to the decommissioning plan for the Yankee Nuclear Power Station, acting pursuant to the Commission's directive in CLI-96-7, 43 NRC 235 (1996), to consider whether information filed with the Commission after the Licensing Board dismissed the proceeding for want of any litigable contentions will now provide for an admissible contention, the Board concludes that (1) a balancing of the five "late-filing" factors in 10 C.F.R. § 2.714(a)(1) establishes the Petitioners' new information should not be stricken, and (2) a portion of the Petitioners' new information provides a sufficient basis to admit a contention.

RULES OF PRACTICE: CONTENTIONS

Contentions play a vital role in agency licensing adjudications by framing the issues for consideration. *See Texas Utilities Generating Co. (Comanche Peak Steam Electric Station, Units 1 and 2), LBP-81-25, 14 NRC 241, 243 (1981).*

RULES OF PRACTICE: CONTENTIONS (SPECIFICITY AND BASIS)

A lack of precision about what is a contention and what are its bases serves to obfuscate the general principle that contentions, not bases, are litigated in NRC adjudications.

RULES OF PRACTICE: CONTENTIONS (AUTHORITY OF PRESIDING OFFICER TO SIMPLIFY AND CLARIFY)

Exercising his or her general authority to simplify and clarify the issues, *see* 10 C.F.R. § 2.714(f), a presiding officer can recast what a petitioner sets out as two contentions into one.

RULES OF PRACTICE: CONTENTIONS (NEW INFORMATION; UNTIMELY FILING)

A Commission direction to the presiding officer to consider the admissibility of a particular late-filed matter does not preclude the presiding officer from giving the same consideration to other late-filed information submitted by a petitioner relevant to that matter. *Cf. Carolina Power and Light Co.* (Shearon Harris Nuclear Power Plant, Units 1-4), ALAB-526, 9 NRC 122, 124 (1979) (in remand proceeding on management capability issue, additional petitioners' attempt to seek late intervention to participate on that issue must be assessed under late-intervention criteria).

RULES OF PRACTICE: NONTIMELY SUBMISSION OF CONTENTIONS (GOOD CAUSE FOR DELAY)

Although a presiding officer must assess all five factors in determining whether to admit a late-filed issue, all the factors need not be given equal weight. In this connection, considerable importance generally has been attributed to factor one — “good cause” for late filing — in that a failure to meet this factor enhances considerably the burden of justifying the other factors. *See Long Island Lighting Co.* (Shoreham Nuclear Power Station, Unit 1), ALAB-743, 18 NRC 387, 397 (1983); *Houston Lighting and Power Co.* (South Texas Project, Units 1 and 2), LBP-82-91, 16 NRC 1364, 1367 (1982); *see also Florida Power & Light Co.* (St. Lucie Nuclear Power Plant, Unit 2), ALAB-420, 6 NRC 8, 22 (1977) (when good cause is demonstrated, other factors are given less weight).

RULES OF PRACTICE: NONTIMELY SUBMISSION OF CONTENTIONS (ASSISTANCE IN DEVELOPMENT OF SOUND RECORD; BROADENING ISSUES/DELAY IN THE PROCEEDING)

Among the other four “late-filing” factors, factors three and five — contribution to a sound record and broadening issues/delay in the proceeding — generally have been considered as having the most significance in proceedings in which there are no other parties or ongoing related proceedings. *See Shoreham*, ALAB-743, 18 NRC at 399, 402; *see also South Texas*, LBP-82-91, 16 NRC at 1368.

RULES OF PRACTICE: NONTIMELY SUBMISSION OF CONTENTIONS (GOOD CAUSE FOR DELAY)

Generally a “good cause” finding based on “new information” can be resolved by a straightforward inquiry into when the information at issue was available to the petitioner. In some instances, however, the answer to the “good cause” factor may involve more than looking at the dates on the various documents submitted by the petitioners. Instead, the inquiry turns on a more complex determination about when, as a cumulative matter, the separate pieces of the new information “puzzle” were sufficiently in place to make the particular concerns espoused reasonably apparent.

RULES OF PRACTICE: NONTIMELY SUBMISSION OF CONTENTIONS (ASSISTANCE IN DEVELOPMENT OF SOUND RECORD)

The technical nature of the issues involved in a proceeding cuts against an assertion that the legal acumen of counsel in NRC proceedings should be given weight under the “late-filing” factor regarding assistance in developing a sound record. And, notwithstanding the fact an intervenor is entitled to make its case through cross-examination, that factor cannot be weighed favorably when the presiding officer has no reason to anticipate that cross-examination by counsel will be the sole means, or even the central method, for establishing the petitioner’s case. *See Texas Utilities Electric Co. (Comanche Peak Steam Electric Station, Unit 1)*, ALAB-868, 25 NRC 912, 926 (1987).

RULES OF PRACTICE: NONTIMELY SUBMISSION OF CONTENTIONS (ASSISTANCE IN DEVELOPMENT OF SOUND RECORD)

In assessing the “late-filing” factor of assistance in developing a sound record, the need to conduct discovery no doubt may excuse a lack of specificity

about potential witnesses' testimony in those nontechnical cases where any testimonial evidence likely will come from licensee employees or contractors. *See Comanche Peak*, ALAB-868, 25 NRC at 925-26.

RULES OF PRACTICE: NONTIMELY SUBMISSION OF CONTENTIONS (BROADENING ISSUES/DELAY IN THE PROCEEDING)

An assertion that the "late-filing" factor regarding broadening the issues and delaying the proceeding takes on added significance because of the impact of delay on the applicant's ability to conduct activities for which it needs authorization does not comport with the established rule that "a licensing board [is] to determine whether the proceeding — not license issuance or plant operation — will be delayed." *Philadelphia Electric Co.* (Limerick Generating Station, Units 1 and 2), ALAB-828, 23 NRC 13, 23 (1986) (footnote omitted).

RULES OF PRACTICE: NONTIMELY SUBMISSION OF CONTENTIONS (OTHER MEANS AND OTHER PARTIES TO PROTECT INTERVENORS' INTEREST)

Because a petitioner who otherwise has standing can put forth any contention that would entitle that petitioner to the relief it seeks, *see* CLI-96-1, 43 NRC 1, 6 (1996), in deciding whether to admit a late-filed contention the petitioner otherwise would be entitled to litigate, the fact the petitioner's contentions focus primarily on matters that will protect the interests of others does not mean the petitioner's "interest" should be afforded short shrift in assessing the late-filing factors of whether other means or other parties will protect the petitioner's interests.

RULES OF PRACTICE: SUMMARY DISPOSITION (PREMATURE FILING)

A presiding officer cannot consider a motion for summary disposition, with supporting affidavits, in connection with a determination about the admissibility of a contention.

RULES OF PRACTICE: DISCOVERY (SUMMARY DISPOSITION); SUMMARY DISPOSITION (DISCOVERY)

One possible answer to a motion for summary disposition is the assertion that discovery is needed to respond fully to the motion. *See Public Service Co.*

of *New Hampshire* (Seabrook Station, Units 1 and 2), CLI-92-8, 35 NRC 145, 152 (1992). Such a request generally should be made in a pleading supported by an affidavit. *See id.* The functional equivalent of such a filing may be the statements of counsel during a prehearing conference outlining the discovery needed to support the party's case.

MEMORANDUM AND ORDER
(Admitting Contention and Establishing Litigation Schedule
Regarding "New Dose Argument")

In CLI-96-7, 43 NRC 235 (1996), the Commission referred to the Licensing Board for its consideration the so-called "new dose argument" made by Petitioners Citizens Awareness Network, Inc. (CAN), and the New England Coalition on Nuclear Pollution (NECNP). The Commission has directed that we determine whether that argument, made initially in a March 7, 1996 filing before the Commission, merits a finding the Petitioners have presented a litigable contention in their adjudicatory challenge to Licensee Yankee Atomic Electric Company's (YAEC) choice of a decommissioning option for its Yankee Nuclear Power Station (Yankee Rowe).

For the reasons set forth below, we conclude the Petitioners' "new dose argument" does satisfy the "late-filing" standards of 10 C.F.R. § 2.714(a)(1) and provides a sufficient basis for admitting a challenge to the YAEC decommissioning option choice based on concerns about maintaining public and occupational radiation doses as low as reasonably achievable (ALARA) and agency compliance with the National Environmental Policy Act of 1969 (NEPA). As a consequence, we (1) grant the Petitioners' intervention request and admit a revised version of their previously separate ALARA and NEPA contentions that incorporates both aspects of the Petitioners' concern about YAEC's decommissioning option choice, and (2) establish an expedited schedule for litigating the merits of that contention.

I. BACKGROUND

Previous Commission and Licensing Board decisions provide a detailed history of the judicial and administrative underpinnings of this proceeding. *See* CLI-96-7, 43 NRC at 241-46; LBP-96-2, 43 NRC 61, 65-68 (1996). Suffice it to say that this matter is before the Board again pursuant to a June 18, 1996 Commission memorandum and order directing us to consider the viability of what has been labeled the "new dose argument." As described in that issuance, this argument is rooted in information presented in a March 7, 1996 petitioner

filing before the Commission supplementing a January 26, 1996 motion for reconsideration or partial rescission of a January 16, 1996 Commission issuance, CLI-96-1, 43 NRC 1 (1996). *See* CLI-96-7, 43 NRC at 254-55, 271-72.

In CLI-96-1, the Commission referred the Petitioners' November 30, 1995 intervention petition to the Board to conduct an adjudicatory proceeding. In that directive, the Commission also provided the Board with guidance regarding, among other things, certain of the Petitioners' five contentions. Addressing the Petitioners' Contention A — an ALARA-based challenge to YAEC's decision to use a modified version of the DECON decommissioning alternative rather than the longer-term SAFSTOR alternative¹ — the Commission declared it was willing to assume an adequately based ALARA challenge would lie against a licensee's decommissioning alternative choice. The Commission also indicated, however, that it would not sanction an intervenor adjudicatory challenge to the DECON-SAFSTOR choice resting solely on estimated collective occupational doses "on the order of magnitude" of the generic 900 person-rem estimated difference between those options as set forth in the 1988 final generic environmental impact statement (GEIS) supporting the agency's 1988 decommissioning rule.² Noting that the Petitioners' ALARA contention estimates seemingly fell within that range, the Commission suggested that their challenge had no ALARA significance, absent "some extraordinary aspect to the case not apparent to us from the pleadings that the Licensing Board may uncover on its own review." CLI-96-1, 43 NRC at 9.

While the matter was pending with the Board, the Petitioners filed a motion with the Commission that, among other things, requested reconsideration of the Commission's guidance regarding their Contention A. In that motion, the Petitioners declared that the Commission's guidance regarding the relative doses for DECON and SAFSTOR constituted an improper prejudgment of contested facts. To support that assertion, the Petitioners repeated a statement from a portion of their November 1995 hearing petition relating to Contention E — their NEPA

¹ As both we and the Commission have explained, *see* CLI-96-7, 43 NRC at 243 n.2; LBP-96-2, 43 NRC at 66 n.2, the DECON alternative is decontamination of the reactor site to a level that permits the site to be released for unrestricted use shortly after facility operation concludes. In contrast, the SAFSTOR option involves maintaining the facility in a condition that allows for safe storage for an extended time period (e.g., 30 years) and subsequent decontamination to levels permitting release for unrestricted use. The Licensee's modified DECON alternative under consideration in this proceeding provides for dismantling the plant (except for required spent fuel pool safe maintenance systems); dismantling the spent fuel pool when fuel and high-level radioactive waste storage and/or removal options become available; shipping other appropriate radioactive materials to a low-level radioactive waste (LLRW) facility; and then decontaminating the site for release for unrestricted use. *See* CLI-96-7, 43 NRC at 243.

² This 900 person-rem figure reflects the approximate difference between the GEIS estimated total reference pressurized water reactor (PWR) DECON decommissioning occupational dose of 1,215 person-rem and the GEIS estimated SAFSTOR occupational dose of 333 person-rem that would be accrued using a 30-year storage period at the reference PWR. *See* Office of Nuclear Regulatory Research, USNRC, NUREG-0586, "Final Environmental Impact Statement on Decommissioning of Nuclear Facilities" (Aug. 1988) at 4-8 (Table 4.3-2). The GEIS was prepared in support of the 1988 rule that is the basis of pertinent NRC decommissioning requirements. *See* 53 Fed. Reg. 24,018 (1988).

contention challenging the Staff's determination not to prepare a full-blown environmental impact statement (EIS) regarding Yankee Rowe decommissioning — in which they declared that “based on 1993 dose estimates by YAEC [of 350-400 person-rem for its early component removal project (CRP)³], ‘it appears that total occupational doses [for Yankee Rowe decommissioning] will be significantly greater than 744 or 755 person-rem, and perhaps greater than 900 rem.’” [CAN/NECNP] Motion for Reconsideration and Partial Rescission of CLI-96-01, Request for an Order to Show Cause Why the NRC Staff Should Not Be Dismissed from This Proceeding, and Request for Recusal of Commissioners (Jan. 26, 1996) at 10 (quoting [CAN/NECNP] Petition to Intervene and Supplemental Petition to Intervene (Nov. 30, 1996) at 32 [hereinafter Intervention Petition]).

On March 1, 1996, while the Petitioners' reconsideration motion was still pending with the Commission, the Licensing Board issued a decision concluding that while the Petitioners had standing, their petition to intervene nonetheless had to be dismissed for failure to present a litigable contention. In LBP-96-2, the Board noted that the three “extraordinary circumstances” detailed by the Petitioners relative to their Contention A, including their concerns about the Commission's conclusion regarding the difference in occupational doses likely to occur from using the DECON and SAFSTOR options, were identical to bases put forth in support of their then-pending reconsideration motion challenging the validity of CLI-96-1. We therefore declined to consider them. *See* LBP-96-2, 43 NRC at 72-73. In addition, we addressed the Petitioners' Contention E argument that YAEC's 1993 CRP estimate of 350-400 person-rem, when compared to a later revised figure of 160 person-rem, suggested a significant discrepancy in its overall decommissioning dose estimate that mandated preparation of a supplemental EIS. We found that by not presenting anything suggesting that the more recent figure was incorrect, as opposed to simply different from the earlier figure, the Petitioners had failed to establish the requisite disputed material factual issue warranting further inquiry.⁴ *See id.* at 86-87.

The Petitioners' January 26, 1996 reconsideration motion ultimately was denied by the Commission in a March 7, 1996 memorandum and order. Concluding that it had not engaged in any factual prejudgment in CLI-96-1, the Commission also indicated it would defer consideration of those portions of the Petitioners' argument that appeared to challenge the merits of its CLI-96-1

³ As also has been described in detail elsewhere, the CRP was an agency-sanctioned program under which YAEC, prior to approval of its decommissioning plan, was permitted to dismantle and remove various reactor components and either ship those items to the LLRW disposal facility in Barnwell, South Carolina, for permanent disposal or store them in the Yankee Rowe spent fuel pool. *See Citizens Awareness Network, Inc. v. NRC*, 59 F.3d 284, 288-90 (1st Cir. 1995).

⁴ The Board also ruled that the Petitioners' Contentions B, C, and D were not litigable. *See* LBP-96-2, 43 NRC at 73-85. The Commission affirmed these rulings in its June 18, 1996 memorandum and order, *see* CLI-96-7, 43 NRC at 256-69, and those contentions are not before us in connection with the Petitioners' “new dose argument.”

guidance, including their assertions about the size of occupational dose totals for Yankee Rowe decommissioning, until its anticipated review of the Licensing Board's decision in LBP-96-2. See CLI-96-5, 43 NRC 53, 59 n.6 (1996).

The "new dose argument" that now is at the core of this proceeding comes from a supplement to the Petitioners' January 26 reconsideration motion that was filed the same day as the Commission's determination denying that reconsideration motion.⁵ In their March 7 supplement, the Petitioners posited "new dose information" they asserted undermined the Commission's assumptions in CLI-96-1 about the doses attendant to YAEC's decommissioning activities. This new information was alleged to come from a February 28, 1996 letter from Russell A. Mellor, YAEC, to Morton B. Fairtile of the NRC Staff responding to a Staff request for justification for eleven "minor" decommissioning activities that YAEC had started or planned to start in accordance with the agency decommissioning regulations allowing such actions prior to approval of a decommissioning plan.⁶ According to the Petitioners, the total projected occupational dose incurred over several months from the eleven activities as described in the YAEC letter

is fully half the dose purportedly caused by the CRP, a program that went on for two and a half years and was intended to remove 90% of the radioactivity from the plant. The dose from these few supposedly minor activities is also more than 10% of the total remaining radiation dose projected for the rest of YAEC's decommissioning activities

[CAN/NECNP] Supplement to Motion for Reconsideration and Partial Rescission of CLI-96-01 (Mar. 7, 1996) at 5 (emphasis in original) [hereinafter Reconsideration Supplement].

The Petitioners maintained that the disproportionate relationship between the doses from these eleven activities and the Licensee's dose projections for the CRP and the entire decommissioning project raised serious questions regarding "the general accuracy and reliability of YAEC's dose projections for the CRP." *Id.* Additionally, they asserted that these questions of accuracy and reliability were compounded by a number of other Licensee dose estimate discrepancies, including:

1. The disparity between YAEC's 1993 estimate of 350-450 person-rem for the CRP and its 1995 estimate of 160 person-rem in Table 507.1 of YAEC's 1995 Final Safety Analysis Report (FSAR).

⁵ Although the Petitioners' March 7 filing indicates it is supplementing a February 9, 1996 filing, it is apparent on its face that it is a supplement to their January 26, 1996 reconsideration filing. See [CAN/NECNP] Supplement to Motion for Reconsideration and Partial Rescission of CLI-96-01 (Mar. 7, 1996) at 1.

⁶ The Commission has defined such "minor" activities as those that do not "materially and demonstrably" affect decommissioning options or "substantially increase" decommissioning costs. See CLI-96-6, 43 NRC 123, 129 (1996).

2. The licensee's FSAR 160 person-rem CRP dose estimate, which does not comport with other staff CRP dose estimates, and staff CRP dose estimates that are inconsistent with each other, as illustrated by:
 - a. A May 10, 1994 letter from Seymour H. Weiss, NRC, to CAN representing that during the CRP's first year, YAEC incurred 147 person-rem of occupational doses, meaning that during the first year of the two and one-half year CRP, ninety percent of the total occupational dose estimated in the FSAR was incurred.
 - b. An October 17, 1994 staff inspection report (No. 50-29/94-09) that (i) put the dose estimate for the CRP's second phase at 40 person-rem, with 16.7 person-rem being expended by mid-September 1994, but (ii) stated that because of higher than expected total accumulated dose for reactor vessel internal components segmentation work and shield tank cavity decontamination, the licensee was revising its 1994 total worker exposure estimate from 138 to 197 person-rem, meaning that 1994 CRP occupational doses exceeded the total FSAR CRP estimated dose.
 - c. A December 5, 1995 staff inspection report (No. 50-29/95-05) that described a licensee calendar year 1995 total effective dose assignment of 57 person-rem and a reactor pressure vessel removal preparation occupational dose of 21 person-rem as of October 11, 1995, meaning that in 1995, workers received at least 21 person-rem and as much as 57 person-rem.
 - d. An April 19, 1995 memorandum from Russell A. Mellor, YAEC, to the Yankee Rowe Distribution List enclosing an April 19, 1996 memorandum from G.M. Babineau to N. St. Laurent and Russell A. Mellor regarding "higher than normal 1994 accident/injury statistics" and "extreme radiological conditions present during much of the 1994 work evolutions," which suggest that the total radiation dose is higher than indicated in the staff inspection reports.

See id. at 6-8 & n.4. Based on this information, particularly the 1994 and 1995 Staff inspection reports, the Petitioners asserted that the total occupational CRP radiation dose is hundreds of rems higher than the Licensee's 160 person-rem estimate, raising significant questions whether YAEC's overall decommissioning dose projections are skewed because of gross underreporting of CRP exposures.

In their March 7 supplement, the Petitioners also declared that the high projected doses for the eleven "minor" activities identified in the February 28, 1996 letter were inconsistent with the Licensee's representations regarding relative radioactivity levels involved in current and future decommissioning activities, thereby raising further questions about whether YAEC generally has underestimated all decommissioning activity radiation doses. Relying on a January 29, 1996 letter from Andrew C. Kadak, YAEC, to William T. Russell, NRC, the Petitioners asserted that if YAEC is correct in its representation there that 99% of the Yankee Rowe facility's remaining nonfuel and non-greater than Class C (GTCC) waste radioactivity is in the reactor vessel and lower neutron

shield that cannot be removed until approval of YAEC's decommissioning plan, then the radioactivity in all the components involved in the eleven activities amounts to less than 1% of the radioactivity left in the plant. Moreover, assuming there is some proportionality between the radioactivity level in those components and the decommissioning radiation dose to workers, as the Petitioners state YAEC has done before the Commission in an October 24, 1993 letter from Andrew C. Kadak, YAEC, to John C. Hoyle, NRC, the Petitioners maintain that a reasonable inference is that the 59.1 person-rem assigned to these eleven activities is only a small fraction of the as-yet-to-be-received occupational dose from decommissioning activities. The result, they declare, is that the total DECON dose is far beyond the 1215 person-rem calculated in the GEIS, making the dose differential between DECON and SAFSTOR for Yankee Rowe larger than the 900 person-rem difference relied upon by the Commission in CLI-96-1. *See id.* at 8-10.

In CLI-96-7, the Commission considered both the Petitioners' appeal of LBP-96-2 and their March 7 reconsideration supplement. The Commission rejected the Petitioners' appellate challenges to the substance of the Board's conclusion that the Petitioners' five contentions were not litigable, as well as their attacks on its CLI-96-1 guidance. Relative to their ALARA-related Contention A, however, referring to the February 28, 1996 letter, the NRC Staff 1994 and 1995 inspection reports, and the "proportionality" argument made in the Petitioners' March 7 pleading, the Commission found "[t]his recently proffered information and new argument, if substantiated, may constitute 'extraordinary circumstances' justifying further litigation on whether the YAEC's DECON approach meets the ALARA standard." CLI-96-7, 43 NRC at 255. The Commission also rejected YAEC and Staff assertions that the Petitioners' argument should be summarily rejected as untimely, noting that the Petitioners' claim rested significantly on a late-February document that promptly was brought to the Commission's attention. *See id.* In addition, the Commission concluded that the Petitioners' argument might provide the basis for a NEPA-related challenge as well. *See id.* at 272. As a consequence, the Commission referred the matter back to the Licensing Board for consideration of whether the Petitioners' "new dose argument" satisfies the "late-filing" standards in 10 C.F.R. § 2.714(a)(1) and, if so, whether it provides a sufficient basis for an ALARA or NEPA challenge to YAEC's decommissioning alternative choice. *See id.* at 277.

In response to the Commission's referral, we established a schedule for party briefs on the questions of whether the Petitioners' "new dose argument" meets the "late-filing" standards and whether it provides an adequate basis for an ALARA or NEPA-based challenge. *See* Board Order (Briefing Schedule Regarding "New Dose Argument") (June 19, 1996) (unpublished) [hereinafter Board Briefing Order]. In addition, we requested the Petitioners set forth, in full, the language of the contention (or contentions) and the supporting basis (or

bases) they asserted are before the Board in ruling on the Commission-referred questions. *See* Board Order (Requesting Additional Information Regarding “New Dose Argument”) (June 21, 1996) (unpublished) [hereinafter Board Information Order].

On June 28, 1996, the Petitioners filed their responsive pleading. In it, they set forth the language of what they maintain are supplemental bases for their Contentions A and E, and assert that those supplemental bases should be accepted under the “late-filing” standards and be found to provide sufficient support to admit both contentions. *See* [CAN/NECNP] Response to Licensing Board Order of June 19, 1996 (June 28, 1996) [hereinafter Petitioners Response].

As set forth in the Petitioners’ original intervention request, Contentions A and E provide:

Contention A: YAEC’s proposed decommissioning plan violates 10 C.F.R. § 20.1011 in that it fails to maintain occupational and public radiation doses as low as reasonably achievable.

. . . .

Contention E: The NRC Staff violated the National Environmental Policy Act by failing to prepare a supplemental Environmental Impact Statement for the decommissioning of the Yankee Rowe Nuclear Power Station.

Intervention Petition at 7, 30 (emphasis in original). The Petitioners submit that their “new dose argument” provides an additional basis, with subbases, in support of these contentions, which can be summarized as follows:

For Yankee Rowe facility decommissioning, YAEC and the NRC Staff have incorrectly assumed that the dose differential between the DECON and SAFSTOR alternatives is less than the 900 person-rem differential deemed acceptable in the 1988 GEIS. In fact, the dose differential would be significantly higher than 900 person-rem. Therefore, the ALARA and NEPA cost-benefit balances must be re-evaluated, taking into account the significant radiological dose savings afforded by the SAFSTOR alternative.

(A) *Dose Calculation/Estimation Uncertainties.* Because the dose calculations and projections for YAEC decommissioning activities are so inconsistent, disparately represented, and unclear, there is no basis for concluding that the dose differential is less than, or even on the order of, 900 person-rem. Dose calculation/estimation discrepancies and confusion are reflected in various licensing documents, inspection reports, and YAEC/Staff correspondence. These include:

(1) The 1995 FSAR accompanying YAEC’s decommissioning application, in which YAEC provided calculations indicating:

- (a) Occupational doses during 1993 and 1994 for the CRP were 160 person-rem.
- (b) Occupational doses during dismantlement and transportation would involve another 543 person-rem, for a total of 744 person-rem.

(2) The Staff's 1994 Environmental Assessment, which contains a total DECON dose estimate of 755 person-rem.

(3) A June 17, 1993 letter from Jay K. Thayer, YAEC, to Morton B. Fairtile, NRC, containing an estimate of 350-400 person-rem for total CRP exposures, the correctness of which has been recently demonstrated by:

(a) Based on a June 20, 1996 telephone conversation between YAEC and CAN/NECNP counsel, YAEC's current radiation dose calculations putting:

(i) pre-CRP and CRP Phase I and II doses at 304 person-rem, of which 227 person-rem is CRP Phase I,

(ii) doses for 1994 activities under the NRC-approved decommissioning plan at 48 person-rem,

(iii) doses from "minor" activities between October 1995 and the present at 106 person-rem, and

(iv) total decommissioning dose from 1993 to the present at 433 person-rem.

(b) Staff Inspection Report 50-29/96-02 (May 31, 1996), which reports total occupational dose from dismantlement and decommissioning work from 1993 through March 1996 at approximately 416 person-rem, including doses of approximately 60.5 person-rem between January 1 and April 23, 1996.

(c) A February 28, 1996 letter from Russell A. Mellor, YAEC, to Morton B. Fairtile, NRC, setting forth dose projections for eleven "minor" decommissioning activities, putting expected occupational doses in a range of 0.4 person-rem to 40.2 person-rem, for a total of 59.1 person-rem, which is

(i) more than one-third of the 160 person-rem expected from the CRP program that was to remove 90% of plant radioactivity in two and one-half years, and

(ii) over 10% of the total remaining dose of 543 person-rem projected under the FSAR for decommissioning activities after CRP completion.

(d) A May 15, 1996 letter from Russell A. Mellor, YAEC, to Morton B. Fairtile, NRC, putting person-rem exposures during the eleven "minor" activities described in the February 28, 1996 letter and ten other "minor" activities (some of which were uncompleted or not started) at 93.8 person-rem, which is 17% of the YAEC FSAR's projection for the remaining decommissioning activities.

(4) The dose estimates and calculations provided by YAEC and the Staff, including:

(a) The CRP dose discrepancy illustrated by comparing the items in paragraphs (A)(1)(a) and (A)(3)(a) above,

(b) The different expressions of dose calculations by YAEC and the Staff, as illustrated by a table set forth on pages thirteen and fourteen of CAN/NECNP's pleading, which includes references to the documents described in paragraph A(1)-(3) above, the December 1993 YAEC Environmental Report, and the Staff documents described in paragraph 2(a)-(c) of our synopsis of their March 7, 1996 reconsideration supplement, *see supra* p. 16, and

(c) An April 19, 1995 memorandum from Russell A. Mellor, YAEC, to the Distribution List enclosing an April 19, 1996 memorandum from G.M. Babineau to N. St. Laurent and Russell A. Mellor regarding "higher than normal 1994 accident/injury statistics" and "extreme radiological conditions present during much of the 1994 work evolutions," which suggest that the total radiation dose is higher than indicated in the Staff inspection reports.

(B) *Proportionality*. High projected doses from recent "minor" activities are inconsistent with YAEC representations about the relative levels of radioactivity involved in current and future decommissioning activities, which raises significant questions about the accuracy of YAEC's representations regarding past exposures and the reliability of its estimates of future exposures. This is illustrated by a January 29, 1996 letter from Andrew C. Kadak, YAEC, to William T. Russell, NRC, indicating 99% of the facility's remaining nonfuel and non-GTCC radioactivity is in the reactor vessel and lower neutron shield, and an October 24, 1993 letter from Andrew C. Kadak, YAEC, to John C. Hoyle, NRC, indicating there is proportionality between the level of radioactivity in such components and the radiation dose to workers decommissioning these components. When these are considered in the context of the projected 93.8 person-rem dose for the "minor" activities described in paragraph (A)(3)(d) above, they suggest that the total DECON dose for Yankee Rowe is far above the 1,215 person-rem dose postulated in the GEIS.

(C) *Reference Reactor Comparison*. The likelihood that Yankee Rowe DECON decommissioning doses will exceed the GEIS 900 person-rem differential also is illustrated by the benchmark projections provided in NUREG/CR-5884 (1995), setting forth the estimated occupational doses for each decommissioning process step for a generic reference light water reactor (LWR) (i.e., Trojan Nuclear Plant). When compared to the decommissioning steps undertaken to date at Yankee Rowe, they indicate that Yankee Rowe should have accumulated about 33% of the total anticipated decommissioning process dose, which, in turn, suggests that based on the YAEC calculated 433 person-rem dose thus far accrued, Yankee Rowe decommissioning will result in a total occupational dose in excess of 1,300 person-rem.

See Petitioners Response at 5-18; Letter From Diane Curran, Counsel for CAN/NECNP, to the Licensing Board (July 9, 1996).

On July 10, 1996, both YAEC and the Staff filed responses to the Petitioners' brief, declaring that the Petitioners' "new dose argument" fails to meet the standards for admitting late-filed contentions and does not provide a litigable contention. *See* Memorandum of [YAEC] in Opposition to Late-Filed "New Dose Information" and in Support of Conditional Motion for Summary Disposition (July 10, 1996) [hereinafter YAEC Reply]; NRC Staff's Reply to Petitioners' Response to Licensing Board Order of June 19, 1996 (July 10, 1996) [hereinafter Staff Reply]. Subsequently, on July 16, 1996, the Board conducted a prehearing conference in which it entertained arguments from the Petitioners,

YAEC, and the Staff regarding the admissibility of the Petitioners' "new dose argument." See Tr. at 235-412.

II. DISCUSSION

A. Contention and Bases at Issue Under the Petitioners' "New Dose Argument"

As we noted above, the Petitioners' "new dose argument" comes from a March 7, 1996 pleading intended to supplement a then-pending motion for reconsideration of a Commission decision. As such, the relationship between that argument and the contentions and bases initially set forth by the Petitioners in support of their intervention request is not as well defined as it might otherwise be. This is troubling, because contentions play a vital role in agency licensing adjudications by framing the issues for consideration. See *Texas Utilities Generating Co.* (Comanche Peak Steam Electric Station, Units 1 and 2), LBP-81-25, 14 NRC 241, 243 (1981). Accordingly, before determining whether their "new dose argument" will provide the Petitioners with an admissible contention, we think it important to give at least some consideration to the content of the "new dose argument" in relation to the Commission's procedures regarding contentions and their bases.

Because of our concern about what, if any, existing contentions and bases were implicated by the "new dose argument," we asked the Petitioners to set forth in detail the language of the contention or contentions and the supporting bases that are at issue relative to that argument. See Board Information Order at 1-2. We also invited the other participants to address the question of the status of the "new dose argument" as it relates to the contentions already proposed by the Petitioners. See Board Briefing Order at 2 n.1. Apparently relying on a Commission reference to "the standards for consideration of late-filed bases and information submitted in support of an unadmitted contention prior to termination of the proceeding," CLI-96-7, 43 NRC at 255 n.15, the Petitioners have asserted that their "new dose argument" as set forth in their June 28, 1996 filing provides new bases for their existing Contentions A and E. See Petitioners Response at 5. The Staff apparently agrees with this analysis. See Staff Reply at 26.

For its part, YAEC suggests that what the Petitioners have done is submit a new contention. The Licensee asserts that what was at issue in ALARA-related

⁷The Commonwealth of Massachusetts, which is participating in this proceeding as an interested governmental entity pursuant to 10 C.F.R. § 2.715(c), filed a pleading in support of the admission of the Petitioners' "new dose argument." See Response of Commonwealth of Massachusetts to [CAN/NECNP] Response to Licensing Board Order of June 19, 1996 (July 10, 1996) [hereinafter Massachusetts Reply]. The Commonwealth of Massachusetts decided not to participate in the July 16, 1996 prehearing conference. See Tr. at 242.

Contention A as originally proposed was the question of whether, consistent with ALARA principles, SAFSTOR had to be selected as the Yankee Rowe decommissioning alternative because it involved less occupational exposure. What is now at issue under the "new dose argument," according to YAEC, is whether the total dose estimates for Yankee Rowe decommissioning, when compared to SAFSTOR doses, fall outside the 900 person-rem envelope established in the GEIS. According to YAEC, although both contentions share a common reference to ALARA, under Contention A the Yankee Rowe dose estimates could be accepted, while under the "new dose argument" they must be rejected. *See* YAEC Reply at 17.

YAEC further declares that the analysis for NEPA-related Contention E is somewhat the same in that each "basis" for Contention E was, in fact, a separate contention, none of which encompassed the entirely new assertion now being made in the "new dose argument." *See id.* Yet, suggesting that the difference between a "contention" and a "basis" is "as elusive as the distinction between a table and the legs that hold it up," YAEC concludes that for present purposes the distinction is not material because the Commission has determined that the "new dose argument" must be analyzed using the standards applicable to late-filed contentions. *Id.* at 17-18.

Notwithstanding the apparent lack of distinction that now exists between contentions and bases in applying the "late-filing" standards of 10 C.F.R. § 2.714(a)(1), as we noted during the July 16 prehearing conference, the Board remains concerned that for contentions such as those set forth by the Petitioners as Contentions A and E, the section 2.714(b)(2) requirement of "specificity" may be met only if the stated contention is considered to incorporate the bases. *See* Tr. at 244. Moreover, this lack of precision about what is a contention and what are its bases serves to obfuscate the general principle that contentions, not bases, are litigated in NRC adjudications.

Because we agree with the Licensee that the crux of Petitioners' "new dose argument" appears to be a new contention, exercising our general authority to simplify and clarify the issues, *see* 10 C.F.R. § 2.714(f), we recast what the Petitioners set out as two contentions into one. That contention, the precise terms of which we take from our earlier synopsis of the description of the "new dose argument" in the Petitioners' June 28, 1996 filing, *see supra* p. 18, is as follows:

For Yankee Rowe facility decommissioning, YAEC and the NRC Staff have incorrectly assumed that the dose differential between the DECON and SAFSTOR alternatives is less than the 900 person-rem differential deemed acceptable in the 1988 GEIS. In fact, the dose differential would be significantly higher than 900 person-rem. Therefore, the ALARA and NEPA cost-benefit balances must be re-evaluated, taking into account the significant radiological dose savings afforded by the SAFSTOR alternative.

As is apparent from the language of this contention, its central focus is the question whether, taken together, the doses already incurred and the doses to be incurred under YAEC's modified DECON decommissioning option fall outside the bounds of the approximately 900 person-rem differential that the Commission has highlighted as being at the heart of the GEIS comparison of the DECON and SAFSTOR options.⁸ Further, we consider the concerns that we have summarized in the paragraphs headed "Dose Calculation/Estimation Uncertainties," "Proportionality," and "Reference Reactor Comparison" as the bases for this contention. *See supra* pp. 18-20.

B. Application of the "Late-Filing" Standards to the Petitioners' "New Dose Argument" Contention

1. Scope of the Commission's Remand

Having outlined the scope and content of the Petitioners' "new dose argument" contention, we next must consider whether that issue fulfills the "late-filing" standards set forth in 10 C.F.R. § 2.714(a)(1). In doing so, however, we first address a preliminary matter raised by the Licensee and the Staff regarding the scope of our authority to consider the various matters set forth in support of that issue in the Petitioners' June 28, 1996 filing.

In setting forth the matters it was referring for Board consideration, the Commission described the content of the Petitioners' March 7, 1996 supplement that was to be considered under the five "late-filing" standards in 10 C.F.R. § 2.714(a)(1) to determine whether it provided a litigable issue. *See* CLI-96-7, 43 NRC at 255 n.15. As we indicated above, in their June 28, 1996 filing setting forth the extent of their "new dose argument," the Petitioners have proffered additional information they assert also should be considered in determining whether they have established a litigable contention. Both the Licensee and the Staff, however, contend we should not consider this added information. They assert the scope of this proceeding is to be construed narrowly so that only the information/argument explicitly discussed in the Commission's June 18, 1996 directive is to be assessed by the Board under the "late-filing" standards. *See*

⁸ The Licensee has suggested the actual measure of the differential at issue here is whether the remaining exposure from DECON activities would exceed the sum of the 900 person-rem difference from the GEIS plus the occupational dose required to shift now to SAFSTOR and implement that for 40 years, plus some qualitative margin to account for the "on the order of magnitude" standard of CLI-96-1. *See* YAEC Reply at 2 n.4.

To the degree this equation seeks to reflect the issue of "sunk costs" relative to decommissioning activities already completed, this appears to be a matter more appropriate to the issue of the cost-benefit balance that must be reanalyzed if we determine the GEIS 900 person-rem envelope has been breached.

Tr. at 302-03; NRC Staff's Response to Atomic Safety and Licensing Board Order Dated July 17, 1996 (July 18, 1996).⁹

We do not agree. Nothing in the Commission's June 18, 1996 memorandum and order suggests that its direction to the Board to consider the admissibility of a particular late-filed matter precludes the Board from giving the same consideration to other late-filed information submitted by the Petitioners relevant to that matter. Indeed, construing the Commission's decision as YAEC and the Staff suggest would eviscerate its holding that even when a Board dismisses a proceeding for want of any litigable contentions, until the proceeding is finally terminated before the agency, information that may provide the basis for a previously dismissed contention should be assessed under the "late-filing" standards to determine whether it provides a litigable contention. *Cf. Carolina Power and Light Co.* (Shearon Harris Nuclear Power Plant, Units 1-4), ALAB-526, 9 NRC 122, 124 (1979) (in remand proceeding on management capability issue, additional Petitioners' attempt to seek late intervention to participate on that issue must be assessed under late-intervention criteria). Accordingly, we will apply the "late-filing" standards to the relevant information submitted in the Petitioners' March 7, 1996 filing, as supplemented by their June 28, 1996 pleading.

2. Application of the "Late-Filing" Standards

In determining whether to admit a late-filed contention (or basis), a Board must analyze and balance the following five factors set forth in 10 C.F.R. § 2.714(a)(1):

- (i) Good cause, if any, for failure to file on time;
- (ii) The availability of other means whereby the petitioner's interest will be protected;
- (iii) The extent to which the petitioner's participation may reasonably be expected to assist in developing a sound record;
- (iv) The extent to which the petitioner's interest will be represented by existing parties;
- (v) The extent to which the petitioner's participation will broaden the issues or delay the proceeding.

Although a Board must assess all five factors in determining whether to admit a late-filed issue, all the factors need not be given equal weight. In this connection, considerable importance generally has been attributed to factor one — "good cause" for late filing — in that a failure to meet this factor enhances considerably the burden of justifying the other factors. *See Long Island Lighting*

⁹ Although the Petitioners have asserted that this filing should be stricken, see [CAN/NECN] Reply to YAEC's and NRC Staff's Responses to Licensing Board Order of July 17, 1996 (July 19, 1996) at 3, the pleading was properly filed. *See* Board Order (Confirming Schedule for Additional Filings) (July 17, 1996) at 2 (unpublished).

Co. (Shoreham Nuclear Power Station, Unit 1), ALAB-743, 18 NRC 387, 397 (1983); *Houston Lighting and Power Co.* (South Texas Project, Units 1 and 2), LBP-82-91, 16 NRC 1364, 1367 (1982); *see also Florida Power & Light Co.* (St. Lucie Nuclear Power Plant, Unit 2), ALAB-420, 6 NRC 8, 22 (1977) (when good cause is demonstrated, other factors are given less weight). Moreover, as among the other four factors, factors three and five — contribution to a sound record and broadening issues/delay in the proceeding — generally have been considered as having the most significance in proceedings such as this in which there are no other parties or ongoing related proceedings. *See Shoreham*, ALAB-743, 18 NRC at 399, 402; *see also South Texas*, LBP-82-91, 16 NRC at 1368.

a. Factor One — Good Cause for Failure to File Timely

The CAN/NECNP contentions and supporting bases were due on November 30, 1995. *See* Commission Order (Nov. 21, 1995) at 2 (unpublished). It was not until March 7, 1996, one week after we dismissed this proceeding because the Petitioners had failed to present a litigable contention, that they filed their reconsideration supplement before the Commission in which they presented the nub of their “new dose argument.” Subsequently, in their June 28, 1996 remand filing, they provided other information they assert affords a basis for admitting a contention relative to their “new dose argument.” The lateness of all the material cited in the Petitioners’ “new dose argument” thus is manifest.

The Petitioners put forth two arguments to establish “good cause” for this lateness. First, they assert they previously raised a timely dose discrepancy argument in this proceeding, pointing to their assertions regarding the difference between the CRP estimates in YAEC 1993 correspondence (350-400 person-rem) and the 1995 FSAR (160 person-rem) in their original petition. Additionally, they maintain that, notwithstanding their previous efforts to highlight this dose discrepancy, the February 28, 1996 letter outlining the eleven “minor” work activity doses indicated a disproportionality with the CRP and anticipated future doses that, in its own right, was new information providing a basis for their ALARA and NEPA challenges to YAEC’s decommissioning choice. In this regard, they liken the February 28, 1996 letter to a key piece in a puzzle that revealed for the first time a strong possibility that the previous YAEC dose estimates were understated. *See* Tr. at 259-62, 273-75. And for those documents cited for the first time in their June 28 filing before the Board, they declare those documents now have become pertinent in light of the February 28 letter. *See* Petitioners Response at 20-21; Tr. at 259-77.

In response, both YAEC and the Staff declare that the only document for which “good cause” can even be claimed is the February 28, 1996 letter cited in the Commission’s order. They also assert that nothing in the February 28 letter demonstrates a “new” dose discrepancy that would constitute “new” information

so as to provide good cause for late-filing. See YAEC Reply at 3-5; Staff Reply at 4-5; Tr. at 294-95.

The Petitioners' argument regarding their previous assertion of a discrepancy between the YAEC CRP estimates is nothing more than an attempt to reargue a point already decided on appeal. As we noted in our March 1996 determination, the Petitioners then presented nothing to suggest that the subsequent 1995 FSAR figure was incorrect, as opposed simply to different from the earlier 1993 figure. See LBP-96-2, 43 NRC at 86-87, *aff'd*, CLI-96-7, 43 NRC at 271-72. The same is not true, however, for their argument based on the "new information" submitted with their March 7, 1996 reconsideration request, as supplemented on June 28.

Generally a "good cause" finding based on "new information" can be resolved by a straightforward inquiry into when the information at issue was available to the petitioner. In this instance, however, the answer to the "good cause" factor involves more than looking at the dates on the various documents submitted by the Petitioners. Instead, as the Petitioners suggest, the inquiry turns on a more complex determination about when, as a cumulative matter, the separate pieces of the decontamination information "puzzle" were sufficiently in place to make the particular concerns they now espouse reasonably apparent.¹⁰

Based on the record now before us, we conclude that, notwithstanding their reliance on information going back to 1993, the February 28, 1996 YAEC memorandum constituted a sufficiently important constituent of the dose calculation/estimate uncertainty and proportionality portions of their "new dose argument" that it provided the appropriate "trigger" for a filing detailing those concerns. The dose calculation for the activities involved in the February 28 letter — approximately 59.1 person-rem — certainly is not de minimis. And while the Staff and YAEC disparage the substance of the Petitioners' claims about the size of the doses involved in this letter, they have presented nothing suggesting that there were any earlier dose calculations that provided the requisite "puzzle piece" so as to warrant an earlier filing by the Petitioners on these matters.¹¹

¹⁰ In contesting the "good cause" for the Petitioners' late-filing, the Licensee relies on the Appeal Board's holding in *Duke Power Co.* (Catawba Nuclear Station, Units 1 and 2), ALAB-687, 16 NRC 460, 469 (1982), stating that a contention "cannot be rejected as untimely if it (1) is wholly dependent upon the content of a particular document; (2) could not therefore be advanced with any degree of specificity (if at all) in advance of public availability of that document; and (3) is tendered with the requisite degree of promptness once the document comes into existence and is accessible for public examination." See YAEC Reply at 5 n.12. Nothing in our "good cause" finding in this case is inimical to that holding. The Appeal Board's analysis clearly is not a declaration that a contention based on more than one document lacks good cause for late-filing if any of those documents previously were on the public record for any period of time.

¹¹ In this regard, we are unable to find the 1993 and 1995 information the Petitioners previously asserted showed a CRP dose estimate discrepancy was a sufficient "trigger" for their present discrepancy and proportionality arguments so as to require a blanket finding there was no "good cause" relative to all pre-February 28, 1996 information. As we have already declared, on its face that information is insufficient to show anything other than a change in estimates. See *supra* p. 14.

Accordingly, the Petitioners have provided good cause for the late-filing of their dose calculation/estimate uncertainty and proportionality arguments based on the February 28 letter and the earlier supporting materials. Further, in these circumstances the May and June 1996 materials cited in the Petitioners' June 28, 1996 pleading as supporting these arguments have been introduced promptly enough after they became available so that the first factor weighs in favor of permitting their consideration as well.

For the Petitioners' reference reactor comparison, which was first submitted to us as part of their June 28, 1996 filing, we must look to a different factor. From the reference source information provided by the Petitioners, it appears that prior to March 7, 1996, when the Petitioners first submitted their "new dose argument" to the Commission, they had information about completed Yankee Rowe activities that would have permitted a comparison with projected occupational doses for reference reactor activities accounting for some 60% of the projected reference reactor DECON dose of 308.09 person-rem they ultimately relied upon as a comparative measure in their June 28 filing. *See* Letter from Diane Curran, Counsel for CAN/NECNP, to the Licensing Board (July 17, 1996), attach. at 2 (references 1-9, 13) [hereinafter Curran Letter]. However, what they did not have, and what they apparently were able to discern only at the end of May and in mid-June from information in a May 31, 1996 NRC inspection report (No. 50-29/96-02) and a June 20 telephone conference with YAEC counsel, was a YAEC total DECON dose figure that was necessary to make the reference reactor comparison. *See* Petitioners Response at 14. In this light, we find that the Petitioners have provided good cause for their late-filed reference reactor comparison too.

b. Factor Three — Contributing to the Record

Having found the central "good cause" factor supports consideration of the information in their March 7 and June 28 filings, we look next to factor three regarding the Petitioners' ability to assist in creating a sound record. As we noted earlier, this is one of the "non-good cause" elements that generally is given considerable weight in determining whether a late-filed issue should be considered for admission.

In their June 28 response, the Petitioners declare that the experience of their counsel in NRC matters and the expertise of their consultants, Dr. Marvin Resnikoff and the Tellus Institute, in the field of decommissioning will ensure that the Petitioners' participation will assist in developing a sound record. *See* Petitioners Response at 21-22. During the July 16 prehearing conference, in further support of this assertion the Petitioners explained that up to this point Dr. Resnikoff has reviewed and provided an analysis of all the publicly available information relevant to their assertion that YAEC's DECON activities

will significantly exceed the GEIS 900 person-rem differential, and is prepared to testify in this case in support of that analysis. The Petitioners maintained, however, they could not provide any further details regarding the substance of his testimony until they had access to YAEC internal documents through discovery. They nonetheless did indicate that with that information he would be able to go through all the decommissioning steps, provide a person-rem total for each step, and make an estimate of the occupational exposure risk. The Tellus Institute, on the other hand, will provide expertise regarding any reevaluation of the ALARA or NEPA cost-benefit analysis when that becomes necessary. The Petitioners also contended they intend to make a substantial contribution to the record through their experienced counsel's cross-examination of YAEC and Staff witnesses. *See* Tr. at 280-82, 287-89.

In response, both Licensee and the Staff declare the Petitioners have failed to show that this factor weighs in their favor. YAEC asserts the Petitioners have not provided the requisite "bill of particulars," including proposed witness testimony. *See* YAEC Reply at 6-7. The Staff apparently has the same view, declaring the Petitioners have failed to demonstrate any reasonable question regarding the validity of reported radiation projections or actual exposures. *See* Staff Reply at 5-6.

The Petitioners' showing on this factor is a decidedly mixed bag. The technical nature of the issues relative to their "new dose argument," which involves the occupational and public doses arising from decommissioning activities and the ALARA/NEPA cost-benefit analysis involved in decommissioning option choices, cuts against their assertion that the legal acumen of their counsel in NRC proceedings should be given weight under this factor. And, notwithstanding the fact an intervenor is entitled to make its case through cross-examination, we have no reason to anticipate in this instance that cross-examination by counsel will be their sole means, or even their central method, for establishing their case in support of the "new dose argument." *See Texas Utilities Electric Co.* (Comanche Peak Steam Electric Station, Unit 1), ALAB-868, 25 NRC 912, 926 (1987). Accordingly, we are unable to find that the expertise and experience of their counsel favors late-filed admission under factor three.

As to the need for a "bill of particulars" on their expert witnesses, the Petitioners clearly have identified their prospective witnesses. Moreover, at this juncture we have no cause to quarrel with the Petitioners' assertion that Dr. Resnikoff and the Tellus Institute have relevant expertise regarding the matters implicated by their "new dose argument." The Petitioners, however, have provided us little in the way of specifics to show how that expertise will be wielded, declaring that to do so without discovery would be too speculative. *See* Tr. at 287-88.

The need to conduct discovery no doubt may excuse a lack of specificity about witness testimony in those nontechnical cases where any testimonial evidence

likely will come from Licensee employees or contractors. *See Comanche Peak*, ALAB-868, 25 NRC at 925-26. This likely is not the case here. Although the confusion over decommissioning dose details that we discuss under section II.C.2 below mitigates somewhat their failure to provide detail on the nature and scope of the testimony of the Petitioners' expert witnesses, it cannot excuse that shortcoming totally. We would have liked the Petitioners to describe in greater detail what the substance of their experts' testimony would be. Thus, for the Petitioners this factor is, at best, inconclusive and, at worst, weighs against them to a minor degree.

c. Factor Five — Broadening Issues/Delay in the Proceeding

As we also noted above, the factor five question of whether admitting a late-filed contention will broaden the issues or delay the proceeding is an important element among the four "non-good cause" factors.

The Petitioners contend that because (1) their Contentions A and E raise significant safety issues, and (2) there are fundamental considerations of fairness, this factor must be weighed in their favor. As proof of the latter assertion, the Petitioners again offer their earlier challenge to the 1993 and 1995 CRP estimates, which they declare the Licensee only addressed after the Commission remanded this matter to the Board. *See* Petitioners Response at 22.

Besides asserting that delay and issue broadening are inevitable because this proceeding was closed, YAEC maintains this factor must be weighed against the Petitioners because admitting the contention will delay Yankee Rowe decommissioning approval. According to YAEC, this delay will result in cost and occupational exposure increases when the current experienced, highly trained crew is laid off and then must be reassembled, retrained, and reoriented. Such high costs are a relevant consideration under this factor, YAEC maintains. *See* YAEC Reply at 8. The Staff merely declares that the Board should be cautious in triggering nonmandatory hearings based on late-filed contentions.¹² *See* Staff Reply at 6.

In this instance, as with any other proceeding in which contentions have not been admitted, the admission of any new issue will inevitably broaden the issues. It likewise is true, as generally is the case whenever a contention is admitted in a proceeding, that to permit litigation of this issue will extend this proceeding in some measure. On the other hand, the Licensee's assertion that this factor takes on added significance because of its impact on decommissioning

¹² In support of this proposition, the Staff cites *Houston Lighting and Power Co.* (South Texas Project, Units 1 and 2), ALAB-549, 9 NRC 644, 649 (1979), an authority of dubious applicability given the Appeal Board there was referring to the institution of hearings for those asserting "discretionary" standing. The Petitioners clearly have established their standing as of right in this proceeding.

activities does not comport with the established rule that “a licensing board [is] to determine whether the proceeding — not license issuance or plant operation — will be delayed.” *Philadelphia Electric Co.* (Limerick Generating Station, Units 1 and 2), ALAB-828, 23 NRC 13, 23 (1986) (footnote omitted). Under the circumstances, we consider this factor as being a negative element, albeit a minor one, in the balance.

d. Factors Two and Four — Availability of Other Means for Interest Protection and Extent Existing Parties Will Represent the Petitioners’ Interest

Concerning the remaining two factors, the Petitioners argue that there are neither other parties nor other forums available to protect their interest in obtaining a reevaluation of the costs and benefits of the YAEC-chosen DECON alternative. See Petitioners Response at 21, 22. The Staff concedes this is correct. See Staff Reply at 5 n.5. The Licensee, however, suggests these factors are entitled to less weight than usual, or no weight at all, because the Petitioners’ interest, as implicated in their “new dose argument,” is really an interest of Yankee Rowe workers, whom they do not represent. See YAEC Reply at 5 & n.13.

We find these two factors weigh fully in favor of the Petitioners here. We will not discount them based on the fact that the contention involved has as its focus occupational doses. As the Commission already noted in this proceeding, once the Petitioners have established their standing, they are entitled to put forth any contentions that would entitle them to the relief they seek. See CLI-96-1, 43 NRC at 6. They have established their standing, and with that the right to put forth contentions challenging the YAEC DECON choice based both on public and occupational doses. See CLI-96-7, 43 NRC at 246-48. We thus find no basis now for affording their “interest” short shrift in assessing whether to admit a late-filed contention that they otherwise would be entitled to litigate consistent with the Commission’s previous guidance regarding standing and contentions.

e. The Final Balance

For the reasons discussed above, factors one, two, and four weigh in favor of the Petitioners’ “new dose argument.” On the other hand, factors three and five do not favor the admission of this issue, albeit only slightly. In reaching a final balance, given the significance of factor one, and the fact that factors three and five, to the extent they weigh against the “new dose argument” do not do so in any significant manner, we conclude the balance under the late-filing standard

in 10 C.F.R. § 2.714(a)(1) weighs against striking the Petitioners' "new dose argument" contention as untimely.

C. Admissibility of "New Dose Argument" Contention

Having concluded that the Petitioners' "new dose argument," as expressed in their June 28, 1996 submission, is not subject to dismissal as late-filed, we consider next the question of whether that argument, in whole or in part, provides the basis for a litigable contention for this proceeding. In its June 18 memorandum and order, the Commission set forth in detail the standard that now governs contention admission:

Although [10 C.F.R. § 2.714] imposes on a petitioner the burden of going forward with a sufficient factual basis, it does not shift the ultimate burden of proof from the applicant to the petitioner. Nor does section 2.714 require a petitioner to prove its case at the contention stage. For factual disputes, a petitioner need not proffer facts in "formal affidavit or evidentiary form," sufficient "to withstand a summary disposition motion." On the other hand, a petitioner "must present sufficient information to show a genuine dispute" and reasonably "indicating that a further inquiry is appropriate."

CLI-96-7, 43 NRC at 249 (quoting *Georgia Institute of Technology* (Georgia Tech Research Reactor), CLI-95-12, 42 NRC 111, 118 (1995)) (citations and footnote omitted).

For the reasons set forth below, we find that although the Petitioners' dose calculation/estimation uncertainty and reference reactor comparison concerns set forth in their "new dose argument" are not adequate to support a litigable contention, the proportionality aspect of their "new dose argument" does provide a sufficient basis for admitting a contention.

1. Reference Reactor Comparison Basis

As we have described previously, *see supra* p. 20, this basis constitutes an attempt by the Petitioners to compare projected occupational exposures from decommissioning activities for a reference LWR (Trojan Nuclear Station) with the doses accrued from those decommissioning activities the Petitioners contend have been completed at Yankee Rowe. The reference reactor information comes from tables in a November 1995 NRC contractor report (NUREG/CR-5884), while the information relating to completed work at Yankee Rowe comes from the Petitioners' analysis of various pieces of YAEC and NRC correspondence and Staff inspection reports. *See* Petitioners Response at 16-17; Curran Letter, attach. at 2. Although this particular concern is the latest to be put forth by the Petitioners, having surfaced initially in their June 28, 1996 pleading, we

deal with it first because it clearly is inadequate to provide a basis for their contention.

According to the Petitioners, the comparison table they have produced indicates that the total decommissioning dose for Yankee Rowe will exceed the 900 person-rem GEIS benchmark by at least 100 person-rem. *See* Petitioners Response at 18. Both the Licensee and the Staff have attacked this particular basis on a number of grounds, the most significant being the differences between the two plants (Trojan and Yankee Rowe) in terms of systems, components, and geometries. Both contend that the impact these differences have on radiation exposures and projections renders the Petitioners' analysis wholly inapposite. *See* Staff Reply at 24; Tr. at 370-74.

One example suffices to demonstrate the validity of this Staff and Licensee objection. The comparison table provided by the Petitioners has a line item indicating that the single activity of decontaminating stainless steel piping in the Trojan reference reactor is projected to accrue 459.03 person-rem, or almost one-half the total 932.56 person-rem decontamination dose for that facility. The Yankee Rowe Licensee, however, is given no credit for having done any stainless steel piping work as part of its current decommissioning work. *See* Petitioners Response at 17. As was pointed out during the July 16, 1996 oral argument, the materials supplied by YAEC that describe dose data do not account for stainless steel pipe decommissioning doses in this way. In fact, the dose relating to stainless steel piping is assessed as part of the activity for the plant system of which it is a part. *See* Tr. at 372-73, 376-77 (citing 2 Yankee Atomic Electric Company, Final Safety Analysis Report, Yankee Nuclear Power Station, Rowe, Massachusetts at 507-15 (rev. June 1995) (Table 507.1) [hereinafter FSAR]). This is apparent as well from the more detailed description of the various planned decommissioning activities provided in the FSAR. *See, e.g.*, 1 FSAR at 211-1 (waste disposal system includes "associated valves, piping, fittings, and instrumentation").

The Petitioners' failure to establish that the Trojan reference reactor study, as configured, provides a reasonable benchmark for comparison with Yankee Rowe constitutes a significant deficiency in their claim that causes us to conclude their comparative analysis does not raise a disputed material issue of fact that indicates further inquiry is warranted.

2. Dose Calculation/Estimation Uncertainty Basis

As we have summarized above, *see supra* pp. 18-20, in their June 28 submission the Petitioners have described a variety of purported deficiencies with the Licensee and agency documentation regarding dose estimates and calculations relating to different aspects of the Yankee Rowe decommissioning process that they assert establish a basis for inquiring further into whether the

900 person-rem GEIS envelope will be breached under YAEC's DECON option. See Petitioners Response at 6-15. Licensee and the Staff have responded by attempting to show that these examples are not discrepancies. See YAEC Reply at 10-13; Staff Reply at 11-22.

After reviewing the arguments and information submitted by the parties regarding the purported deficiencies cited by the Petitioners,¹³ we have reached two conclusions. The first is that the existing public record does create some level of uncertainty about the magnitude of the total person-rem occupational dose, both actual and projected, for Yankee Rowe facility decommissioning. Even for the reasonably well-informed member of the public, at best it is hard to discern what doses were projected, what doses actually have been accrued, and what doses are still to be encountered. For example, notwithstanding the explanations now provided by YAEC and the Staff, as is illustrated by the items set forth on pages 13 and 14 of the Petitioners' June 28 response, it is difficult to ascertain whether dose values provided by YAEC and the Staff represent projected or accrued dose values; how accrued annual doses compare with projected or accrued doses for individual projects or activities; and whether reported doses represent "operational" or decommissioning doses. In addition, the record suggests there is uncertainty over such matters as the significance of (1) 93.8 person-rem accrued during twenty-one agency-approved decommissioning activities as it might alter the ultimate accrued decommissioning dose, and (2) the dose from planned activities outlined in the February 28, 1996 letter given that some items do not appear to have been included in a later May 15, 1996 letter regarding those activities. Compare Letter from Diane Curran, Counsel for CAN/NECNP, to the Licensing Board (July 19, 1996), attach. 9 (Letter from Russell A. Mellor, YAEC, to Morton B. Fairtile, NRC (May 15, 1996)) with Reconsideration Supplement, attach. 1 (Letter from Russell A. Mellor to Morton B. Fairtile (Feb. 28, 1996), attach. A).

Despite these uncertainties, however, we are unable to discern based on the present record that these purported deficiencies rise to a level that would merit additional inquiry relative to whether there is a reasonable possibility of

¹³ Although YAEC has asserted that the Commission's June 18, 1996 memorandum and order can be read to preclude this basis in toto, see YAEC Reply at 13, as we understand the Commission's opinion, what has been addressed is the Petitioners' argument that the 1993 CRP estimate of 350-400 person-rem and 1995 FSAR estimate of 160 person-rem, on their face, establish an actionable discrepancy. As we already have indicated, we do not accept that assertion by the Petitioners. See *supra* note 11.

Also with regard to our review of this and other parts of the Petitioners' arguments, we note that besides its response to the Petitioners' June 28, 1996 pleading that sets forth the Petitioners' arguments supporting the admissibility of the "new dose argument," YAEC also submitted a "conditional" motion for summary disposition with a supporting affidavit. See Conditional Motion for Summary Disposition ("New Dose Argument") (July 10, 1996); YAEC Reply at 18-19. As we discuss in Section III below, that motion is relevant to the schedule we establish for litigating the "merits" of the Petitioners' contention; however, we could not and did not consider that motion in connection with our determination about the admissibility of the "new dose argument" because any summary disposition motion cannot be considered until a contention is admitted. See Tr. at 320-21.

exceeding the 900 person-rem GEIS envelope.¹⁴ Whether taken individually or collectively, the alleged discrepancies are not by themselves of a magnitude that suggests there is any serious threat that this generic upper boundary is in danger of being breached. As such, we do not find this concern, standing alone, to be a sufficient basis for admission of the Petitioners' "new dose argument" contention.

3. *Dose Proportionality Basis*

The third and final basis set forth in the Petitioners' June 28, 1996 pleading is their dose proportionality assertion. According to the Petitioners, based on (1) a May 15, 1996 letter from YAEC to the Staff regarding high projected dose (93.8 person-rem) for an expanded list of twenty-one decommissioning activities the Licensee has labeled "minor" in that they need not await decommissioning plan approval, (2) a January 29, 1996 letter from YAEC to the Staff indicating 99% of facility's remaining nonfuel and non-GTCC waste radioactivity is in the still-to-be decommissioned reactor vessel and lower neutron shield, and (3) the Licensee's own admission in an October 1993 letter to the Commission that there is "some proportionality" between the level of radioactivity involved and the occupational dose to decommissioning workers, one can reasonably conclude that the total Yankee Rowe DECON decommission dose will substantially exceed the 1215 person-rem dose postulated for DECON activities in the GEIS, thereby bringing the YAEC decommissioning choice outside the GEIS 900 person-rem differential between DECON and SAFSTOR.¹⁵ See Petitioners Response at 15-16.

Declaring the Petitioners' dose proportionality argument is based on either a "major vs. minor dose correlation" theory or a "radioactivity vs. dose rate

¹⁴In acknowledging this uncertainty, we are not suggesting it is the result of any regulatory violations relating to agency reporting or information requirements. We have no basis to believe that there is any communication problem between the Licensee and the Staff relative to those matters that are under regulatory review. Having said this, we think it also is apparent that the uncertainty in this instance may be explained, at least in part, by the absence of any tables, data, and discussion detailing such items as (1) actual person-rem doses for the various phases of the CRP and Staff-approved "minor" projects; (2) annual reported absorbed doses apportioned between "operational" exposures and decommissioning exposures; (3) total absorbed dose for all decommissioning activities to date; and (4) periodic reappraisals of the 1995 FSAR dose values to reflect the projected doses for yet-to-be-completed activities.

¹⁵Although, as far as we are aware, none of the parties has provided the letter for our consideration, see Tr. at 369, the relevant portion of the October 1993 letter, as set forth in the Petitioners' June 28, 1996 pleading, declares:

"Among the considerations cited by the Commission in deciding to allow Trojan to complete its pre-Plan component removal activities is that the Trojan component removal project involves just 1% of the non-fuel residual radioactivity at the Trojan plant, and therefore, was not a 'major' segment of decommissioning. Such a consideration suggests that there is some radiologically related threshold for which an activity, regardless of physical size of components involved, does not represent 'major.'"

Petitioners Response at 15 n.5 (quoting Letter from Andrew C. Kadak, YAEC, to John C. Hoyle, NRC Office of the Secretary (Oct. 24, 1993) at 3).

correlation" theory, YAEC asserts that on both scores it is inadequate to support a contention. YAEC argues the former theory is deficient because (1) the Petitioners have failed to provide any support for their premise that "major" decommissioning activities that must await decommissioning plan approval involve higher occupational doses than "minor" pre-plan approval activities; (2) their reliance on the October 1993 letter evinces a lack of understanding of the difference between radioactivity (measured in curies) and absorbed dose (measured in person-rem); and (3) an attachment to the May 1996 letter showing that for the nine completed activities, the actual dose was within 2% of the estimated dose, indicates the accuracy of YAEC's projected dose estimates. *See* YAEC Reply at 14-15. The latter theory is no more successful, according to YAEC, because (1) as a matter of physics, there is no correlation between the radioactivity of a given component and the decommissioning dose that will be incurred to dismantle it; and (2) as a matter of history, any assumed correlation disproves the Petitioners' assumption. With regard to the second point, YAEC declares that because more than one million curies of nonfuel radioactivity have been stored or removed from the facility with only 400 person-rem of occupational and operational exposure, to apply a corresponding proportionality to the remaining 5000 curies would result in an occupational dose of 1.9 person-rem. *See id.* at 15-16.

In challenging the Petitioners' proportionality argument, the Staff likewise relies on the Petitioners' asserted confusion of radioactivity and radioactive exposure. According to the Staff, because radiation dose estimation for any decommissioning activity depends on many factors, including field radiation levels (which are dependent on shield material type and thickness) and exposure time, the Petitioners' assumption about the relationship between the "minor" activities person-rem and the occupational dose for the remaining decommissioning activities is without foundation. The Staff also asserts that the Petitioners' reliance on the October 1993 letter is misplaced in that supposedly critical language was nothing more than the Licensee's attempt to interpret how the Commission considered the radioactivity of components in connection with the issue of what pre-plan approval activities would be permitted. *See* Staff Reply at 22-23 & n.17.

That there is, as the Petitioners assert, some relationship between the level of radioactivity that exists for a contaminated system or component and occupational absorbed dose to workers involved in decommissioning activities regarding that system or component seems self-evident. One reasonably can anticipate that workers would receive more person-rem from activities that involved decommissioning a facility system that had a radioactivity level of 1000 curies than from a system with a level of 1 curie, even taking into account differences in shielding and time of exposure. Indeed, the October 1993 YAEC statement cited by the Petitioners that there is "some radiologically related threshold" at

which an activity is considered "major" rather than "minor" reflects this idea, albeit in another context.

The Petitioners' assertion of a relationship between absorbed dose and radioactivity thus cannot be rejected out of hand, although questions remain about the extent of that relationship and the impact of that relationship on the Petitioners' asserted concern that the GEIS 900 person-rem DECON-SAFSTOR differential envelope will be exceeded. As we described above, YAEC provides information that at Yankee Rowe it previously has removed or stored some one million curies of nonfuel radioactivity with only 400 person-rem of occupational dose. This suggests that any relationship between radioactivity and absorbed dose is substantially less than one-to-one. When viewed in light of the YAEC assertion that there are some 5000 curies of radioactive contamination that must still be removed, *see* YAEC Reply at 16, the likelihood of exceeding the 900 person-rem envelope would seem exceedingly small.

On the other hand, the information on the decommissioning activities in the February 28 and May 15 letters relied upon by the Petitioners indicates that recent decommissioning activities, whether labeled major or minor, have entailed absorbed doses that, when compared to YAEC's own figures on total occupational doses, cannot be considered *de minimis* relative to its completed decommissioning activities.¹⁶ Added to this is the fact that, whether assessed by a comparison to the recent "minor" activities doses (as the Petitioners suggest) or by looking to the total curies extant (as YAEC suggests), the remaining facility radioactivity level is not insignificant. This suggests that if the Petitioners are able to establish that the recent dose information is reflective of the dose that must yet be absorbed,¹⁷ there is a reasonable likelihood they can establish a total DECON dose figure that falls outside the GEIS envelope.

The record now before us contains conflicting factual information from the Petitioners and YAEC and the Staff regarding the Petitioners' proportionality basis. Further, the Petitioners have at least suggested some reasonable grounds to believe that, based on their proportionality analysis, the GEIS 900 person-rem envelope may be exceeded by more than a minor degree. Thus, as to this

¹⁶ The February 28, 1996 letter relied upon by the Petitioners also indicates that for the eleven decommissioning activities involved, to accomplish the removal of 346 curies, YAEC estimated that workers would have an occupational absorbed dose of 59.1 person-rem. *See* Reconsideration Supplement, attach. 1, at A-1 to -5 & Table A. This suggests a relationship of somewhat more than one-to-one for these recent activities, which, when applied to future decommissioning activities, would substantially increase the possibility that removing the last 5000 curies from Yankee Rowe could involve doses that would exceed the GEIS 900 person-rem envelope.

¹⁷ It may well be, as the line item for reactor pressure vessel decontamination on the Petitioners' LWR reference reactor comparison table suggests, the absorbed dose for the remaining Yankee Rowe decommissioning activities will fall well below the level needed to cause a concern about breaching the GEIS 900 person-rem envelope. *See* Petitioners Response at 17 (17 person-rem to decommission reference reactor pressure vessel). At present, however, we do not have any information regarding the particular decommissioning activities to be completed at Yankee Rowe that would confirm whether, in fact, that is the case. Indeed, the same concern about compatibility with Yankee Rowe activities that causes us to reject that table as an adequate basis for the Petitioners' contention renders that table inadequate as a foundation for rejecting the Petitioners' proportionality basis.

basis, we have disputed issues of material fact for which further inquiry seems appropriate.

4. Conclusion on Admissibility of "New Dose Argument" Contention

Although the Petitioners' reference reactor comparison and dose calculation/estimation uncertainty bases fall short of the section 2.714(b)(2) standard for admissibility, their dose proportionality basis is sufficient to support the admission of their "new dose argument" contention. Moreover, as already has been established, the Petitioners have standing as of right to intervene in this proceeding. We, therefore, grant their intervention petition and will proceed to litigate the "merits" of their "new dose argument" contention.

III. LITIGATION SCHEDULE

As part of its January 16, 1996 memorandum and order initially referring this matter to the Board, the Commission directed that this proceeding be "expedited" and provided a proposed schedule. *See* CLI-96-1, 43 NRC at 9-11. With our decision to admit the Petitioners' "new dose argument" contention, we now must establish a schedule for litigating that matter.

We have set forth an expedited schedule as an appendix to this opinion. That schedule, however, deviates somewhat from the Commission's suggested schedule to accommodate the particular circumstances involved with the Petitioners' contention as well as our discussions with counsel regarding scheduling during the July 16, 1996 prehearing conference. *See* Tr. at 399-412. Below is a further explanation of our scheduling determinations and directives.

A. Bifurcation of Issues

The Commission's schedule seemingly contemplated that all aspects of the Petitioners' contentions would be litigated at once. In this instance, it is apparent that the Petitioners' "new dose argument" contention has two facets, which we will refer to as the "envelope" phase and the "relief" phase. The "envelope" phase involves a determination of whether the YAEC DECON decommissioning process will result in occupational doses that will exceed the 900 person-rem GEIS "envelope" such that additional ALARA and/or NEPA analysis is necessary. If we should decide that, in fact, the GEIS parameters have been exceeded to a degree that warrants further ALARA and/or NEPA analysis, only then do we need to consider the question of "relief" regarding the appropriate manner for providing that analysis and litigating its sufficiency.

Given the considerable differences that are likely to exist regarding the discovery and proof applicable to these two phases, the most efficient way to conduct this proceeding is to deal first with the question of whether the GEIS envelope has been exceeded and then, if necessary, move to the question of relief. Accordingly, the schedule we set forth in this memorandum and order relates only to the envelope phase of this litigation on the Petitioners' contention.

B. Sequenced Discovery for the Petitioners and Summary Disposition

In its proposed schedule, the Commission provided for a period of discovery, followed by the filing of summary disposition motions and prefiled testimony. As was noted earlier, however, we now have pending before us the Licensee's "conditional" summary disposition motion. *See supra* note 13. In its motion, YAEC asks that if we admit a contention for litigation, we move immediately to grant summary disposition in its favor on what is essentially the envelope phase described above.

The usual method of dealing with a summary disposition motion is to provide an opportunity for the other parties to respond to the motion. Among other things, the Petitioners could answer the Licensee's motion by asserting that they need discovery to respond fully to YAEC's motion. *See Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), CLI-92-8, 35 NRC 145, 152 (1992). Such a request generally should be made in a pleading supported by an affidavit. *See id.* The Petitioners have not formally filed such a response. We do, however, have the functional equivalent of such a filing in the statements of the Petitioners' counsel during the July 16 prehearing conference. There, counsel outlined the discovery the Petitioners assert they will need to support their case. *See Tr.* at 350-53.

After reviewing the Licensee's motion and the statements of the Petitioners' counsel, the Board finds the Petitioners' have presented sufficient information to justify permitting them discovery prior to filing a response to the Licensee's summary disposition motion. Accordingly, we will hold the Licensee's motion in abeyance and permit the Petitioners to obtain discovery from the Licensee and the Staff relative to the envelope phase of their contention.¹⁸

Discovery will be in two segments, an informal phase and a formal phase. In the informal phase, the Licensee and the Staff are to meet with the Petitioners to discuss and respond to the Petitioners' information requests as they are relevant

¹⁸In a previous filing, the Commonwealth of Massachusetts declared that it supported the admission of the Petitioners' contention. *See Massachusetts Reply* at 3. Unless the Commonwealth advises the Board by close of business on *Friday, August 2, 1996*, that it has some other intention, we will consider the Commonwealth to be supporting the Petitioners relative to the merits of their contention. In this event, the Commonwealth will be subject to the same schedule as the Petitioners relative to any filings relating to litigation matters such as summary disposition or the evidentiary hearing.

to the envelope phase of this proceeding.¹⁹ Bearing in mind the Board's prior admonition that discovery requests should be as specific as possible, *see* Tr. at 407-08, the Petitioners should be prepared to provide the Licensee and the Staff with an enumeration of the particular types of information they seek relative to the envelope phase of this proceeding. In turn, the Licensee and the Staff should be prepared to make that information available to the *maximum* degree possible, by affording the Petitioners access to the pertinent documents and to knowledgeable individuals, particularly those persons the Licensee and the Staff anticipate may provide testimony on their behalf during any evidentiary hearing.²⁰

Following this period of informal discovery, the Petitioners will have a brief period for formal discovery, if needed.²¹ The Petitioners will have the opportunity to file interrogatories/document production requests and deposition notices. Without prior leave of the Board or written stipulation, the Petitioners may serve upon the Licensee and the Staff (1) not more than fifteen interrogatories per party, including all discrete subparts, and (2) deposition notices not to exceed a total of three per party.²² The schedule also provides for protective order motions, motions to compel, and motion responses.

Thereafter, the Licensee will be afforded an opportunity to supplement its pending summary disposition motion. The Staff also may seek summary disposition at this point. The other parties will have a period to respond to any Licensee or Staff filing or to file a cross-motion for summary disposition. The Licensee (and the Staff if it files a summary disposition motion) then will have a short period to reply to any responsive filings or cross-motions. If the Board finds that an oral argument regarding the Licensee's motion would be helpful, that argument will be held shortly after the Licensee's reply is filed.

C. Post-Summary Disposition Discovery Options for the Licensee and the Staff

If the Board concludes that summary disposition cannot be granted in favor of the Licensee (or the Staff) or the Petitioners on a cross-motion, the Board will

¹⁹In this regard, we note that our discussion in Section II.C.2 above concerning the uncertainty that exists about the magnitude of the total person-rem dose for the Yankee Rowe facility likely has implications for resolving the envelope phase of this litigation in that whether, and to what extent, occupational doses from any future work will exceed the 900 person-rem GEIS envelope may depend on how much absorbed dose already has been accrued.

²⁰So that the Board can assess the progress of informal discovery, we ask that by close of business on *Tuesday, August 6, 1996*, the parties provide us with a joint status report on that discovery. This can be done in writing or through a telephone conference call to the Board Chairman.

²¹The parties are, of course, free to continue informal discovery in lieu of, or in tandem with, formal discovery.

²²Board preapproval to exceed these discovery limitations must be sought in accordance with the procedures specified in Section III.E.2. Any request for additional interrogatories or depositions must specify the questions to be asked or the person to be deposed and provide a detailed justification for the additional discovery.

afford the Staff and the Licensee an opportunity for formal discovery along the same lines as were provided for the Petitioners (i.e., absent prior Board approval, a limit of fifteen interrogatories and three depositions for each). Thereafter, the parties will be afforded an opportunity to submit prefiled testimony and exhibits and motions in limine and responses regarding that prefiled material. The Board will then begin an evidentiary hearing of up to 2 weeks on the "envelope" phase of this litigation.

If, however, the Licensee and the Staff wish to expedite the start of the evidentiary hearing further, they can, in lieu of formal discovery, opt for an alternative "discovery" procedure. Under this alternative, the Petitioners would submit their prefiled direct testimony and exhibits first. The Staff and YAEC then would have an opportunity to consider that information in preparing and submitting their own prefiled direct testimony and exhibits.

If the Licensee and the Staff choose to utilize this alternate discovery vehicle, the schedule for which we have described in the appendix, we would anticipate starting the evidentiary hearing approximately 2 weeks earlier. To provide the Board with sufficient time to try to arrange for appropriate hearing facilities in the vicinity of the Yankee Rowe facility, on or before *Monday, August 12, 1996*, the Licensee and the Staff should provide the Board with a joint filing indicating which discovery option they wish to use.

D. Evidentiary Hearing and Initial Decision on "Envelope" Phase

As the Board has noted previously, to the extent possible under this expedited schedule we will hold evidentiary hearing sessions in the vicinity of the Yankee Rowe facility. See Board Memorandum and Order (Denying Motion to Change Prehearing Conference Location) (July 3, 1996) at 5 (unpublished). The Board also anticipates that it will conduct one or more limited appearance sessions in conjunction with any evidentiary hearing held at the Yankee Rowe facility. During this period, the Board may wish to conduct a site visit at the Yankee Rowe facility as well.

At the end of the hearing, the parties will be afforded an opportunity to file proposed findings of fact and conclusions of law. As with the Commission's proposed schedule, we provide for simultaneous filings by the Petitioners and the Licensee, with the Staff afforded an opportunity to file shortly thereafter. The Board will then issue its initial decision on the envelope phase of the proceeding.

E. General Provisions Governing Party Filings

In addition to the specific scheduling provisions set forth above, the following general directives shall apply to each filing in this proceeding:

1. Same-Day Courtesy Service of All Pleadings

In addition to serving a conforming paper copy of all pleadings on all parties, the Board members, and the Office of the Secretary, a copy of each filing shall be sent to all other parties, the Board members, and the Office of the Secretary by facsimile transmission, E-mail transmission, or other means that will ensure receipt by 4:30 p.m. Eastern Time on the date of filing.

2. Limitations on Pleading Length and Reply Filings

Absent preapproval by the Board, all motions and responses thereto (other than the summary disposition filings described in Section III.B above) are to be no more than ten pages in length, including the pleading's signature page. Replies (other than the summary disposition filing described in Section III.B above) are not permitted without preapproval of the Board. Board preapproval regarding pleading length and leave to reply must be sought in writing at least 24 hours before filing the motion or pleading. The preapproval request must indicate whether the other parties to the proceeding oppose or support the request. In addition, a party seeking preapproval to exceed the page limitation should provide a good faith estimate of the number of additional pages it intends to file.

3. Discovery Motion Presubmission Conference of Counsel

As part of a motion for protective order/motion to compel with regard to a discovery request, counsel for the moving party shall provide a certification that he or she previously has (1) provided counsel for the party to whom the motion is directed a clear and concise written statement of the asserted deficiencies or objections and the requested action relative to the discovery request, and (2) has, after providing this statement, consulted with counsel in an attempt to resolve all the disputed matters without Board action. If counsel are able to resolve a potential objection on the basis of the presubmission conference, that resolution should be reduced to writing with copies provided to each counsel involved.

IV. CONCLUSION

In response to the Commission's June 18, 1996 referral of the Petitioners' "new dose argument," we find that a balancing of the five factors used in assessing late-filed contentions establishes that the information supplied in the Petitioners' March 7, 1996, and June 28, 1996 pleadings should not be stricken for being late-filed. Further, we have determined that one of the three bases put

forth in support of the Petitioners' "new dose argument" contention — the dose proportionality basis — does present a material factual dispute that warrants further inquiry. As such, we admit that contention and establish an expedited schedule for further litigation on its merits.

For the foregoing reasons, it is, this 31st day of July 1996, ORDERED that:

1. The November 30, 1995 petition to intervene of CAN/NECNP is *granted* with respect to the contention specified in Section II.A of this Memorandum and Order.
2. Litigation on this issue shall commence immediately in conformance with Section III and the schedule specified in the appendix to this Memorandum and Order.
3. In accordance with the provisions of 10 C.F.R. § 2.714a(a), as it rules on an intervention petition, this Memorandum and Order may be appealed to the Commission within ten days after it is served.²³

THE ATOMIC SAFETY AND
LICENSING BOARD

G. Paul Bollwerk, III, Chairman
ADMINISTRATIVE JUDGE

Jerry R. Kline
ADMINISTRATIVE JUDGE

Thomas S. Elleman
ADMINISTRATIVE JUDGE

Rockville, Maryland
July 31, 1996

²³ Copies of this Memorandum and Order have been sent this date to counsel for YAEC and CAN/NECNP by Internet E-mail transmission, to counsel for the Commonwealth of Massachusetts by facsimile transmission, and to Staff counsel by E-mail transmission through the agency's wide area network.

APPENDIX

Expedited Schedule for *Yankee Rowe* "Envelope" Phase Litigation

A. CAN/NECNP Discovery and YAEC/Staff Summary Disposition

Date (1996)	Action	Day
Thurs., Aug. 1	CAN/NECNP Informal Discovery Begins	1
Fri., Aug. 9	CAN/NECNP Informal Discovery Ends	9
Wed., Aug. 14	CAN/NECNP Formal Discovery Requests Served	14
Wed., Aug. 21	YAEC/Staff Discovery Responses/ Protective Order Motions Due	21
Mon., Aug. 26	CAN/NECNP Response to Protective Order Motions/Motion to Compel Due	26
Wed., Aug. 28	YAEC/Staff Responses to Motions to Compel Due	28
Fri., Aug. 30	CAN/NECNP Discovery Closes (all depositions must be completed by this date)	30
Tues., Sept. 3	YAEC Supplement to Motion for Summary Disposition/Staff Summary Disposition Motion Due	34
Tues., Sept. 10	Summary Disposition Motion Responses/Cross-Motions Due	41
Fri., Sept. 13	YAEC/Staff Reply to Summary Disposition Motion Responses/Response to Cross-Motions Due	44
Fri., Sept. 27	Board Ruling on Summary Disposition Filings (time period may include oral argument)	58

B. Hearing Alternative 1 — YAEC/Staff Formal Discovery

Date (1996)	Action	Day
Mon., Sept. 30	YAEC/Staff Formal Discovery Requests Served	61

Mon., Oct. 7	CAN/NECNP Discovery Responses/ Protective Order Motions Due	68
Thurs., Oct. 10	YAEC/Staff Response to Protective Order Motions/Motions to Compel Due	71
Tues., Oct. 15	CAN/NECNP Responses to Motions to Compel Due	76
Fri., Oct. 18	YAEC/Staff Discovery Closes (all depositions must be completed by this date)	79
Fri., Oct. 25	Prefiled Direct Testimony/Exhibits 86 Due	
Tue., Oct. 29	Motions in Limine re Prefiled Direct Testimony/Exhibits Due	90
Thurs., Oct. 31	Responses to Motions in Limine re Prefiled Direct Testimony/Exhibits Due	92
Mon., Nov. 4	Evidentiary Hearing Begins	96
Fri., Nov. 15	Evidentiary Hearing Completed	107
Wed., Nov. 27	YAEC/CAN/NECNP Proposed Findings of Fact and Conclusions of Law Due	119
Thurs., Dec. 5	Staff Proposed Findings of Fact of Fact and Conclusions of Law Due	127
Tues., Dec. 31	Board Initial Decision on "Envelope" Phase	153

C. Hearing Alternative 2 — No YAEC/Staff Formal Discovery

Date (1996)	Action	Day
Fri., Oct. 4	CAN/NECNP Prefiled Direct Testimony/Exhibits Due	65
Fri., Oct. 11	YAEC/Staff Prefiled Direct Testimony/Exhibits Due	72
Tue., Oct. 15	Motions in Limine re Prefiled Direct Testimony/Exhibits Due	76
Thurs., Oct. 17	Responses to Motions in Limine re Prefiled Direct Testimony/Exhibits Due	78
Mon., Oct. 21	Evidentiary Hearing Begins	82

Fri., Nov. 1	Evidentiary Hearing Completed	93
Wed., Nov. 13	YAEC/CAN/NECNP Proposed Findings of Fact and Conclusions of Law Due	105
Wed., Nov. 20	Staff Proposed Findings of Fact of Fact and Conclusions of Law Due	112
Mon., Dec. 16	Board Initial Decision on “Envelope” Phase	138

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

OFFICE OF NUCLEAR MATERIAL SAFETY AND SAFEGUARDS

Carl J. Paperiello, Director

In the Matter of

Docket No. 040-08724

CHEMETRON CORPORATION, INC.
(Cleveland, Ohio)

July 3, 1996

The Director of the Office of Nuclear Material Safety and Safeguards grants, in part, Petitioner's request under 10 C.F.R. § 2.206 that NRC compel Chemetron to commence action to decontaminate the Harvard Avenue site to the extent this is required by the License Amendments of May 25, 1993, and June 7, 1996, and the Orders dated May 5, 1992, and October 26, 1993; to the extent these actions were not taken in the time originally specified by Petitioner, this request is denied. In addition, the Director denies Petitioner's second request that NRC impose sanctions against Chemetron for failing to comply with its November 14, 1988 Confirmation of Commitment to decontaminate the Harvard Avenue site. On March 22, 1989, the Director formally acknowledged receipt of the petition and denied the Petitioner's request for immediate relief because NRC considered that Chemetron's actions demonstrated minimally sufficient progress toward decontamination.

**CIVIL PENALTIES: VIOLATION OF SCHEDULE FOR
DECOMMISSIONING**

For violations of NRC requirements relating to sites on the Site Decommissioning Management Plan, the NRC will consider civil penalties where (1) the licensee or responsible party fails to comply with an order compelling payment into an escrow account; or (2) the licensee or responsible party fails to comply with a requirement or an order compelling cleanup when there is already sufficient decommissioning funding. "Action Plan to Ensure Timely Cleanup of Site Decommissioning Management Plan Sites" (April 10, 1992).

DIRECTOR'S DECISION UNDER 10 C.F.R. § 2.206

I. INTRODUCTION

By letter dated January 6, 1989, Dr. Klaus R. Romer, on behalf of McGean-Rohco, Inc. (Petitioner or McGean), requested that the U.S. Nuclear Regulatory Commission (NRC) take action pursuant to 10 C.F.R. § 2.206 with respect to Chemetron Corporation (Chemetron), an NRC licensee. McGean requested that NRC exercise its enforcement powers to compel Chemetron, at the time a subsidiary of Allegheny International, Inc. (Allegheny), to immediately commence decontamination of its facilities at 2910 Harvard Avenue, Cuyahoga Heights, Ohio (the Harvard Avenue site), under the terms agreed to by Allegheny in its Confirmation of Commitment dated November 14, 1988. The Petitioner also requested the NRC to impose sanctions upon Chemetron for its failure to carry out the decontamination of the Harvard Avenue site. McGean alleged the following bases for its requests:

- 1) On November 14, 1988, Chemetron committed to begin decontamination of the Harvard Avenue site immediately and complete the job by March 17, 1989;
- 2) The NRC had stated that the March completion deadline would be relaxed only if Chemetron made a compelling showing of diligent efforts to clean up the site and good cause;
- 3) Chemetron's letter to the NRC of December 12, 1988, which requests an extension of the deadline for good cause, fails to make a compelling showing of good cause; and
- 4) Chemetron has not made a good faith effort to decontaminate the site.

On March 22, 1989, the Director of the Office of Nuclear Material Safety and Safeguards, formally acknowledged receipt of the petition and informed Petitioner that its request was being treated pursuant to section 2.206 of the NRC's regulations. A notice of the receipt of the petition was published in the *Federal Register* notice on March 28, 1989 (54 Fed. Reg. 12,698). In the March 22, 1989 letter, the Director denied the Petitioner's request for immediate relief because NRC considered that Chemetron's actions demonstrated minimally sufficient progress toward decontamination. However, the Director deferred a decision on the remainder of the petition.

II. BACKGROUND

In 1965, pursuant to 10 C.F.R. Part 40, the Atomic Energy Commission issued Source Material License No. SUB-852 to Chemetron, which through its McGean Unit of the Inorganic Chemical Division, manufactured catalysts

containing depleted uranium. These operations were carried out between 1965 and 1972 in facilities located at the Harvard Avenue site. By February 1972, manufacture of the catalysts had been terminated, and in December 1973, the license was amended to authorize storage only for the remaining depleted uranium. No activities involving source material, other than decontamination, have been conducted at the site since the termination of the catalyst production by Chemetron in 1972.

In 1975, the McGean Chemical Company, Inc., the predecessor to McGean-Rohco, Inc., purchased the Harvard Avenue site. The Chemetron Corporation, however, retained the license and responsibility for the depleted uranium remaining at the facility. In late 1977, the Licensee was acquired by Allegheny-Ludlum Industries. In 1979, the Licensee obtained a new NRC license, No. SUB-1357, to authorize the possession of depleted uranium contamination at the Harvard Avenue site and its remediation. License SUB-1357 superseded SUB-852. The license was last renewed, pursuant to 10 C.F.R. § 40.42(a), on January 10, 1990, and is continuing in effect.

Remediation activities at the Harvard Avenue site under License SUB-1357 began in 1979, with the expectation that the project would be completed in about 6 months. However, those activities were not completed within the term of the license. The NRC renewed the license five times between 1979 and 1984. As renewed on July 18, 1984, the Licensee included a condition requiring, within 1 year, the completion of decontamination, a final radiological survey, and a request for license termination. But again, these activities were not completed within the required time frame.

From 1985 through 1989, the NRC continued to take actions intended to lead to decontamination of the Harvard Avenue site. These actions included (1) amending the license on October 1, 1987, to require completion of decontamination by October 1, 1988; (2) issuing a Demand for Information on June 13, 1988; and (3) requesting a Confirmation of Commitment to complete the Harvard Avenue decontamination by March 17, 1989. While Chemetron performed some survey and decontamination work during this time, Chemetron did not then complete decontamination of the Harvard Avenue site. Chemetron's parent, Allegheny International, entered bankruptcy on February 20, 1988, and Chemetron then stopped spending money for decontamination until the Bankruptcy Court authorized such expenditures on March 9, 1989. This was one of several factors Chemetron claimed prevented completion of decontamination according to the required schedules. Some of Chemetron's claimed reasons for failing to meet the schedules had merit, but some did not.

Shortly after the Bankruptcy Court's authorization, Chemetron resumed decontamination activities at the Harvard Avenue site. Chemetron soon discovered, however, that it had significantly underestimated the amount of contamination at the site due to an inadequate characterization of that contamination. From 1989

to 1992, including Allegheny's emergence from bankruptcy in 1990 (Allegheny was reorganized as Sunbeam/Oster Company, Inc. (Sunbeam)), the NRC sought Chemetron's commitment to characterize and remediate the Harvard Avenue site. To that end, concurrent with the NRC's approval of a transfer of control over the license to Sunbeam through the reorganization, the NRC sought Chemetron's commitment to complete a revised remediation plan for the Harvard Avenue site, based on adequate site characterization. On August 31, 1990, Chemetron proposed to complete a revised remediation plan by March 1, 1991, and the NRC approved this schedule and the transfer of control of the license on September 11, 1990.

Chemetron, however, again failed to meet its schedule, and failed to meet subsequent revised schedules showing completion of site characterization by March 1, 1991, and completion of a revised remediation plan by August 16, 1991. While some characterization data had been obtained, the site characterization report submitted on July 28, 1991, was inadequate, and, consequently, Chemetron's August 16, 1991, remediation plan was also inadequate. Accordingly, the NRC sought to compel Chemetron to characterize the site. As a result, on May 5, 1992, the NRC and Chemetron entered into a Consent Order that established June 15, 1992, as the submittal date for the Final Site Characterization Report for the Harvard Avenue site. Chemetron met this date, and on January 8, 1993, the NRC approved the Final Site Characterization Report as an acceptable basis for developing a remediation plan.

After NRC acceptance of the Final Site Characterization Report, Chemetron, by license condition, established October 1, 1993, as the submittal date for the remediation plan. Chemetron submitted a remediation plan on this date that was incomplete. Accordingly, the NRC issued a Confirmatory Order to Chemetron on October 26, 1993, which required, *inter alia*, that all required portions of the remediation plan be submitted by November 15, 1993. Chemetron complied with this order.

On February 28, 1995, Chemetron submitted Revision 1 to its site remediation plan, which incorporated modifications as requested by the NRC. On June 7, 1996, the NRC approved Chemetron's revised remediation plan for the Harvard Avenue site and amended the license to authorize remediation of the site in accordance with the plan.

III. DISCUSSION

Since the petition was submitted to NRC, NRC Staff and inspectors have made numerous site visits to and inspections of the Harvard Avenue site. The inspections included routine safety inspections, which involved observing the status of site physical security provisions, verifying compliance with 10

C.F.R. Part 20 radiation protection requirements, and observing the condition of tarpaulins securing soil piles. In April 1992, NRC inspectors installed air sampling devices and thermoluminescent detectors to measure radioactivity levels at the Harvard Avenue site and verify Chemetron measurements. These monitoring efforts were discontinued in 1993 because the results indicated radioactivity was at background levels consistent with the continuing Chemetron monitoring results. The NRC inspections, site visits, and monitoring have ensured that public health and safety have been adequately protected.

As set forth above, Chemetron made progress (except for some time while in bankruptcy) toward remediating the Harvard Avenue site, but this progress was very slow. One major impediment to remediating the site was the lack of an adequate site characterization. The NRC's frustration with the slow progress toward adequate characterization of the site resulted in the NRC's entering into the Consent Order of May 5, 1992, which compelled Chemetron to submit an adequate Final Site Characterization Report on June 15, 1992. The characterization report was acceptable because it provided information on: (1) depleted uranium concentration levels not only on the surface, but also at depth; (2) depleted uranium concentration levels in soil piles; and (3) groundwater monitoring results. The NRC then required Chemetron, through a license condition, to submit a remediation plan for the Harvard Avenue site by October 1, 1993.

As described above, Chemetron did not meet its schedule for submitting an adequate remediation plan for the Harvard Avenue site, which resulted in the NRC issuing the Confirmatory Order of October 26, 1993. The Confirmatory Order led to the NRC's June 7, 1996 approval of Chemetron's site remediation plan. The NRC Staff concluded that this remediation plan, unlike the previous ones submitted by Chemetron, is adequate because (1) it is based on a comprehensive site characterization; (2) adequately describes the decommissioning activities; (3) provides acceptable radiological controls to protect workers and the public; (4) provides an adequate plan for conducting a final survey; and (5) provides an acceptable decommissioning cost estimate. By authorizing Chemetron to proceed, NRC Staff is confident that Chemetron can safely and successfully complete the remediation within the 1-year schedule proposed. In the NRC review of the Harvard Avenue remediation plan, NRC Staff considered the radiological controls that Chemetron would use during the remediation and the health and safety impacts of the proposed onsite disposal cell. Accordingly, NRC has now received adequate assurance from the Licensee that it has produced a final remediation plan that will lead to the ultimate decontamination of the Harvard Avenue site by the end of 1997.

In accordance with Commission policy, the Petitioner's request to impose sanctions was not granted as requested. On April 10, 1992, the Commission approved the "Action Plan to Ensure Timely Cleanup of Site Decommissioning

Management Plan Sites.” The Action Plan discussed the imposition of civil penalties for sites listed in NRC’s Site Decommissioning Management Plan (SDMP). (Chemetron’s Harvard Avenue site is one of the SDMP listed sites.) The Action Plan provides that civil penalties should be limited to two situations. Specifically, the Action Plan provides that “the NRC will consider civil penalties where (1) the licensee or responsible party fails to comply with an order compelling payment into an escrow account; or (2) the licensee or responsible party fails to comply with a requirement or an order compelling cleanup when there is already sufficient decommissioning funding.”

The clear intent of the Action Plan is to take into account the financial impact of a civil penalty on achieving decommissioning. In the Staff’s view, for schedular violations, the test should be the reasonableness of the Licensee’s efforts to achieve decommissioning in a timely manner. It is not the intent of NRC Staff to impose civil penalties where such penalties adversely affect the financial ability of the Licensee to properly complete decommissioning.

On May 11, 1994, NRC Staff issued a Notice of Violation and Proposed Civil Penalty of \$10,000 to Chemetron for submitting an incomplete remediation plan on the date established for the plan submittal set under a license condition (i.e., October 1, 1993). The base civil penalty of \$5000 was escalated because NRC identified the violation and because of the Licensee’s limited corrective action. The civil penalty reflected the poor progress that had been made at that time by the Licensee in the decommissioning. The NRC deferred imposition of the civil penalty until a final waste disposal option for both the Harvard Avenue site and Chemetron’s Bert Avenue site is approved, to ensure that sufficient funds have been set aside to carry out the decommissioning.

As set forth above, based on the Commission’s guidance in the Action Plan, NRC has not imposed sanctions as requested by the Petitioner. However, NRC Staff has taken appropriate enforcement actions where the Licensee did not achieve decommissioning milestones set out in the license.

Based on the above, the NRC Staff has taken appropriate actions to ensure the decontamination of the Harvard Avenue site. The most significant actions include the issuance of a license amendment (dated May 25, 1993) and two orders (dated May 5, 1992, and October 26, 1993) to establish schedules for the submittal of documents key to the Harvard Avenue site remediation and the issuance of a license amendment on June 7, 1996, authorizing Chemetron to proceed with the remediation. Further, based on a review of the Licensee’s actions regarding this decontamination effort, the NRC Staff has concluded that the Licensee has made adequate progress toward this end. Therefore, for all practical purposes, the Petitioner’s request to compel the remediation of the Harvard Avenue site has been granted to the extent that this is required by the License Amendments of May 25, 1993, and June 7, 1996, and the Orders of May 5, 1992, and October 26, 1993. However, NRC Staff does not consider that the

imposition of sanctions, beyond those proposed on May 11, 1994, is needed to compel completion of the Harvard Avenue site remediation. Therefore, we are denying the Petitioner's request to impose further sanctions. Finally, the Staff has concluded that no additional NRC actions are warranted concerning these requests. Should Chemetron fail to meet its 1-year schedule for decontamination of the Harvard Avenue site, NRC Staff will take appropriate action at that time.

IV. CONCLUSION

For the reasons discussed above, Petitioner's request that NRC compel Chemetron to commence action to decontaminate the Harvard Avenue site has been granted to the extent this is required by the License Amendments of May 25, 1993, and June 7, 1996, and the Orders dated May 5, 1992, and October 26, 1993. However, to the extent these actions were not taken in the time originally specified by Petitioner, the request is denied. Petitioner's second request that NRC impose sanctions against Chemetron for failing to comply with its November 14, 1988 Confirmation of Commitment to decontaminate the Harvard Avenue site, as requested by the Petitioner, has been denied. Further, no substantial public health and safety concerns currently exist that warrant additional NRC action concerning these requests.

As provided by 10 C.F.R. § 2.206(c), a copy of this Decision will be filed with the Secretary of the Commission for the Commission's review. The Decision will become a final action of the Commission twenty-five (25) days after issuance unless the Commission on its own motion institutes review of the Decision within that time.

FOR THE NUCLEAR
REGULATORY COMMISSION

Carl J. Paperiello, Director
Office of Nuclear Material Safety
and Safeguards

Dated at Rockville, Maryland,
this 3d day of July 1996.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

OFFICE OF NUCLEAR REACTOR REGULATION

William T. Russell, Director

In the Matter of

Docket No. 50-390

TENNESSEE VALLEY AUTHORITY
(Watts Bar Nuclear Plant)

July 9, 1996

The Director of the Office of Nuclear Reactor Regulation denied Petitioner's request under 10 C.F.R. § 2.206 that the NRC rescind the operating license of the Watts Bar Nuclear Plant (WBNP) due to what Petitioner claimed was a previously unreviewed problem related to radioactive sediments in the "Watts Bar Lake" (Lower Watts Bar Reservoir (LWBR)). The Director found that sediment from the LWBR could not be drawn into WBNP's cooling water as the LWBR is downstream from the plant. The Director also noted, with regard to Petitioner's claim that no action is being considered to remove radioactive material from the LWBR or restrict use of that body of water, that a DOE report on the reservoir describes selected remedial action to be taken with regard to the LWBR. Finally, the Director noted controls in place at WBNP to prevent radioactive material from being discharged into the environment and that the facility meets applicable NRC requirements sufficient to allow it to operate.

**FINAL DIRECTOR'S DECISION UNDER
10 C.F.R. § 2.206**

I. INTRODUCTION

On February 14, 1996, Ms. Faith Young (Petitioner) of Dixon Springs, Tennessee, submitted a letter requesting that the U.S. Nuclear Regulatory Commission (NRC), among other things, rescind the operating license of Watts

Bar Nuclear Plant (WBNP). The Petitioner's concern, as stated in her February 14 letter, is as follows:

Watts Bar lake water which cools Watts Bar nuclear plant's radioactive core holds sediment contaminated by radioactive material. Over a lifetime of Watts Bar nuclear plant operation uncontrolled access to this lake will disturb its sediment, in turn contaminating water drawn into the nuclear cooling system. This heightened radioactive contamination of nuclear plant emission has not been previously addressed. No action is being considered to restrict lake use or to remove radioactive material. This "record of decision" by Department of Energy, Environmental Protection Agency, U.S. Army Corps of Engineers, state of Tennessee and Tennessee Valley Authority appears in an interagency document dated September, 1995.

Since the document referred to by Ms. Young ("Record of Decision for the Lower Watts Bar Reservoir," DOE/OR/02-1373&D3, dated September 1995, hereinafter, the "Department of Energy (DOE) Report") clearly addresses Lower Watts Bar Reservoir (LWBR), the Staff has assumed, for purposes of this Decision, that the "Watts Bar lake" in Ms. Young's letter refers to the Lower Watts Bar Reservoir. On March 27, 1996, the Staff formally notified Ms. Young that her petition was being evaluated pursuant to section 2.206.

II. DISCUSSION

The DOE Report presents the selected remedial action being used to address the contamination of the LWBR "Operable Unit (OU)." The report attributes LWBR contamination to past activities at the DOE's Oak Ridge Reservation (ORR) and other non-DOE sources. The boundaries of the LWBR, as defined in the DOE Report, extend from the Watts Bar Dam at Tennessee River Mile (TRM) 529.9 on the Tennessee River, upstream to TRM 567.5 at the confluence of the Clinch and Tennessee Rivers. The DOE Report, at p. 2-2, discusses the selection of the Watts Bar Dam as the downstream boundary as follows:

The downstream boundary of the ORR was placed at Watts Bar Dam because earlier studies had shown that the vast majority of sediment-associated contaminants released from ORR had collected in lower Watts Bar Reservoir. Consequently, concentrations of sediment-associated contaminants released from ORR are much lower in reservoirs downstream of Watts Bar Dam. The level of Oak Ridge-derived contaminants detected in past studies in the Tennessee River system below the Watts Bar Dam were well below the concentrations determined to be of human health concerns by the baseline risk assessment within the Watts Bar Reservoir.

WBNP is located approximately 1.9 river miles downstream from the Watts Bar Dam on the west bank of the Chickamauga Lake. Chickamauga Lake is the next lake downstream from the LWBR and is bounded by the Chickamauga Dam approximately 57 miles downstream from WBNP. The intake and discharge for

cooling water to WBNP are located 1.9 or more river miles downstream from the Watts Bar Dam. Accordingly, it must be noted that WBNP is located outside and below the boundary of the area considered by the DOE Report. Therefore, since WBNP does not draw cooling water from within the boundary of the LWBR and does not discharge cooling water into the boundary of the LWBR, the operation of WBNP will have no effect on the sediment in the LWBR and, accordingly, will not cause contaminated sediment to be drawn into WBNP.

The Petitioner's understanding that the LWBR holds sediment contaminated by radioactive material is consistent with the DOE Report (*see* p. 2-2) and with information in the NRC Staff's "Final Environmental Statement Related to the Operation of Watts Bar Nuclear Plant, Units 1 and 2," (FES) NUREG-0498, Supplement 1, § 2.5 (April 1995). The NRC Staff stated therein that "Operations at the Oak Ridge Reservation have historically resulted in the release of radionuclides to the aquatic environment. . . . Most of the releases occurred during the 1950s and have declined since." The NRC Staff concluded in the FES, Supplement 1, that there are no significant changes in environmental impacts as a result of changes in plant design, procedures or proposed methods of plant operation, or changes in the environment.

By contrast, the Petitioner's claim that "no action is being considered to restrict lake use or to remove radioactive material" is not consistent with the DOE Report. The DOE Report's "Statement of Basis and Purpose" (at p. 2-2) states that the Report "presents the selected remedial action for the LWBR OU." The "Description of Selected Remedy" (at p. 2-2) and "The Selected Remedy" (at p. 2-10) describe the selected remedy as the "continuance of existing controls and advisories regarding LWBR activities" and the "Monitoring Plan." The DOE Report (at p. 2-9) also notes that "[t]he state of Tennessee and other federal agencies are already implementing the main components of the preferred alternative." With respect to the removal of radioactive sediments, the DOE Report (at p. 2-9) states that "The cost of the preferred alternative is much lower and a more effective use of funds when compared to active remediation of sediments." In other words, a remedy has been developed for the contamination in the LWBR and the purpose of the DOE Report is to present that remedy.

Notwithstanding the conclusion that operation of WBNP will not disturb the sediment in the upstream LWBR, the WBNP Technical Specifications (TS) and the associated Offsite Dose Calculation Manual require programs and controls for the control of radioactive effluents from the plant itself. Such controls include limitations on the concentrations of radioactive material released in liquid effluents from the plant. The Staff evaluated control of radioactive effluents by WBNP in section 11 of NUREG-0847, "Safety Evaluation Report Related to the Operation of Watts Bar Nuclear Plant, Units 1 and 2." The Staff concluded therein that WBNP meets applicable regulations (10 C.F.R. § 20.1302;

10 C.F.R. Part 50, Appendix A, General Design Criteria 60, 63, and 64) and other guidance documents and is therefore acceptable for operation.

The NRC Staff's review did not substantiate the Petitioner's assertions. The Petitioner did not offer information that indicated any need to revisit the Staff's previous evaluations.

III. CONCLUSION

For the reasons given above, Petitioner's request to rescind the operating license of the WBNP is denied. As explained above, the NRC Staff concludes that the Petitioner has not raised any substantial health and safety issues as the Staff believes that there is no appreciable threat to the public health and safety presented by WBNP's effluent water. Accordingly, the Petitioner's request for action pursuant to section 2.206, as specifically stated in the letter of February 14, 1996, is denied.

A copy of this Final Director's Decision will be filed with the Secretary of the Commission for the Commission's review in accordance with 10 C.F.R. § 2.206(c). This Decision will become the final action of the Commission 25 days after issuance unless the Commission, on its own motion, institutes review of the Decision within that time.

**FOR THE NUCLEAR
REGULATORY COMMISSION**

**William T. Russell, Director
Office of Nuclear Reactor
Regulation**

**Dated at Rockville, Maryland,
this 9th day of July 1996.**

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

**Peter B. Bloch, Chairman
Dr. James H. Carpenter
Thomas D. Murphy**

In the Matter of

**Docket Nos. 50-424-OLA-3
50-425-OLA-3
(ASLBP No. 93-671-01-OLA-3)
(Re: License Amendment)
(Transfer to Southern Nuclear)**

**GEORGIA POWER COMPANY,
et al.
(Vogtle Electric Generating Plant,
Units 1 and 2)**

August 19, 1996

The case was dismissed after the sole intervenor withdrew his petition and contention pursuant to a settlement with Georgia Power Company, et al. The Licensing Board determined that the withdrawal could be permitted after reviewing the effect of the withdrawal on the issues pending in the proceeding. It determined, without reviewing the settlement agreement, that it was in the public interest to accept the withdrawal of the petition and the contention.

RULES OF PRACTICE: SETTLEMENT

When a party requests to withdraw a petition pursuant to a settlement, it is appropriate for a licensing board to review the settlement to determine whether it is in the public interest. 10 C.F.R. § 2.759. When the board has held extensive hearings and has analyzed the record, it may not need to see the settlement

agreement in order to conclude that the withdrawal of the petition is in the public interest.

RULES OF PRACTICE: WITHDRAWAL OF PETITION

Intervenor requested to withdraw his petition. The Licensing Board, knowing that the withdrawal was pursuant to a settlement agreement, reviewed the settlement to determine if it was in the public interest. 10 C.F.R. § 2.759.

The Board had held extensive hearings and had analyzed the record. It was convinced, even without seeing the settlement agreement, that the withdrawal of the petition was in the public interest.

MEMORANDUM AND ORDER

(Motions: Reconsideration, Termination of the Proceeding)

Memorandum

We have before us the question of whether or not to dismiss this case because Allen Mosbaugh has withdrawn his participation as the sole Intervenor based on a settlement between the parties. The unique question we face is whether to permit the withdrawal even though the parties have not shown us the settlement and, consequently, we have not reviewed it in light of 10 C.F.R. § 2.759.¹

I. LEGAL BACKGROUND

A. The Regulation

Some parties have filed settlement agreements with licensing boards pursuant to 10 C.F.R. § 2.759, which states:

§ 2.759 Settlement in initial licensing proceedings.

The Commission recognizes that the public interest may be served through settlement of particular issues in a proceeding or the entire proceeding. Therefore, to the extent that it is not inconsistent with hearing requirements in section 189 of the Act (42 U.S.C. 2239), the fair and reasonable settlement of contested initial licensing proceedings is encouraged.

¹ Georgia Power Company, et al. (Georgia Power) filed a "Motion for Reconsideration of June 28, 1996 Memorandum and Order or in the Alternative for Certification," July 16, 1996. On August 2, we received (1) Intervenor's Response, (2) a "Joint Notice of Termination" filed jointly by Georgia Power and Intervenor, and (3) a "Withdrawal of Allen L. Mosbaugh." Mr. Mosbaugh informs us that he is withdrawing and the parties have asked us to dismiss the case "with prejudice." The Nuclear Regulatory Commission Staff (Staff) responded on August 6, 1996 (Staff Response).

It is expected that the presiding officer and all of the parties to those proceedings will take appropriate steps to carry out this purpose.

This regulation encourages “fair and reasonable” settlements. If a party withdraws appropriately, there is no further intervention and the case is at an end. *Houston Lighting and Power Co.* (South Texas Project, Units 1 and 2), ALAB-799, 21 NRC 360, 382 (1985); *see also Public Service Co. of Colorado* (Fort St. Vrain Independent Spent Fuel Storage Installation), attachment to CLI-91-13, 34 NRC 190 (1990) (withdrawal pursuant to an agreement prior to the admission of a contention or a party).

B. Commission and Appeal Board Precedent

There is no decision by the Appeal Board or by the Commission that squarely decides whether or not a board should review a settlement for its fairness. This lack of clear authority is illustrated in the following table:

Case	Analysis
<i>Public Service Co. of Colorado</i> (Fort St. Vrain Independent Spent Fuel Storage Installation), attachment to CLI-91-13, 34 NRC 190 (1990)	The Commission permitted the State of Colorado to withdraw its Petition for Leave to Intervene pursuant to an agreement with the Public Service Commission. The Commission studied the agreement, which was filed with it. It said in its opinion that the agreement resolved the State’s concerns regarding the PSC application.
<i>Houston Lighting and Power Co.</i> (South Texas Project, Units 1 and 2), ALAB-799, 21 NRC 360, 382 (1985)	There is no indication in this opinion concerning the effect of a settlement, as the only action before the Commission was the withdrawal of a party from the proceeding. The Appeal Board said that when the one intervenor withdraws from an operating license proceeding, then the proceeding is at an end.
<i>Consumers Power Co.</i> (Palisades Plant), ALAB-70, 5 AEC 280, 288 (1972)	The settlement agreement was made an exhibit in the record. The Appeal Board did not analyze the agreement in its opinion but stated that a Board has jurisdiction only over contested issues.

Because the Federal Rules of Civil Procedure are considered to be suggestive with respect to NRC procedures, particularly where there is no clear precedent, we reviewed those rules. Rule 23(e) requires a court to approve a settlement in a class action case. This is consistent with other sections of the same rule, requiring courts to protect the members of a class. In NRC proceedings, intervenors represent themselves and do not meet class action requirements. Intervenors also represent public interests, which is the principal reason for providing a public forum for intervention; but there is no direct applicability of Rule 23(e) to the NRC context.

The applicable NRC regulation, 10 C.F.R. § 2.759, is primarily forward looking, encouraging the parties and the Board to seek a reasonable settlement. Despite the qualifying adjectives, the regulation does not state that the Board should approve a settlement. If that obligation rests on the Board, it is implied from the regulation rather than stated. The Commission's guidance to us about our role in negotiations, *Statement of Policy on Conduct of Licensing Proceedings*, CLI-81-8, 13 NRC 452, 455 (1981), is suggestive in this context. The guidance states:

The parties should be encouraged to negotiate at all times prior to and during the hearing to resolve contentions, settle procedural disputes, and better define issues. Negotiations should be monitored by the board through written reports, prehearing conferences, and telephone conferences, but the boards should not become directly involved in the negotiations themselves.

There are two inferences from this guidance. First, we are not to be involved in the *process* of negotiation, presumably to prevent us from obtaining nonrecord information by participating in the ongoing negotiations. Second, we are supposed to "monitor" that process, presumably to ensure that the effect of negotiations on the proceeding is in some way acceptable to the Board.

Another regulation of arguable relevance is 10 C.F.R. § 2.1241. That section provides for the review of settlements in Subpart L or informal proceedings. It states:

The fair and reasonable settlement of proceedings subject to this subpart is encouraged. A settlement must be approved by the presiding officer or the Commission as appropriate in order to be binding in the proceeding.

That section, which undoubtedly was intended to be at least as informal as section 2.759, requires a review if a settlement is "to be binding in the proceeding." That section does not give explicit directions to us about how to treat a voluntary withdrawal from a proceeding pursuant to a settlement.

C. Licensing Board Cases

Generally, settlement agreements have been filed with licensing boards and considered by them. For example, in *Philadelphia Electric Co.* (Limerick Generating Station, Units 1 and 2), LBP-89-24, 30 NRC 152 (1989), the parties completed a settlement agreement in this operating license case and presented the agreement to the Board, which *reviewed the settlement agreement* and reached the following conclusions: The agreement's provisions are not inconsistent with the statutes and regulations under which the NRC functions, and the agreement is not "contrary to regulation." The Board stated that:

In accordance with the Commission's longstanding policy of encouraging fair and reasonable settlements of contested initial licensing issues, the Licensing Board accepts the settlement agreement.

30 NRC at 153. It appears that the Board in *Limerick* used words found in 10 C.F.R. § 2.759, which it assumed to apply to the review of settlements. *See also Combustion Engineering, Inc.* (Hematite Fuel Fabrication Facility), LBP-89-31, 30 NRC 320 (1989). In that proceeding, conducted pursuant to 10 C.F.R. Part 2, Subpart L, the parties concluded a settlement agreement pursuant to which the only active intervenor withdrew. The Presiding Officer approved the withdrawal of the party after first accepting the stipulation that was a part of the agreement. The Presiding Officer found that the "terms [of the stipulation] are not inconsistent with NRC regulations and represent a fair settlement for the parties." *See* 10 C.F.R. § 2.1241, which requires a settlement to be approved "in order to be binding in the proceeding."

Other cases decided by licensing boards generally support review of settlements, as may be seen from studying the following table:

Case

Analysis

Baltimore Gas and Electric Co.
(Calvert Cliffs Nuclear Power Plant, Units 1 and 2), LBP-73-15, 6 AEC 375, 377 (1973)

The Board considered the settlement agreement, commented that it met the party's basic concern as presented to the Board, and accepted the request to terminate the proceeding. Accordingly, the proceeding was dismissed.

Pacific Gas and Electric Co.
(Humboldt Bay Power Plant, Unit 3), LBP-88-4, 27 NRC 236, 238 (1988)

The Board "approved the stipulation" and dismissed the proceeding.

Texas Utilities Electric Co. (Comanche Peak Steam Electric Station, Units 1 and 2), LBP-88-18A, 28 NRC 101 (1988); LBP-88-18B, 28 NRC 103 (1988)

Tennessee Valley Authority (Browns Ferry Nuclear Plant, Units 1, 2, and 3), LBP-73-43, 6 AEC 1062, 1063 (1973)

General Public Utilities Nuclear Corp. (Three Mile Island Nuclear Station, Unit 2), LBP-92-29, 36 NRC 225 (1992)

Sacramento Municipal Utility District (Rancho Seco Nuclear Generating Station), LBP-94-23, 40 NRC 81 (1994)

Upon submission of an extensive settlement agreement, which the Board reviewed and published, this operating license case was dismissed without explanation of the standard applied in accepting the agreement.

A motion to dismiss was filed with the Board accompanied by a Notice of Withdrawal of Intervention, a Settlement Agreement and a Brief in Support of the motion to dismiss. In dismissing the case, the Board did not discuss whether or not the settlement was fair and reasonable. It dismissed because there was "no intervenor and no issues in controversy remaining." It is possible to infer that the Board, which had seen the agreement, either had no problems with it or that it did not think it had a role in reviewing the agreement.

Prior to the admission of a party, the petitioners entered into a joint agreement with the applicant to dismiss the action. The Board did not receive or review the agreement. The Board dismissed the proceeding without seeing the agreement, but it refused to dismiss the action with prejudice because it had not seen the agreement and the basis for dismissing with prejudice was not established.

A Board terminated a proceeding based on a "notice of withdrawal with prejudice." The Board did not inquire about whether the withdrawal was based on a settlement. Presumably, the failure to inquire means that the Board did not consider the possible existence of an agreement to be relevant to its action.

The stage at which the withdrawal occurs may be relevant. The entire proceeding in this case is over. A public record, consisting of procedural motions, orders, written and oral testimony, and evidentiary exhibits, was developed and is available for public scrutiny. The Board has a draft decision that is almost ready for publication. Now, having engaged the public decision-making apparatus, the parties come to the Board announcing a settlement but not willing to reveal that settlement to the public and not wanting the Board to issue its opinion. It can be argued that it is not in the public interest that our analysis of the public record should be withheld from the parties and the public, even though the parties have settled the issues between them.

II. CONCLUSION

The parties would have us dismiss this case automatically because the Intervenor has withdrawn and because they do not think the Commission's Rules of Practice require a review of the settlement. *See, for example*, Staff Response at 1, 6-7. If there were a withdrawal that was not produced by a settlement, we might agree with this position. We note that the regulations are less clear about reviewing settlements in operating license and amendment cases than they are in enforcement cases, where the public interest is clearer. 10 C.F.R. § 2.203. Nevertheless, when a withdrawal is a result of a settlement, it is appropriate for the Board to protect the public interest.

We are convinced that there is a strong public policy in favor of settlements reflected in 10 C.F.R. § 2.759. Settlements are encouraged, even at a late stage of a proceeding. A settlement averts further costs that could be incurred by the parties and the NRC if appeals are filed, as they usually are. Furthermore, a settlement permits the parties to fashion a solution that goes beyond the power of a licensing board, which must decide issues before it according to the applicable law. Parties may examine other aspects of their relationship and fashion a solution that may better serve all who are affected and reach for a win/win solution.

We have concluded that the Commission has two policies that should both be served. First, the Commission encourages settlements. Second, the Commission desires to have a record that assures it that the public interest has been served, particularly in cases that have been fully tried at great expense to the public.

In this case, both interests shall be served. The parties have expressed an unwillingness to reveal the terms of the settlement. Though they have not revealed the reasoning for this reluctance, it seems likely that it is related to the terms of the settlement, which was made subsequent to a decision by the Secretary of Labor in favor of Mr. Mosbaugh. Secretary of Labor, Case No. 90-ERA-30, *Marvin B. Hobby v. Georgia Power Co.*, August 4, 1995, and

Secretary of Labor, Case Nos. 91-ERA-1 and 91-ERA-11, *Allen Mosbaugh v. GPC*, November 20, 1995. While a public disclosure of this settlement would permit public scrutiny of the consequences of potential actions with respect to whistleblowers, we do not consider disclosure of the details of a settlement to be essential.

We have no reason to believe that there is anything improper about the settlement in this case. Both sides are represented by competent lawyers and have made reasonable, well-considered decisions during the prosecution of this case. Georgia Power has assured the Board that nothing in the settlement agreement will prohibit, restrict, or otherwise discourage Mr. Mosbaugh from participating in protected activity under section 211 of the Energy Reorganization Act or reporting any nuclear safety concern or any suspected improper activity to the NRC or any other federal or state governmental agency. Georgia Power Motion for Reconsideration at 2 n.1. In addition, Intervenor has stated that he has raised all his safety or regulatory concerns before the NRC. He also remains free to communicate any additional concerns to the NRC and nothing in the proposed settlement would interfere with the free flow of information to the NRC. Intervenor's Response at 2 n.1.

We have no reason to suspect that the agreement, which neither the Board nor the Staff has seen, is in any way improper. *See* Staff Response, *passim*.

We have full knowledge of the record of this proceeding, which permits us to determine the possible safety consequences of not publishing our Initial Decision. We reviewed the safety concerns raised by the Intervenor and, because of our concern about Georgia Power's difficulty in ascertaining and revealing the root cause of its misrepresentations to the NRC, created and analyzed an extensive record on a variety of root-cause issues existing in 1990. We are satisfied, based on our analysis of the record, that the Staff has been an active guardian of the public interest at Plant Vogtle and, to the extent that they may have not already done so, that the Staff will take the record we have developed into account in exercising its continuing authority. *See* Notice of Violation and Proposed Imposition of Civil Penalty (NOV) and Demands for Information (DFI), May 9, 1994; Modified Notice of Violation and Proposed Imposition of Civil Penalties, February 13, 1995; Notice of Violation (Department of Labor Case Nos. 90-ERA-30, and 91-ERA-011), May 29, 1996.

Based on our assessment of the safety considerations reflected in our record, we find that there is no practical reason to review the settlement in this case in order to protect the public interest. If there were unresolved safety issues, we undoubtedly would feel differently about that.

III. REQUEST FOR DISMISSAL WITH PREJUDICE

Georgia Power and the Intervenor, with Staff concurrence (Staff Response at 10), request that we dismiss this case "with prejudice." Practically speaking, this legal nicety has no effect in this case. Such a formal order would preclude Allen Mosbaugh from filing a new petition against Georgia Power. To successfully file a new petition, even if we do not dismiss "with prejudice," Mr. Mosbaugh would have to meet the well-nigh Herculean burden of showing how his refiled petition was "timely."

We have decided to dismiss this case without commenting in our order on whether or not the dismissal is with prejudice. *Three Mile Island, supra*. (Since the Board did not see the agreement, it refused to dismiss the action with prejudice, as requested by the parties.) The basis for dismissing with prejudice was not established by the parties in this case. Once we determine that a petition to intervene may be withdrawn, there is no further license amendment case.² We do not consider ourselves authorized to effectuate a provision of a settlement agreement that we have not seen.

We accept the withdrawal of the Intervenor, Allen L. Mosbaugh, from these proceedings. Having approved the Intervenor's request to withdraw, pursuant to principles explained in this Memorandum, the Licensee's Motion for Reconsideration will be granted for reasons set forth above.

Order

For all the foregoing reasons and upon consideration of the entire record in this matter, it is, this 19th day of August 1996, ORDERED that:

²Faced with a petition to withdraw, a licensing board must decide whether to grant the petition. In the case before us, the denial of the petition would have resulted in our issuing the Final Initial Decision. In other cases, where the proceeding is not finished, a Board might have the additional problem of proceeding with an unwilling party or even without the assistance of a party. Without a willing party, the Board could continue the proceeding only by declaring a *sua sponte* issue and notifying the Commission.

Georgia Power Company, et al.'s June 28, 1996 Motion for Reconsideration is *granted* and the settlement agreement need not be filed with the Board. This case is *dismissed*.

THE ATOMIC SAFETY AND
LICENSING BOARD

James H. Carpenter (by PBB)
ADMINISTRATIVE JUDGE

Thomas D. Murphy
ADMINISTRATIVE JUDGE

Peter B. Bloch, Chairman
ADMINISTRATIVE JUDGE

Rockville, Maryland

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

OFFICE OF NUCLEAR REACTOR REGULATION

William T. Russell, Director

In the Matter of

Docket No. 50-390

TENNESSEE VALLEY AUTHORITY
(Watts Bar Nuclear Plant,
Unit 1)

August 15, 1996

By a letter dated January 25, 1996, and supplemented by a letter dated January 30, 1996, Ms. Jane A. Fleming (Petitioner) requested a fair and impartial review of the entire licensing process for the Watts Bar Nuclear Plant, Unit 1 (Watts Bar), operated by the Tennessee Valley Authority (TVA) and further requested that the low-power license for Watts Bar be suspended or revoked until such review is completed and the issues in dispute are resolved. The request was considered as a petition submitted pursuant to 10 C.F.R. § 2.206.

In a Director's Decision issued on August 15, 1996, the Director of Nuclear Reactor Regulation denied the relief sought by Petitioner. The Director concluded that Petitioner had failed to provide a basis to warrant a review of the Watts Bar licensing process and has failed to raise any safety concerns that would warrant suspension or revocation of the operating license for Watts Bar.

DIRECTOR'S DECISION UNDER 10 C.F.R. § 2.206

I. INTRODUCTION

By a letter dated January 25, 1996, to NRC Chairman Jackson, Ms. Jane Fleming (Petitioner) requested that the U.S. Nuclear Regulatory Commission (NRC) take action with regard to the Watts Bar Nuclear Plant, Unit 1 (Watts Bar), operated by the Tennessee Valley Authority (TVA or Licensee). Specifically, Petitioner requested that a full and impartial review of the entire Watts Bar

licensing process be conducted, examining the review procedures used by NRC and the validity of the information presented by TVA, and that the low-power license for Watts Bar be suspended or revoked until such review is completed and the issues in dispute are resolved. Petitioner also suggested that, if the Chairman did not choose to initiate her own review, the letter be considered under section 2.206 of Title 10 of the *Code of Federal Regulations* (10 C.F.R. § 2.206). Petitioner supplemented the January 25, 1996 letter with another letter dated January 30, 1996, to Chairman Jackson.

The Commission referred the letters to me for treatment as a petition pursuant to section 2.206 of the Commission's regulations.

The Petitioner asserted that the NRC Staff was not fully aware of TVA's license commitments and adherence to these commitments when it issued a low-power license to TVA on November 9, 1995. Specifically, Petitioner asserted that a letter from Stewart D. Ebnetter, Regional Administrator, NRC Region II, to Oliver Kingsley, TVA, dated January 12, 1996, stated that there were open issues regarding the radiation monitoring system for Watts Bar when TVA requested an operating license. Petitioner asserted that this raised a question about the conclusion drawn by the NRC Staff in Supplement 16 to the Watts Bar Safety Evaluation Report (SSER 16)¹ issued in September 1995 that the system meets the acceptance criteria of the Standard Review Plan² and is, therefore, acceptable. Petitioner also asserted that the NRC Staff, in its licensing review, was not aware of the criteria applicable to the licensing of Watts Bar. The specific bases for these assertions involved the design, installation, and testing of the radiation monitors at Watts Bar. The Petitioner also briefly refers to concerns associated with microbiologically induced corrosion (MIC) and security, as well as a concern that the large number of deviations described in the SER supplements documenting the NRC licensing review of Watts Bar presents questions about the current state of TVA's compliance with NRC requirements. In her January 30th letter, Petitioner listed the deviations from SSERs 15,³ 16, and 18.⁴ These deviations are associated with radiation monitors, other instruments, and fire protection.

On the basis of these assertions, Petitioner sought a full review of the entire Watts Bar licensing process, and suspension or revocation of the Watts Bar license until the review is completed.

¹ U.S. Nuclear Regulatory Commission, "Safety Evaluation Report Related to the Operation of Watts Bar Nuclear Plant, Units 1 and 2 (Docket Nos. 50-390 and 50-391)," Supplement 16 to NUREG-0847, September 1995.

² U.S. Nuclear Regulatory Commission, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants" (LWR Ed.), NUREG-0800 (formerly issued as NUREG-75/087), July 1981.

³ U.S. Nuclear Regulatory Commission, "Safety Evaluation Report Related to the Operation of Watts Bar Nuclear Plant, Units 1 and 2 (Docket Nos. 50-390 and 50-391)," Supplement 15 to NUREG-0847, June 1995.

⁴ U.S. Nuclear Regulatory Commission, "Safety Evaluation Report Related to the Operation of Watts Bar Nuclear Plant, Units 1 and 2 (Docket Nos. 50-390 and 50-391)," Supplement 18 to NUREG-0847, October 1995.

By letter dated February 7, 1996, I acknowledged receipt of the petition, and denied Petitioner's request for immediate suspension or revocation of the low-power license. By letter dated March 7, 1996, the NRC Staff informed Petitioner that the full-power license for Watts Bar was issued on February 7, 1996. The full-power license superseded the low-power license that Petitioner requested be suspended or revoked. However, the NRC Staff indicated that it would continue its review of the petition and would take whatever action would be appropriate, including suspension or revocation of the full-power license, if warranted. The NRC Staff also advised Petitioner that the information previously provided with respect to the issues on MIC and security was insufficient to permit evaluation and that additional information would be needed to enable these matters to be considered pursuant to section 2.206. Petitioner has not provided any additional information on these issues, so these issues will not be further considered herein.⁵

By letter dated April 3, 1996, the NRC Staff informed Petitioner that the NRC did not intend to hold an informal public hearing regarding this petition.

By letter dated March 7, 1996, the NRC Staff requested that TVA respond to the NRC, addressing points raised in the petition. TVA responded by letter dated April 8, 1996.

I have completed my evaluation of the petition. As explained below, Petitioner has failed to provide a basis to warrant a review of the Watts Bar licensing process and has failed to raise any safety concerns that would warrant suspension or revocation of the operating license for Watts Bar. Thus, Petitioner's request is denied.

II. BACKGROUND

On September 27, 1976, TVA submitted an application for an operating license for Watts Bar, including a Final Safety Analysis Report (FSAR) which described the design, construction, testing, and operation of the plant. The NRC Staff conducted an extensive review of TVA's application. The results of the review were documented in a Safety Evaluation Report⁶ (SER). TVA subsequently submitted ninety amendments to the FSAR which the NRC Staff reviewed. The NRC Staff thereafter issued twenty supplements to the SER documenting the results of this review. In addition, the Staff inspected various aspects of the design, construction, and testing of Watts Bar, and documented

⁵In her petition, Petitioner noted that she had requested that the NRC's Office of Inspector General (IG) act as a vehicle regarding certain security issues. In late 1995, prior to submitting her petition, Petitioner assisted the IG in pursuing security concerns. The IG forwarded information regarding the concerns to the NRC Staff. The NRC Staff evaluated the concerns in accordance with Management Directive 8.8, "Management of Allegations," and concluded that no NRC action was warranted.

⁶U.S. Nuclear Regulatory Commission, "Safety Evaluation Report Related to the Operation of Watts Bar Nuclear Plant, Units 1 and 2 (Docket Nos. 50-390 and 50-391)," NUREG-0847, June 1982.

the results in inspection reports. On November 9, 1995, the NRC Staff issued a low-power operating license for Watts Bar Unit 1, which allowed TVA to load fuel and operate the plant up to a maximum power level of 5%. On January 30, 1996, the NRC Staff and TVA attended the NRC Commission meeting to discuss TVA's readiness to operate Watts Bar Unit 1 up to rated power. The Commission subsequently authorized the NRC Staff to issue a full-power operating license for Watts Bar Unit 1. The full-power license was issued on February 7, 1996.

Toward the end of the Watts Bar licensing review and before the submittal of the petition, the NRC Staff had extensive contact with Petitioner concerning various issues associated with Watts Bar. By letters dated July 27, August 22, and December 20, 1995, Petitioner raised issues associated with Watts Bar, including public participation in the Watts Bar licensing process and decommissioning cost associated with Watts Bar. By letters dated August 17 and September 5, 1995, the NRC Staff responded to various issues raised by her. In addition, the NRC Staff conducted frequent conference calls with Petitioner to gain a better understanding of the issues of concern to her, and to explain the results of the NRC Staff's ongoing assessment of these concerns.

III. DISCUSSION

A. Open Inspection Issues

Petitioner refers to a letter from Stewart D. Ebnetter, Regional Administrator, NRC Region II, to TVA, dated November 3, 1995. Specifically, Petitioner cites the following language from that letter:

The problems and schedules resulted in System 90 [the radiation monitoring system] being the last of the major systems to be completed and turned over to the operating staff and there were several issues still open when TVA submitted the letter to NRC requesting the operating license.

Petitioner contends that the fact that Mr. Ebnetter acknowledges open issues associated with the radiation monitoring system brings into question the conclusion by the NRC Staff in SSER 16 that, "the process and effluent radiological monitoring and sampling system for Watts Bar Unit 1 complies with 10 C.F.R. 20.1302 and General Design Criteria (GDC) 60, 63, and 64."

The NRC Staff's evaluation of the process and effluent radiological monitoring and sampling system is described in section 11.5 of SSER 16. The conclusion in SSER 16 addresses the system as described by TVA in the FSAR. The adequacy of implementation is reviewed by NRC inspectors, and the results are documented in inspection reports. This is generally an effort for which the

NRC regional office has responsibility. As implementation proceeds, it is not uncommon for inspectors to identify open issues associated with implementation that must be addressed by a licensee. For example, there was an issue regarding training of TVA personnel on the operation of the radiation monitoring system at Watts Bar. This issue was identified as an open issue during an inspection in November 1995. TVA agreed to complete the training prior to initial criticality. The training was subsequently conducted, and the open issue was closed by the NRC in January 1996. Thus, the open issues referred to in Mr. Ebnetter's letter dated November 3, 1995, are part of the normal NRC licensing process, and do not raise questions about the conclusions in SSER 16.

In January 1996, the NRC conducted a special inspection of the radiation monitors at Watts Bar (*see* NRC Inspection Report 50-390/96-01). The inspection focused on the technical issues raised by Petitioner. The inspection concluded that selected effluent monitors and postaccident radiation monitors at Watts Bar had been calibrated and installed in accordance with the TVA's commitments, and the installation met NRC requirements.

In SSER 16, the NRC Staff concluded that design and testing requirements for the process and effluent radiological monitoring and sampling system for Watts Bar Unit 1 complied with 10 C.F.R. § 20.1302 and Part 50, Appendix A, GDCs 60, 63, and 64. In addition, the Staff conducted numerous inspections of the radiation monitoring system at Watts Bar. Open issues were identified and resolved to the satisfaction of the NRC Staff before licensing, enabling the NRC Staff to conclude that the installation and testing of the radiation monitoring system at Watts Bar met NRC requirements.

B. Regulatory Requirements and Licensee Commitments

Petitioner contends that the NRC Staff was not fully aware of TVA's commitments and TVA's adherence to those commitments when the NRC issued the low-power license for Watts Bar. Petitioner further asserts that the lack of understanding resulted from a lack of adherence to NRC procedures or "misinformation" provided by TVA, or a combination of both. Petitioner bases this assertion on NRC documents, including SSER 16. Petitioner quotes the following from SSER 16:

On the basis of its review, the staff concludes that the process and effluent radiological monitoring and sampling system for Watts Bar Unit 1 complies with 10 C.F.R. 20.1302 and GDCs 60, 63, and 64. The staff also concludes that the system design conforms to the guidelines of NUREG-0737 . . . Item II.F.1 . . . RGs 1.21 and 4.15, and applicable guidelines of RG 1.97. Thus, the system meets the acceptance criteria of SRP Section 11.5 and is, therefore, acceptable.

Petitioner contends that TVA did not implement specific guidelines in Regulatory Guide (RG) 4.15⁷ and ANSI N13.10⁸ at Watts Bar, and that there is no indication that the NRC Staff approved deviations from these guidelines.

RG 4.15 describes a method acceptable to the NRC Staff for designing a program to ensure the quality of the results of measurements of radioactive material in the effluents and environment outside of nuclear facilities during normal operation. ANSI N13.10 is an industry standard that provides guidance for instrumentation used to continuously monitor radioactive effluents.

Petitioner also contends that RG 1.21⁹ and ANSI N13.1¹⁰ have not been met at Watts Bar. RG 1.21 provides methods acceptable to the NRC Staff for measuring and reporting radioactivity in effluents from nuclear power plants. ANSI N13.1 is an industry standard that provides guidance for sampling airborne radioactivity in nuclear facilities.

The requirements that must be met before a plant can be licensed are defined in NRC regulations, including the General Design Criteria in 10 C.F.R. Part 50, Appendix A. GDCs 60, 63, and 64 address the radiation monitoring systems.

Over the years, the NRC Staff has prepared a number of guidance documents, such as Regulatory Guides, that describe methods that are acceptable to the Staff for meeting the requirements in the regulations. However, except for a few Regulatory Guides that are specifically referenced in a regulation or referenced in or incorporated into a license, these documents do not constitute requirements. RG 4.15 contains the following statement:

Regulatory Guides are issued to describe and make available to the public methods acceptable to the NRC staff of implementing specific parts of the Commission's regulations, to delineate techniques used by the staff in evaluating specific problems or postulated accidents, or to provide guidance to applicants. Regulatory Guides are not substitutes for regulations, and compliance with them is not required.

In addition, the industry has developed many documents, such as ANSI Standards, in which methods are described for meeting certain requirements contained in the regulations. To varying degrees, the NRC Staff has endorsed these documents as providing acceptable methods for meeting the regulations. But again, adherence to these guidance documents is not mandatory.

⁷U.S. Nuclear Regulatory Commission, "Quality Assurance for Radiological Monitoring Programs (Normal Operations) — Effluent Streams and the Environment," Revision 1 to Regulatory Guide 4.15, February 1979.

⁸ANSI N13.10-1974, "Specification and Performance of On-Site Instrumentation for Continuously Monitoring Radioactivity in Effluents."

⁹U.S. Nuclear Regulatory Commission, "Measuring, Evaluating, and Reporting Radioactivity in Solid Wastes and Releases of Radioactive Materials in Liquid and Gaseous Effluents for Light-Water-Cooled Nuclear Power Plants," Revision 1 to Regulatory Guide 1.21, June 1974.

¹⁰ANSI N13.1-1969, "Guide to Sampling Airborne Radioactive Materials in Nuclear Facilities."

As an applicant develops the design of a system such as the radiation monitoring system, it may choose to "commit" to one or more of these NRC or industry reference documents. If an applicant commits to a document, then it should satisfy the guidelines contained in the document or request authorization from the NRC Staff for a "deviation." The NRC Staff specifically approves or denies each deviation requested.

However, an applicant may choose not to commit to a specific document, but may instead choose an alternative approach to meeting a regulatory requirement. When an applicant chooses to do this, the NRC Staff must evaluate the alternative approach to determine if it meets the regulation. The design of each nuclear power plant, including commitments and alternative approaches, is described in the FSAR specific to each plant and prepared by the applicant, and submitted to the NRC for review.

The NRC Staff's review of an application is guided by the Standard Review Plan (NUREG-0800). However, like Regulatory Guides, the Standard Review Plan imposes no requirements. Each section of the Standard Review Plan contains the following statement: "Standard review plans are not substitutes for regulatory guides or the Commission's regulations and compliance with them is not required."

As the NRC Staff reviews an application, the reviewer will often use the guidelines contained in a Regulatory Guide or ANSI standard as a measure of whether the application complies with the regulations. In such cases, the reviewer will often attempt to determine whether the application satisfies the intent of the guidelines in a Regulatory Guide or ANSI standard. This does not mean that the Regulatory Guide or ANSI standard becomes a requirement or a commitment, and it does not mean that the application must meet every guideline in the standard to be found acceptable.

The radiation monitoring system at Watts Bar must comply with GDCs 60, 63, and 64. In addition, TVA has committed to Regulatory Guides 1.21, 1.68 (Revision 2),¹¹ and 1.97 (Revision 2)¹² which address, at least in part, the radiation monitoring system.¹³ More importantly in the context of this petition, TVA has specifically stated that it is not committed to RG 4.15.

Petitioner asserts that the statement in SSER 16 quoted above commits TVA to comply with RG 4.15. Petitioner further asserts that this assumed commitment requires that TVA also meet all of the guidelines contained in ANSI N13.10

¹¹ U.S. Nuclear Regulatory Commission, "Initial Test Program for Water-Cooled Reactor Power Plants," Revision 2 to Regulatory Guide 1.68, August 1978.

¹² U.S. Nuclear Regulatory Commission, "Instrumentation for Light-Water-Cooled Nuclear Power Plants to Assess Plant Conditions During and Following an Accident," Revision 2 to Regulatory Guide 1.97, December 1980.

¹³ Although Petitioner contends that TVA has not satisfied RG 1.21 and ANSI N13.1, Petitioner provides no basis for this assertion. In fact, the NRC Staff has determined that Watts Bar satisfies RG 1.21. TVA has not committed to meet ANSI N13.1 and there is no requirement that it do so.

because ANSI N13.10 is referenced in RG 4.15. Petitioner contends that, if any guideline in RG 4.15 or ANSI N13.10 is not met, TVA must submit a request for a deviation to the NRC Staff for approval.

These assertions are in error for the following two reasons.

First, TVA has explicitly stated in a letter dated July 21, 1995 (referenced at p. 11-1 of SSER 16), that it is not committed to RG 4.15, although TVA noted that Watts Bar “generally agrees with and satisfies the intent of RG 4.15. . . .” Accordingly, the TVA application was not reviewed to ensure adherence to RG 4.15. Rather, the application was reviewed to ensure that regulatory requirements and guidance to which TVA did commit were satisfied. On p. 11-28 of SSER 16, the NRC Staff states: “The staff finds that the radiation monitoring system for Watts Bar Unit 1 meets the intent and purpose of RG 4.15, with respect to quality assurance provisions for the system.” This statement in SSER 16 is an acknowledgment of and agreement with TVA’s statement that Watts Bar generally meets the intent of RG 4.15. However, the NRC Staff did not review Watts Bar to the standards of RG 4.15, and strict adherence to RG 4.15 was not required.

Second, even if TVA were committed to RG 4.15, that would not commit TVA to ANSI N13.10 merely because it is referenced in RG 4.15. RG 4.15 specifically states:

Guidance on principles and good practices in the monitoring process itself and guidance on activities that can effect *[sic]* the quality of monitoring results . . . are outside the scope of this guide. However, some references are provided to documents that do provide some guidance in these areas [43 separate references are cited in the guide]. The citation of these references does not constitute an endorsement of all of the guidance in these documents by the NRC staff. Rather, these references are provided as sources of information to aid the licensee. . . .

Petitioner identifies three technical issues as a basis for the assertion that ANSI N13.10 was not met. As described above, TVA is not required to meet ANSI N13.10. The NRC Staff has reviewed the radiation monitoring system and inspected its implementation. The system satisfies NRC requirements.

Thus, RG 4.15 and ANSI N13.10, which Petitioner contends were not implemented at Watts Bar, are not commitments, and TVA was not required to implement these guidelines or to request deviations from them. TVA documented the fact that it was not committed to RG 4.15, and the NRC Staff was aware of this, as is indicated by the language referred to above from SSER 16.

The NRC Staff acknowledges that the language in SSER 16 that Watts Bar “conforms” to RG 4.15 could cause confusion. Accordingly, the NRC Staff

attempted to clarify. in SSER 20¹⁴ the conclusion reached in SSER 16. In SSER 20, the NRC Staff explicitly acknowledged that TVA was not committed to RG 4.15, ANSI N13.1, or ANSI N13.10. The NRC Staff clarified that Watts Bar meets the intent of RG 4.15 with respect to quality assurance provisions for the radiation monitoring system. The NRC Staff revised the statement in SSER 16 cited above to read:

The staff also concludes that the system design conforms to the guidelines of NUREG-0737 (TMI Action Plan I.I.F.1, Attachment 1 and 2), RG 1.21, and applicable guidelines of RG 1.97 (Revision 2). The staff further concludes that the system design meets the intent and purpose of RG 4.15.

As stated in SSER 20, the NRC Staff has concluded that the radiation monitoring system at Watts Bar meets the "intent and purpose" of RG 4.15. The intent and purpose of RG 4.15 is to provide an acceptable method to comply with applicable NRC requirements. However, as discussed above, alternatives to RG 4.15 may also be found to be acceptable in meeting this intent and purpose of RG 4.15 (i.e., compliance with applicable NRC requirements). In its review of Watts Bar, the NRC Staff has concluded that applicable NRC requirements have been satisfied while not necessarily conforming to all the details of RG 4.15. Thus, although the Staff's conclusion in SSERs 16 and 20 could have been clearer, as explained above, TVA did not commit to RG 4.15.

For these same reasons, Petitioner's assertions provide no basis to conclude that TVA provided "misinformation" in this area. Rather, the NRC Staff properly evaluated the radiation monitoring system at Watts Bar and correctly determined that the applicable regulatory requirements were satisfied prior to licensing.

C. Deviations from Regulatory Guides

By letter dated January 30, 1996, Petitioner submitted a list of deviations from Regulatory Guides that Petitioner extracted from the Watts Bar SER and supplements. Petitioner questioned whether an overall review of the aggregate effect of the deviations had been performed for Watts Bar.

Each deviation is reviewed by the NRC Staff and, if found to be acceptable, is approved in an SER. It should be noted that a deviation is an alternative. Approval of a deviation does not suggest that a lesser safety standard has been applied. The NRC Staff reviews each program area described in the FSAR, and related regulatory documents to ensure that the program complies with regulatory requirements. That review includes an assessment of the impact of

¹⁴U.S. Nuclear Regulatory Commission, "Safety Evaluation Report Related to the Operation of Watts Bar Nuclear Plant, Units 1 and 2 (Docket Nos. 50-390 and 50-391)," Supplement 20 to NUREG-0847, February 1996.

any deviations requested by a licensee. Thus, the integrated impact of any requested deviations on a program is considered as part of the review of that program.

Accordingly, the concern raised by Petitioner regarding the overall effect of the deviations approved at Watts Bar has not raised a safety issue that would warrant suspension or revocation of the operating license for Watts Bar.

Accordingly, Petitioner has not provided a basis to warrant a review of the Watts Bar licensing process, nor has Petitioner identified a safety concern that would warrant suspension or revocation of the operating license for Watts Bar.

IV. CONCLUSION

The institution of proceedings in accordance with section 2.206, as requested by Petitioner, is appropriate only where substantial safety issues have been raised. See *Consolidated Edison Co. of New York* (Indian Point, Units 1, 2, and 3), CLI-75-8, 2 NRC 173, 175 (1975), and *Washington Public Power Supply System* (WPPSS Nuclear Project No. 2), DD-84-7, 19 NRC 899, 923 (1984). This is the standard I have applied to the petition. Petitioner has not raised any substantial safety concerns with regard to Watts Bar. Therefore, Petitioner's request to revoke or suspend the operating license for Watts Bar is denied.

A copy of this Decision will also be filed with the Secretary for the Commission's review as provided in 10 C.F.R. § 2.206(c) of the Commission's regulations.

As provided by this regulation, the Decision will constitute the final action of the Commission 25 days after issuance, unless the Commission, on its own motion, institutes a review of the Decision within that time.

FOR THE NUCLEAR
REGULATORY COMMISSION

William T. Russell, Director
Office of Nuclear Reactor
Regulation

Dated at Rockville, Maryland,
this 15th day of August 1996.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judge:

Peter B. Bloch, Presiding Officer
Dr. Peter Morris, Special Assistant

In the Matter of

Docket No. 55-21849-OT
(ASLBP No. 96-716-01-OT)
(Re: License Amendment)
(Transfer to Southern
Nuclear)

EMERICK S. MCDANIEL
(Denial of Application for
Reactor Operator License)

September 3, 1996

After reviewing in detail each of the claims made in this informal proceeding, conducted under 10 C.F.R. Part 2, Subpart L, the Presiding Officer sustained the Staff of the Nuclear Regulatory Commission in its determination that the applicant did not pass the written portion of his examination to become a licensed operator of a nuclear power plant.

INITIAL DECISION

Emerick McDaniel, a reactor operator license applicant at Plant Vogtle, requested an informal hearing to substantiate his claim that he passed the written examination for a reactor operator.¹ The Nuclear Regulatory Commission (NRC)

¹This is an informal hearing under 10 C.F.R. Part 2, Subpart L. See 10 C.F.R. § 2.1201(a)(2). Pursuant to 10 C.F.R. § 2.1231, the NRC Staff (Staff) submitted the Hearing File on July 3, 1996.

has jurisdiction of this appeal. The NRC helps to ensure the health and safety of the public by requiring reactor operators to successfully demonstrate their knowledge of nuclear power plant operation before they are licensed. *See Alfred J. Morabito* (Senior Operator License for Beaver Valley Power Station, Unit 1), LBP-88-10, 27 NRC 417 (1988) and LBP-88-16, 27 NRC 583 (1988); *Roger W. Ellingwood* (Senior Operator License for Catawba Nuclear Station), LBP-89-21, 30 NRC 68 (1989). Part 55 of Title 10 of the *Code of Federal Regulations* contains the NRC regulations implementing section 107 of the Atomic Energy Act; these regulations require that applicants for reactor operator licenses pass both a written examination and an operating test.

On the written examination, Mr. McDaniel was scored by the examiner as correctly answering 77 of 100 multiple choice questions, for a score of 77%, which does not meet the 80% minimum score required to pass. *See* NUREG-1021, "Operator Licensing Examiner Standards," section ES-402, page 5 of 6. In response to Mr. McDaniel's request, the Staff completed an informal review that sustained his failing grade. Hearing File item 21, attach. at 2-7.

Initially, Mr. McDaniel challenged the grading of Questions 7, 8, and 16 on his examination. Subsequently, he also challenged Question 19.² The Staff concedes the validity of the challenge concerning Question 19³ but contests the other challenges. Mr. McDaniel must be sustained in two of three remaining challenges to pass the examination. Below, the challenges are considered one at a time.

I. QUESTION 7

A. The Question and Answer

1. The Question

7. Given the following conditions:

- You are performing a whole body frisk using a portable frisker.
- Background radiation is at the MAXIMUM allowed level for performing a whole body frisk.

Which ONE of the following is the count rate at which you are considered to be "Contaminated"?

- a. 100 counts per minute
- b. 200 counts per minute
- c. 300 counts per minute
- d. 400 counts per minute

² Letter from Emerick S. McDaniel, July 30, 1996 (McDaniel Presentation).

³ Written Presentation of NRC Staff, August 27, 1996 (Staff Presentation), at 6.

2. *The Answer*

The correct answer was (c), 300 counts per minute. Mr. McDaniel's answer was (b), 200 counts per minute.

B. Legitimacy of Question

Mr. McDaniel argues that the source for the answer to this material is the GET badge retraining handbook. He submitted for consideration, with his Presentation, the Georgia Power, "Vogtle Electric Generating Plant Training Lesson Plan," August 17, 1993, and he argues that he was trained in the materials listed on page 4 of that Plan. He concludes that mastery of the GET badge retraining handbook was outside the scope of his licensing course and should have been outside the scope of the exam. Presentation at 1.

Whether the question is proper is governed by NRC regulations and published guidance, including 10 C.F.R. § 55.41(b)(11)-(12) and NUREG/BR-0122 (which references a companion volume, a handbook on knowledge and abilities [K/A] of operators of pressurized water reactors, NUREG-1122). The K/A handbook, at KA 194001 K1.03, specifies knowledge that the test may cover, including "knowledge of 10 C.F.R. 20 and related facility radiation control requirements."

Hence, I conclude that a test item on radiation control requirements is a permitted subject. Absence of this subject from the training course is not relevant to the appropriateness of the question.⁴

C. Ambiguity

Mr. McDaniel also argues that Question 7 is ambiguous as to whether it is referring to a "net count rate above background" or to a "gross count rate." However, I do not see any ambiguity. First, the applicant was told he was to assume he was using a portable frisker. Second, the question emphasizes that background radiation is the MAXIMUM allowed level for performing a frisk. At this point, if he had the required knowledge of radiation procedures, Mr. McDaniel would know that the MAXIMUM count rate for background is 200 (the maximum is the rate at which a person is required to go to another frisker and to report the high level to health physics personnel). GET Handbook, Hearing File item 22, attach. 2 at 68. He also should know, from the handbook, that when the metered count rate increases by 100 cpm above background, to 300 c.p.m. (the correct answer), he should report that event to health physics immediately.

⁴ Since it is the NRC regulatory materials that determine the scope of the examination, Mr. McDaniel's further argument that Question #7 is "not procedurally driven . . ." also is irrelevant.

Mr. McDaniel argues that the question does not specify whether the count rate to be reported in the answer should be 300 c.p.m. (gross rate) or 100 c.p.m (net rate or difference). I am not impressed by this possible ambiguity. Problems of that kind may be raised with the examiner. Staff Presentation, Exh. 1 at 5 of 6, ¶9. If, indeed, the question were ambiguous, Mr. McDaniel's argument would avail him only if he gave one of the two permissible answers. Since his answer is different from either of the answers that he considers permissible, it is wrong.

The use of a frisker is an important requirement for plant personnel, who must check themselves "at every frisking station posted." Hearing Record, #17 of attach. 2. Georgia Power provides annual training in these procedures and Mr. Emerick McDaniel was trained in January 1995. Staff Presentation, Exh. 2 (Affidavit of John Munro) at 2, ¶5.

II. QUESTION 8

A. The Question and Answer

1. The Question

8. Given the following:

- An operating procedure is being performed to restore a system to service following system maintenance during an outage.
- An error is discovered in the sequence of steps in the procedure which, if performed, would result in starting a pump without the required seal water.

Which ONE of the following actions should be taken?

- a. Obtain the Unit Shift Supervisor's permission to perform the steps out of sequence.
- b. Stop the performance of the procedure at the incorrect step, and request a procedure change.
- c. Continue with the procedure, performing the steps in the correct sequence, since the errors are obviously typographical.
- d. Continue with the procedure performing the steps in the correct sequence, and request a procedure change to correct the order of the steps after completion.

2. The Answer

Mr. McDaniel's answer was (a), obtaining the Unit Shift Supervisor's permission to perform the steps out of sequence. The "correct" answer, according to the Staff, is (b).

B. Analysis

Mr. McDaniel claims that his answer is a reasonable interpretation of the plant procedures. If his interpretation is reasonable, then there may be an ambiguity

in the procedures. This would be a problem for Georgia Power but not for the applicant. A reasonable interpretation of ambiguous plant operating procedures should be graded as "correct" on the operator's test.

I have read Mr. McDaniel's answer and have traced his thinking through the procedures. In one instance, I relied on a procedural definition not relied on by Mr. McDaniel. That definition explained the meaning of the "intent" of a procedure.

Mr. McDaniel relies on Procedure 0054-C, Rev. 9, Vogtle Electric Generating Plant Rules for Performing Procedures. On page 4 of 10, ¶4.1.4, the following text appears:

FOLLOW STEPS IN SEQUENCE, UNLESS SPECIAL CIRCUMSTANCES WARRANT OR DEVIATIONS ARE ALLOWED by the procedure. See step 4.2.7.

NOTE

Operation's Unit Operating Procedures (UOPs) have many tasks which may be performed concurrently. The Unit Shift Supervisor may allow procedural steps to be performed out of sequence if it does not: result in omission of required work, violate the intent of the procedure, or create an unsafe plant condition.

Step 5.2.7, referenced in ¶4.1.4, provides the following definitions for application in this context:

The phrases "UNDERSTAND THE SAFETY AND REGULATORY IMPLICATIONS," AND ["UNLESS SPECIAL CIRCUMSTANCES WARRANT" are clarified as follows. In certain situations, it may be acceptable to use a procedure to perform an evolution not specifically described in the procedure, for example, using an equipment operating procedure to troubleshoot a piece of equipment. Care must be taken to ensure that the actions will not produce negative consequences as a result of the evolution. The personnel must know what effect the actions will have, and ensure that the actions will not violate plant commitments.

On page 10 of 10 of Procedure 54-C, there is a reference to Procedure 52-C, "Temporary Change to Procedures." The intent of the reference is not clear. However, I have noticed that the term "intent of the procedure," used in the note on page 4 of 10, is not defined in Procedure 54-C but it is defined in Procedure 52-C at page 2 of 10, § 2.2 **CHANGE OF INTENT**, which states:

The intent of a procedure is considered to be changed if steps are added or deleted which cause:

A change in the purpose or scope of the procedure.

A change to VEGP administrative procedures or a change reducing administrative control established in VEGP administrative procedures.

A change which deviates from the FSAR or Technical Specifications.

A change in acceptance criteria less conservative than previously established.

I conclude that the intent of the procedure being implemented in Question 8 of the examination is to start a pump *with* the required seal water. No steps are added or deleted, so rearranging the steps does not meet the premise for “CHANGE OF INTENT.” Furthermore, for Mr. McDaniel to ask for a supervisory waiver, pursuant to the NOTE, he would have to stop what he is doing and wait for supervisory action. Then there apparently would be no change in the administrative procedures for the plant, so none of the criteria are met for determining that there has been a CHANGE OF INTENT.

I agree with the Staff that the procedure should NOT work this way. A matter like this ought to be handled as a temporary change in procedures, with appropriate engineering review and coordination. However, I find that Mr. McDaniel is appropriately relying on plant procedures. The remedy here is to change the procedures. Under current procedures, Mr. McDaniel’s answer is permissible and therefore right.

III. QUESTION 16

A. Question and Answer

1. Question

16. Which ONE of the following statements is correct regarding the DESIGN of the RCP shaft seals [*sic*] ability to withstand full RCS pressure?
- Only the #1 seal is capable of withstanding full RCS pressure.
 - Seals #1 and #2 are independently capable of withstanding full pressure but only for 30 minutes.
 - Seals #1 and #2 are independently capable of withstanding full pressure indefinitely.
 - Seal #1 is capable of withstanding full pressure indefinitely but seal #2 is only capable of withstanding full pressure for only 30 minutes.

2. Answer

The correct answer provided by the NRC is (d). Mr. McDaniel answered (c).

B. Analysis and Conclusion

Mr. McDaniel argues that the 30-minute limit before seal #2 would fail is not supported either in the Reactor Coolant Pump Instruction Manual, 2X6AB09-119 or in Plant Procedure 13003 RCP. However, Mr. McDaniel was taught the #2 seal is “good for 30 minutes.” Lesson Outline (LI-LP-16401), Attach. 2

to Record #18. Furthermore, the Reactor Coolant Pump Instruction Manual, cited by Mr. McDaniel (Presentation at 2), states that when the No. 1 seal is inoperative, "The pump may be operated for a period not to exceed an additional 30 minutes." While Mr. McDaniel is technically correct that this "allows a total of 35 minutes," this does not excuse Mr. McDaniel's answer that, "Seals #1 and #2 are independently capable of withstanding full pressure indefinitely." That answer is wrong and it could result in inappropriate operator action.

IV. OVERALL CONCLUSION

The only matter before me is whether Mr. McDaniel passed his examination. I conclude that he did not. I have ruled that his answers to questions 7 and 16 are wrong. While I was prepared to rule that his answer to Question #8 was correct, that discussion is not essential to my decision and should be treated as a nonbinding opinion.

V. ORDER

For all the foregoing reasons and upon consideration of the entire record in this matter, it is, this 3rd day of September 1996, ORDERED that:

1. Mr. Emerick S. McDaniel's appeal of the denial of his application for a reactor operator's license is *denied*.

2. Within 15 days, Mr. McDaniel may appeal this Order pursuant to 10 C.F.R. §§ 2.786 and 2.763. Judicial review may not be sought unless a timely petition for review is filed. The petition should comply with all the provisions of the cited sections, including those related to length and content and that describe the considerations based on which the Commission may grant the petition.

Peter B. Bloch, Presiding Officer
ADMINISTRATIVE JUDGE

Rockville, Maryland

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

**G. Paul Bollwerk, III, Chairman
Dr. Jerry R. Kline
Dr. Thomas S. Elleman**

In the Matter of

**Docket No. 50-029-DCOM
(ASLBP No. 96-718-01-R)**

**YANKEE ATOMIC ELECTRIC
COMPANY
(Yankee Nuclear Power Station)**

September 27, 1996

In this proceeding concerning citizen group challenges to the decommissioning plan for the Yankee Nuclear Power Station, the Licensing Board grants Licensee Yankee Atomic Electric Company's (YAEC) motion for summary disposition. The Board concludes the Intervenor failed to establish any genuine disputed material factual issues regarding YAEC's showing that the differential between the total occupational doses associated with facility decommissioning under its chosen DECON decommissioning option and the alternative SAFSTOR option would not fall outside of the generic DECON/SAFSTOR differential "envelope" previously recognized by the Commission as significant in assessing whether a licensee's choice of the DECON decommissioning option would transgress either the principle that radiation doses should be kept "as low as reasonably achievable" (ALARA) or the dictates of the National Environmental Policy Act of 1969 (NEPA).

RULES OF PRACTICE: SUMMARY DISPOSITION (BURDEN OF PROOF)

The party filing a summary disposition motion has the burden of demonstrating the absence of any genuine issue of material fact. *See Advanced Medical Systems, Inc.* (One Factory Row, Geneva, Ohio 44041), CLI-93-22, 38 NRC 98, 102 (1993). In this regard, 10 C.F.R. § 2.749(a) requires that the moving party include a statement of material facts about which there is no genuine issue to be heard. In contrast, the opposing party must append to its response a statement of material facts about which there exists a genuine issue to be heard. If the responding party does not adequately controvert material facts set forth in the motion, the party faces the possibility that those facts may be deemed admitted. If, however, the evidence before the Board does not establish the absence of a genuine issue of material fact, then the motion must be denied even if there is no opposing evidence. *See Cleveland Electric Illuminating Co.* (Perry Nuclear Power Plant, Units 1 and 2), ALAB-443, 6 NRC 741, 753-54 (1977). Nevertheless, a party opposing a motion cannot rely on a simple denial of the movant's material facts, but must set forth specific facts showing there is a genuine issue of material fact. *See* 10 C.F.R. § 2.749(b).

RULES OF PRACTICE: SUMMARY DISPOSITION (MATERIALITY OF FACTUAL DISPUTE)

A presiding officer need consider only those purported factual disputes that are "material" to the resolution of the issues raised in a summary disposition motion. *See Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 248 (1986) (factual disputes that are "irrelevant or unnecessary" will not preclude summary judgment).

RULES OF PRACTICE: SUMMARY DISPOSITION (GENUINE DISPUTED MATERIAL ISSUE OF FACT)

In opposing summary disposition by seeking to establish the existence of a genuine dispute regarding a material factual issue, a party must present sufficiently probative evidence. *See Anderson*, 477 U.S. at 249 (evidence that is "merely colorable" or is "not significantly probative" will not preclude summary judgment).

RULES OF PRACTICE: SUMMARY DISPOSITION (DISCOVERY; GENUINE DISPUTED MATERIAL ISSUE OF FACT)

In opposing summary disposition by seeking to establish the existence of a genuine dispute regarding a material factual issue, a party that had discovery

following the filing of the dispositive motion generally cannot interpose claims based on a lack of information as the valid basis for a genuine material factual dispute.

RULES OF PRACTICE: SUMMARY DISPOSITION (EXPERT OPINION; GENUINE DISPUTED MATERIAL ISSUE OF FACT)

In opposing summary disposition by seeking to establish the existence of a genuine dispute regarding a material factual issue, a party's bald assertion, even when supported by an expert, will not establish a genuine material factual dispute. See *United States v. Various Slot Machines on Guam*, 658 F.2d 697, 700 (9th Cir. 1981) (in the context of a summary judgment motion, an expert must back up his opinion with specific facts); see also *McGlinchy v. Shell Chemical Co.*, 845 F.2d 802, 807 (9th Cir. 1988) (expert's study based on "unsupported assumptions and unsound extrapolation" cannot be used to support summary judgment motion).

TECHNICAL ISSUE DISCUSSED:

Proportionality between occupational exposure rate for completed decommissioning activities and exposure rate for additional radioactive inventory.

**MEMORANDUM AND ORDER
(Granting Motion for Summary Disposition)**

This proceeding was convened to consider the challenges of Intervenors Citizens Awareness Network, Inc. (CAN), and the New England Coalition on Nuclear Pollution (NECNP) to various aspects of the decommissioning plan put forth by Licensee Yankee Atomic Electric Company (YAEC) for its Yankee Nuclear Power Station (Yankee Rowe). In LBP-96-15, 44 NRC 8 (1996), we admitted a single Intervenor contention contesting the efficacy of YAEC's decision to use a modified DECON decommissioning option (under which decommissioning is to be completed relatively promptly after facility operation is completed) rather than the SAFSTOR option (which provides for decommissioning only after the facility has been maintained in a "stored" condition for an extended period following operation). According to the Intervenors, the Licensee's choice runs afoul of both the regulatory principle that occupational doses should be maintained "as low as reasonably achievable" (ALARA) and the dictates of the National Environmental Policy Act of 1969 (NEPA).

Now pending before the Board is a YAEC motion for summary disposition relative to the Intervenor's contention. In its motion, YAEC requests the Board find, as a matter of law, its modified DECON decommissioning alternative does not entail occupational radiation doses that fall outside the previously analyzed generic parameters within which the Commission has found a licensee's choice of either the DECON or SAFSTOR option will be deemed acceptable for ALARA or NEPA purposes. The NRC Staff supports that motion; the Intervenor vigorously oppose it.

For the reasons set forth below, we conclude YAEC has established there are no genuine disputed material facts and it is entitled, as a matter of law, to a decision in its favor regarding the CAN/NECNP contention.

I. BACKGROUND

The procedural story of this proceeding up to this juncture has been described elsewhere. *See* CLI-96-7, 43 NRC 235, 241-46 (1996); CLI-96-1, 43 NRC 1, 5 (1996); CLI-95-14, 42 NRC 130, 131-33 (1995); LBP-96-15, 44 NRC at 12-21; LBP-96-2, 43 NRC 61, 65-68 (1996). Now before the Board is a lone Intervenor contention regarding the YAEC plan for decommissioning the Yankee Rowe facility that we admitted in a July 31, 1996 memorandum and order.¹ It provides:

For Yankee Rowe facility decommissioning, YAEC and the NRC Staff have incorrectly assumed that the dose differential between the DECON and SAFSTOR alternatives is less than the 900 person-rem differential deemed acceptable in the 1988 [final generic environmental impact statement (GEIS) supporting the agency's 1988 decommissioning rule]. In fact, the dose differential would be significantly higher than 900 person-rem. Therefore, the ALARA and NEPA cost-benefit balances must be re-evaluated, taking into account the significant radiological dose savings afforded by the SAFSTOR alternative.

LBP-96-15, 44 NRC at 22. In our July ruling, we concluded that a "proportionality" argument proffered by the Intervenor provided a sufficient basis for accepting this contention. Based on the information then presented by the Intervenor, we found that because the projected dose figures for certain near-term decommissioning activities entailed doses that could not be considered de

¹Initially, the Board dismissed the Intervenor's hearing petition for want of any litigable contentions. *See* LBP-96-2, 43 NRC at 91-92. Although the Commission subsequently affirmed this ruling on appeal, it sent back for consideration under the "late-filing" standards of 10 C.F.R. § 2.714(a)(1) information filed by the Intervenor after our ruling dismissing the hearing petition. *See* CLI-96-7, 43 NRC at 277. In LBP-96-15, 44 NRC at 21-37, we determined the Intervenor's so-called "new dose argument" constituted a new contention, the terms of which are set forth in the text below; found the contention met the standards for late-filing; and concluded that contention was supported by an adequate basis, i.e., the "proportionality" theory discussed below. None of the parties filed an appeal from or sought reconsideration of these determinations.

minimis when compared with YAEC figures on total doses for all completed activities and because the remaining facility radioactivity level was not insignificant, there was a reasonable possibility the Intervenor could establish a total DECON dose for completed and future activities that fell outside the 900 person-rem differential reflected in the 1988 GEIS.² This, the Board decided, presented the requisite material factual dispute warranting further inquiry so as to permit admission of the Intervenor's contention. *See id.* at 36.

In accepting this contention, the Board also noted that resolving its merits involved two distinct litigation stages: an "envelope" phase and a "relief" phase. As we described it:

The "envelope" phase involves a determination of whether the YAEC DECON decommissioning process will result in occupational doses that exceed the 900 person-rem GEIS "envelope" such that additional ALARA and/or NEPA analysis is necessary. If we should decide that, in fact, the GEIS parameters have been exceeded to a degree that warrants further ALARA and/or NEPA analysis, only then do we need to consider the question of "relief" regarding the appropriate manner for providing that analysis and litigating its sufficiency.

Id. at 37. Because the Board then had pending before it a YAEC "conditional" request for summary disposition, with supporting affidavit, that generally addressed the "envelope" phase of Intervenor's challenge to the Licensee's DECON option choice,³ in accord with earlier Commission guidance the Board established an expedited litigation schedule for considering that motion and, if necessary, holding an evidentiary hearing. *See id.* at 37-45.

Initially, Intervenor CAN and NECNP had a chance to obtain both informal and formal discovery from YAEC and the Staff on the "envelope" phase of their challenge. Discovery closed on August 30, 1996, without the parties bringing any discovery disputes to the Board for resolution. Thereafter, the Licensee had an opportunity to supplement its summary disposition request, which it did in a September 3, 1996 filing that included a statement of uncontested

² Regarding the 900 person-rem differential that the Commission previously has indicated is significant relative to the validity of a licensee's choice between the DECON and SAFSTOR options, *see* CLI-96-7, 43 NRC at 251-53, in LBP-96-15, 44 NRC at 13 n.2, we noted:

This 900 person-rem figure reflects the approximate difference between the GEIS estimated total reference pressurized water reactor (PWR) DECON decommissioning occupational dose of 1,215 person-rem and the GEIS estimated SAFSTOR occupational dose of 333 person-rem that would be accrued using a 30-year storage period at the reference PWR. *See* Office of Nuclear Regulatory Research, USNRC, NUREG-0586, "Final Environmental Impact Statement on Decommissioning of Nuclear Facilities" (Aug. 1988) at 4-8 (Table 4.3-2). The GEIS was prepared in support of the 1988 rule that is the basis of pertinent NRC decommissioning requirements. *See* 53 Fed. Reg. 24,018 (1988).

³ *See* Conditional Motion for Summary Disposition ("New Dose Argument") (July 10, 1996); Memorandum of [YAEC] in Opposition to Late Filed "New Dose Information" and in Support of Conditional Motion for Summary Disposition (July 10, 1996) [hereinafter YAEC Summary Disposition Memorandum]; Affidavit of Russell A. Mellor (July 10, 1996) [hereinafter Mellor Summary Disposition Affidavit].

facts and supporting affidavits.⁴ Under the Board's schedule, the Staff had the chance to seek summary disposition as well; instead, the Staff chose to file a response in support of YAEC's motion, with supporting affidavits.⁵ At nearly the same time, acting under the Board's schedule, the Intervenor filed a response in opposition to YAEC's motion, with a statement of disputed material facts and a supporting affidavit.⁶ The Licensee then filed a reply to the Intervenor's opposition, with a supporting affidavit, while the Intervenor sought leave to file a reply to the Staff's supporting response, with an accompanying reply pleading and supporting affidavit.⁷

⁴ See Memorandum of [YAEC] in Support of Motion for Summary Disposition (Sept. 3, 1996) [hereinafter YAEC Supplemental Memorandum]; Statement of Uncontested Facts (Sept. 3, 1996) [hereinafter YAEC Uncontested Facts]; Affidavit of Dade W. Moeller, Ph.D. (Aug. 27, 1996) [hereinafter Moeller Affidavit] Supplemental Affidavit of Russell A. Mellor (Sept. 3, 1996) [hereinafter Mellor Supplemental Affidavit].

⁵ See NRC Staff's Response in Support of [YAEC's] Motion for Summary Disposition (Sept. 9, 1996) [hereinafter Staff Response]; Affidavit of Charles A. Willis in Support of the NRC Staff's Response in Support of [YAEC's] Motion for Summary Disposition (Sept. 9, 1996) [hereinafter Willis Affidavit]; Affidavit of Morton B. Fairtile in Support of the NRC Staff's Response in Support of [YAEC's] Motion for Summary Disposition (Sept. 9, 1996) [hereinafter Fairtile Affidavit].

⁶ See [CAN/NECNP] Opposition to YAEC's Motion for Summary Disposition (Sept. 10, 1996) [hereinafter CAN/NECNP Opposition]; [CAN/NECNP] Statement of Material Facts in Dispute (Sept. 10, 1996) [hereinafter CAN/NECNP Disputed Facts]; Affidavit of Marvin Resnikoff, Ph.D. (Sept. 6, 1996) [hereinafter Resnikoff Opposition Affidavit].

⁷ See Reply Memorandum of [YAEC] (Motion for Summary Disposition) (Sept. 13, 1996) [hereinafter YAEC Reply]; Supplemental Affidavit of Russell A. Mellor (Sept. 13, 1996) [hereinafter Mellor Reply Affidavit]; [CAN/NECNP] Conditional Agreement to Unauthorized Filing of NRC Staff's Response in Support of YAEC's Motion for Summary Disposition, and Motion for Leave to Reply (Sept. 13, 1996); [CAN/NECNP] Reply to NRC Staff's Response in Support of YAEC's Motion for Summary Disposition (Sept. 13, 1996); [CAN/NECNP] Reply Statement of Material Facts in Dispute (Sept. 13, 1996) [hereinafter CAN/NECNP Reply Disputed Facts]; Reply Affidavit of Marvin Resnikoff, Ph.D. (Sept. 12, 1996) [hereinafter Resnikoff Reply Affidavit].

As part of their September 13, 1996 filings, the Intervenor asserted the Staff's September 9 response was inappropriate under the Board's July 31, 1996 scheduling directive, which established a deadline for the Staff to file a summary disposition motion. In providing for a Staff summary disposition motion, it was not the Board's intent to abrogate the provisions of 10 C.F.R. § 2.749(a), which indicate that any party to a proceeding can file an answer to a summary disposition motion "supporting or opposing the motion." As such, the Staff's pleading was appropriate.

Regarding the Intervenor's request to file a reply to the Staff's response, which the Staff opposes, see NRC Staff's Opposition to Intervenor's September 13, 1996 Motion for Leave to Reply (Sept. 17, 1996), the Intervenor's motion is not strictly in compliance with our requirement that a party seek Board approval prior to filing a reply (other than for a YAEC or Staff reply to a summary disposition motion response). See LBP-96-15, 44 NRC at 41, 43. Nonetheless, because the Intervenor's responsive filing is consistent with our general concern, as reflected in the summary disposition schedule, that they have an opportunity to respond to any initial Staff filing regarding summary disposition, see *id.* at 43, we grant the CAN/NECNP motion.

We cannot say the same for a September 17, 1996 intervenor motion seeking leave to file what is in essence a reply to the Licensee's reply to their opposition to YAEC's dispositive motion. See [CAN/NECNP] Motion for Leave to Reply to YAEC's Reply Memorandum (Summary Disposition) (Sept. 17, 1996). As YAEC points out in its opposition to that motion, the opportunity afforded the Licensee and the Staff to file a reply "is not a general absolution for all replies in the summary disposition phase of this case." Answer of [YAEC] to [CAN/NECNP] Motion for Leave to Reply to YAEC's Reply Memorandum (Summary Disposition) (Sept. 18, 1996) at 2. The Intervenor is represented by counsel who are well able to understand and follow a clear directive such as our requirement for preapproval of replies. Under the circumstances, there being no showing of good cause for their failure to seek preapproval, we deny Intervenor's motion for leave to file their additional reply.

(Continued)

Subsequently, after reviewing the parties' pleadings, we issued a memorandum advising them we did not intend to hold an oral argument prior to deciding the Licensee's motion.⁸ See Board Memorandum (Summary Disposition Oral Argument and Location for Evidentiary Hearing) (Sept. 16, 1996) at 1 (unpublished).

II. ANALYSIS

A. Standards Governing Summary Disposition

Section 2.749 of title 10 of the *Code of Federal Regulations*, the Commission's administrative analog to Rule 56 of the Federal Rules of Civil Procedure, authorizes a party to request, and a presiding officer to render, a decision in the moving party's favor on any part of the matters in controversy in the proceeding. According to section 2.749(d):

The presiding officer shall render the decision sought if the filings in the proceeding, depositions, answers to interrogatories, and admissions on file, together with the statement of the parties and the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to a decision as a matter of law.

See also *Advanced Medical Systems, Inc.* (One Factory Row, Geneva, Ohio 44041), CLI-93-22, 38 NRC 98, 102 (1993).

The party filing the summary disposition motion has the burden of demonstrating the absence of any genuine issue of material fact. See *id.* In this regard, section 2.749(a) requires that the moving party include a statement of material facts about which there is no genuine issue to be heard. In contrast, the opposing party must append to its response a statement of material facts about which there exists a genuine issue to be heard. If the responding party does not adequately controvert material facts set forth in the motion, the party faces the possibility that those facts may be deemed admitted. See 10 C.F.R. § 2.749(a). If, however, the evidence before the Board does not establish the absence of a genuine issue of material fact, then the motion must be denied even if there is no opposing evidence. See *Cleveland Electric Illuminating Co.* (Perry Nuclear Power Plant, Units 1 and 2), ALAB-443, 6 NRC 741, 753-54 (1977). Nevertheless, a party opposing a motion cannot rely on a simple denial of the movant's

In doing so, however, we note that, even if we were to accept the Intervenor's filing, nothing in it would change the result we reach here. In fact, as it might be pertinent to our decision here, it appears to reflect no more than a rephrasing of earlier arguments without the addition of relevant new information or perspective.

⁸The Commonwealth of Massachusetts also has participated in the proceeding as an interested governmental entity pursuant to 10 C.F.R. § 2.715(c). The Commonwealth did not make any substantive submissions in connection with the Licensee's summary disposition motion.

material facts, but must set forth specific facts showing there is a genuine issue of material fact. *See* 10 C.F.R. § 2.749(b).

B. The Parties' Arguments

As the discussion above suggests, the cardinal focus of our inquiry here is whether there are material factual issues in genuine dispute relative to the size of the modified DECON option dose as it is used in computing the Yankee Rowe DECON/SAFSTOR differential for comparison with the GEIS DECON/SAFSTOR differential "envelope." In support of its dispositive motion, YAEC asserts that the appropriate inquiry concerns two matters: (1) the relevant occupational exposures incurred to date for decommissioning; and (2) the "correct" estimate of the occupational exposure that will be incurred completing Yankee Rowe decommissioning. Regarding the "to date" occupational exposures, YAEC declares that the figure through mid-June 1996 is 440 person-rem. For the "to go" occupational dose estimate, YAEC maintains the appropriate figure is a total exposure of 140 person-rem, the correctness of which can be accepted with a high degree of confidence based on YAEC's experience with providing estimates. *See* YAEC Summary Disposition Memorandum at 19; YAEC Supplemental Memorandum at 3-7; *see also* YAEC Uncontested Facts at 11-12. As support for these assertions, YAEC provides affidavits from Russell A. Mellor, the decommissioning manager for the Yankee Rowe facility, that describe the current status of decommissioning, the history of occupational exposure estimates for Yankee Rowe decommissioning, the methodology used in accumulating actual exposures and estimating future exposures, and reasons why YAEC's estimates are reasonably accurate and conservative. *See* Mellor Summary Disposition Affidavit at 2-6; Mellor Supplemental Affidavit at 2-15; *see also* YAEC Uncontested Facts at 2-8.

In addition, YAEC asserts that the "proportionality" theory that was the basis for the Intervenor's admitted contention is neither a valid nor reliable way to estimate future exposures because it fails to account for a variety of factors affecting exposure rates, including the nature of the task to be performed, the number of people engaged in the work and their experience level, and the radiation shielding employed. As support for this proposition, YAEC relies upon both the discussion in one of Mr. Mellor's affidavits and a separate affidavit from Dr. Dade W. Moeller. *See* Mellor Supplemental Affidavit at 15-18; Moeller Affidavit at 3-10; *see also* YAEC Uncontested Facts at 9. In particular, Dr. Moeller gives a detailed analysis of the specific factors that affect occupational radiation doses and provides examples of Yankee Rowe decommissioning activities that run contrary to the Intervenor's "proportionality" theory, including steam generator and irradiated hardware liner removal.

Based on this information, about which YAEC asserts there is no genuine issue to be heard, YAEC declares that even if the SAFSTOR exposure for Yankee Rowe is assumed to be zero (rather than the GEIS SAFSTOR estimated exposure of 333 person-rem) the differential between total Yankee Rowe DECON exposures of 580 person-rem and SAFSTOR would fall well within the GEIS 900 person-rem differential that is the "envelope" for this proceeding. As a consequence, YAEC asserts that it is entitled to summary disposition in its favor relative to the CAN/NECNP contention. *See* YAEC Supplemental Memorandum at 11-12.

In its September 9 response supporting YAEC's dispositive motion, the Staff declares its essential agreement with the main points made by YAEC. The Staff states that, in comparison with the occupational exposure figure of 457 person-rem for all facility activities set forth in NRC inspection reports through April 1996, the YAEC "to date" figure of 440 person-rem occupational exposure for decommissioning activities is reasonable. The Staff also asserts that the methodology described by YAEC for reaching its "to go" figure of 140 person-rem is acceptable because it comports with industry practice; previously projected doses for now-completed dismantlement activities were consistent with doses actually accrued; remaining work is similar to work already completed; and Licensee personnel can be expected to avoid unexpected doses because they know the facility. *See* Staff Response at 5-9. In support of these assertions, the Staff provides the affidavits of NRC senior health physicist Charles A. Willis and Morton B. Fairtile, the senior project manager in charge of Staff review of Yankee Rowe decommissioning. *See* Willis Affidavit at 2-3; Fairtile Affidavit at 2-4.

Moreover, on the issue of the Intervenor's "proportionality" theory, agreeing with the criticisms leveled by YAEC affiant Moeller, the Staff (relying on its affiant Willis) likewise finds this concept invalid. Although recognizing that some direct relationship between the level of radioactivity (curies) and the absorbed dose (person-rem) could exist, the Staff rejects Intervenor's theory because ultimately it fails to account for the various job-specific factors that will affect occupational dose, including worker time in the radiation field, distance from the source, and shielding. *See* Staff Response at 9-11; Willis Affidavit at 3-4. The Staff concludes that because the Licensee's factual showing clearly establishes its DECON option falls within the 900 person-rem GEIS "envelope," the Licensee is entitled to a decision in its favor on the Intervenor's contention.

In their September 10, 1996 response to YAEC's dispositive motion, Intervenor CAN and NECNP oppose the Licensee's summary disposition request, asserting that they estimate the expected DECON dose should be at least 1184 person-rem, making the differential between YAEC's modified DECON option and the SAFSTOR option at least 1000 person-rem, a figure well outside the GEIS 900 person-rem "envelope." *See* CAN/NECNP Opposition at 2;

CAN/NECNP Disputed Facts at 1-2. In reaching this conclusion, they describe a series of flaws in the YAEC analysis by which the Licensee has incorrectly measured, underestimated, or failed to support its dose estimates. These items of Intervenor criticism, which are drawn from a supporting affidavit of Dr. Marvin Resnikoff, can be summarized as follows:

1. In assessing thermoluminescent dosimeter (TLD) readings, YAEC failed to make appropriate corrections for background radiation in determining which workers incurred "no measurable exposures," thereby underestimating doses by at least 25 person-rem.
2. YAEC ignores a full year of decommissioning work that took place in 1992, which included unloading irradiated fuel and control rods from the reactor, cutting and shipping the control rods to the Barnwell, South Carolina radioactive waste disposal site, and conducting a detailed reactor radiation survey, thereby underreporting doses by 94 person-rem.
3. YAEC did not count exposures incurred during "operation and maintenance" (O&M) activities as decommissioning doses, as was done under the "continuing care" category in the GEIS for the SAFSTOR option, thereby underreporting occupational exposures by some 34 person-rem.
4. YAEC has not provided enough information regarding the "to go" activities described in its pleadings — in particular those in the categories of "Etc." and "Miscellaneous" — to determine whether the dose it estimates for those activities is appropriate.
5. YAEC's reliance on a 1993 dose estimate as a harbinger of the accuracy and conservatism of its recent "to go" estimate is unsupported because (a) most of the activities involved are incomplete or not started or were already well under way when the estimate was made; (b) YAEC has not supported its statement that the level of uncertainty is reduced by experience, given its failure outlined in paragraph 4 above to provide sufficient information; (c) YAEC's reliance on cobalt-60 decay as a measure of its conservatism is misplaced in that it fails to account for other radioactive contaminants with longer half-lives; and (d) the accuracy of its predictions for upcoming projects is suspect given the long-term or otherwise unanalyzed nature of those projects, such as concrete decontamination.
6. Rather than YAEC's figure of 140 person-rem "to go," it is reasonable to assume a "to go" figure of 400 person-rem over the next 2 1/2 years needed to complete "to go" decommissioning, given (a) decommissioning occupational exposures over the past several years have been on the order of 160 person-rem per year; and (b) the nature of the remaining projects, such as concrete decontamination.
7. YAEC has not adequately considered inhalation doses in that (a) all radionuclides were not included in its calculations; (b) radionuclide decay and biological half-lives were not calculated correctly; and (c) "hot particle" dose inhalation was not accounted for, resulting in a dose underestimation of at least 7 person-rem.
8. YAEC has entirely failed to account for doses incurred in the offsite processing of contaminated waste, which can reasonably be estimated to add 41 person-rem to occupational doses.

9. YAEC erred by using the outdated WASH-1238 model to arrive at an original estimated transportation dose of 41 person-rem (34 person-rem to truckers/rail workers, 7 person-rem to the public) rather than using the modern RADTRAN model that would result in an estimated dose of 103 person-rem (9 person-rem to truckers/rail workers and 94 person-rem to the public).
10. YAEC has underestimated total public exposures due to airborne effluent emissions, although by how much is unclear because YAEC failed to provide sufficient information for calculations.
11. YAEC has not made any decommissioning dose estimate for facility site soil cleanup, which would entail unspecified additional exposures.
12. The SAFSTOR dose estimate should be based on a 186 person-rem figure given in a 1979 decommissioning study that included Yankee Rowe (NUREG-0130, Addendum (Aug. 1979)) rather than the 333 person-rem that was set forth in the 1988 GEIS, which has the effect of increasing the total DECON/SAFSTOR dose differential for Yankee Rowe by 147 person-rem.

See CAN/NECNP Opposition at 3-13; CAN/NECNP Disputed Facts at 2-11; Resnikoff Opposition Affidavit at 5-17.

Thereafter, in their September 17, 1996 reply to the Staff's response in support of that motion, the Intervenor take issue with the Staff's assertion that YAEC's estimation methods comport with industry standards, asserting that this does not guarantee they are reliable. Among other things, the Intervenor again declare, as they did in items 4 and 5 above, that the information provided by YAEC is not sufficient to evaluate the reliability of its dose projections and that the projections involved were based on actual measurements or near-term projects. They also dispute the Staff's assertions regarding the routine nature of future work and its similarity to already completed tasks, asserting that the concrete decontamination and demolition work, which constitutes a significant portion of the remaining tasks, as well as work involving soil/groundwater contamination and reactor vessel removal are neither like completed work nor routine. *See* CAN/NECNP Reply Disputed Facts at 1-7; Resnikoff Reply Affidavit at 1-3.

In its reply to the Intervenor's response, YAEC asserts initially that because the Intervenor's 1184 person-rem estimate is below the GEIS DECON estimate of 1215, the Board need inquire no further. The Licensee also notes that if each of the exposures for which the Intervenor specify a dose is accepted — other than items 3, 7, 8, and 9 that YAEC asserts are not applicable because they are not within the scope of the GEIS — along with their value of 186 person-rem for SAFSTOR, the resulting differential value is still well within the 900 person-rem "envelope." YAEC further declares that, given their failure to mention it, the Intervenor clearly have abandoned their "proportionality" theory to focus on the specific components that make up the "to date" and "to go" DECON doses. *See* YAEC Reply at 1-3.

Looking then to the Intervenor's specific challenges to the Licensee's "to date" and "to go" doses, YAEC first asserts that Dr. Resnikoff's affidavit analyzing those matters should be stricken because his credentials make it clear he is not qualified to act as an expert witness on dosimetry, health physics, and construction engineering, the subjects that are at issue relative to those doses. *See id.* at 3-4. Further, regarding the particular items of intervenor concern described above, YAEC declares:

1. Regarding item 9, (a) the Intervenor's attempt to introduce public exposure relative to transportation doses is improper because the GEIS and the 900 person-rem differential relate only to occupational exposures; and (b) contrary to the Intervenor's assertion, YAEC did not arrive at its present estimate of 7 person-rem for transportation workers (which is in line with the Intervenor's RADTRAN estimate of 9 person-rem) by "scaling down" transportation doses to account for the smaller size of Yankee Rowe relative to the GEIS reference reactor, but rather to account for its estimate that fewer shipments would be required for that facility.
2. Regarding item 1, (a) the Intervenor's discussion of background dose corrections is confused about the distinction between correcting for such doses by removing them from incurred dose measurements and correcting for exposures incurred for TLDs while those devices are in storage and not being worn; and (b) although permitted to do so, YAEC does not subtract background from dosimeters while in use, thereby adding to the conservatism of its exposure figures.
3. Regarding item 4, the Intervenor's claim that they were provided with insufficient information to make a disciplined analysis of YAEC's "to go" analysis is incorrect because during discovery they were given documents that gave a detailed breakdown of all the "to go" activities, including estimated worker hours and exposure rates and their expert was provided an opportunity to ask any questions he wanted about these matters.
4. Regarding item 6, (a) the Intervenor's use of extrapolations regarding the yearly exposure rate and the amount of time remaining to complete decommissioning to reach the figure of 400 person-rem is entirely without basis, particularly because, as Dr. Moeller's affidavit establishes, a "proportionality"-based argument regarding exposures is entirely speculative; and (b) besides failing to attach any particular person-rem value to concrete decommissioning, the Intervenor's suggestion that concrete structure decommissioning will involve high occupational exposures because of the use of explosives on the contaminated concrete and the lack of any full accounting of the amount of concrete contamination at the facility does not account for the fact that the Yankee Rowe decommissioning plan provides for concrete structures to be decontaminated to background before being demolished and that the decommissioning plan contains data on concrete contamination.
5. Regarding item 11, the Intervenor's assertions that there is no site characterization plan and that soil contamination will result in additional exposures does not account for the site characterization data submitted with the decommissioning plan and YAEC's conclusion, based on that data, that exposure for such activities will be low because the radioactivity level is low.

6. Regarding item 7, besides the fact that the report that is the basis for the GEIS (NUREG/CR-0130 (June 1978)), did not include inhalation dose figures, YAEC asserts that inhalation doses do not matter because YAEC has counted them during the decommissioning period, taking into account all significant radionuclides, and found them to be an insignificant contributor to dose (0.5 person-rem).
7. Regarding item 3, the applicable GEIS table (Table 4.3-2) (a) specifically acknowledges that "custodial care," which is long-term care unique to the SAFSTOR, is not applicable to DECON; and (b) does not include DECON-period routine O&M, such as spent fuel pool operation or license-required routine maintenance, surveillance, and inspection.

See YAEC Reply at 4-10; Errata to Reply Memorandum of [YAEC] (Motion for Summary Disposition) (Sept. 16, 1996) at 1; Mellor Reply Affidavit at 1-11.

In addition, YAEC asserts that in bifurcating this proceeding into an "envelope" phase and a "relief" phase, the Board has applied an incorrect legal standard concerning the question whether the YAEC DECON option will exceed the 900 person-rem occupational exposure DECON/SAFSTOR differential that the Commission has indicated is the general benchmark for judging the validity of a licensee decommissioning option choice. According to YAEC, because a significant portion of the decommissioning work has been done relative to this facility, any judgment now about whether it is appropriate to shift from DECON to SAFSTOR should be based solely on an analysis of whether the exposures necessary to remove the existing facility radioactivity would exceed the 900 person-rem differential. See YAEC Reply at 10-13.

C. Discussion

YAEC's declaration that it is entitled to a decision in its favor on the Intervenor's admitted contention rests on its assertion that there are no genuine material factual disputes concerning two decommissioning dose figures: (1) "to date" occupational exposures for its modified DECON process have amounted to 440 person-rem; and (2) occupational exposures "to go" are estimated at 140 person-rem. According to the Licensee, this amounts to a total DECON decommissioning occupational exposure of 580 person-rem that, when compared with the GEIS figure of 333 person-rem for the SAFSTOR option, results in a differential of approximately 250 person-rem that is well within the relevant 900 person-rem "envelope" identified by the Commission. The Intervenor, in contrast, seek to establish that a genuine material factual dispute exists regarding one or more of these numbers. As we have outlined above, they assert additional dose amounts are applicable to the "to date" 440 person-rem figure (items 1, 2, 3, 7, 8, and 10) and the "to go" 140 person-rem figure (items 4, 5, 6, 9, and 11). They also maintain that the GEIS SAFSTOR dose figure of 333 person-rem should not be used for determining whether the "envelope" has been exceeded;

rather, the Intervenor declare the appropriate number is 186 person-rem, based on a 1979 decommissioning study that included Yankee Rowe as one of its reference reactors.

YAEC, the Staff, and the Intervenor have presented affidavits of "expert" witnesses in support of their contrary assertions regarding the existence of genuine material factual disputes relative to the various additional/revised exposure figures introduced by the Intervenor.⁹ In at least one instance, the Intervenor's point may be well taken. Their assertion regarding the failure of the Licensee to include exposures (41 person-rem) relating to the offsite processing of contaminated wastes (item 8) likely has merit. In other instances, their claims apparently have no validity. For example, the additional dose (94 person-rem) they attribute to the public in connection with waste transportation (item 9) seemingly has no relevance here because the 900 person-rem envelope with which we are concerned under the admitted contention is one that involves occupational — not public — doses.¹⁰

Ultimately, however, we need not consider each of the Intervenor's claims regarding these purported factual disputes because, under our analysis, they do not fulfill the requirement that they be "material" to our resolution of the Licensee's summary disposition motion. See *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 248 (1986) (factual disputes that are "irrelevant or unnecessary" will not preclude summary judgment). This is so because, even if (1) those items for which the Intervenor have ascribed a dose figure are attributed to either the Licensee's "to date" or "to go" figures as the Intervenor's assert they should be,¹¹ and (2) we utilize the intervenor-proffered 186 person-rem SAFSTOR occupational dose figure, the DECON/SAFSTOR differential that would result

⁹ As was noted above, YAEC has challenged the credentials of the Intervenor's expert witness, Dr. Marvin Resnikoff, to testify in a number of areas including dosimetry, health physics, and construction engineering. See *supra* p. 97. For present purposes we need not resolve that matter because, even assuming Dr. Resnikoff has the required expertise, we find that those intervenor concerns for which his affidavits are cited as support do not create a genuine disputed material factual issue.

¹⁰ Although the Intervenor's original ALARA contention (Contention A) made reference to public exposures, see LBP-96-15, 44 NRC at 18, as recast by the Board to reflect the substance of the Intervenor's "new dose argument," the admitted contention clearly relates only to occupational doses because they are the basis for the 900 person-rem "envelope" now at issue. See *supra* note 2.

¹¹ The Intervenor have raised several concerns about YAEC dose calculations or estimates without indicating what additional exposure can be attributed to their concern. These include their assertions about the vagueness of the Licensee's "to go" miscellaneous category (item 4); uncertainty over the validity of past YAEC estimates (item 5); uncertainty over concrete contamination (items 5 and 6); failure to account for "hot particles" (item 7(c)); underestimation of total public airborne effluent emission exposures (item 10); and uncertainty over soil cleanup (item 11). In the context of the admitted contention, in which we are called upon to consider whether the total Yankee Rowe DECON exposure falls within a specified envelope, this failure to provide any estimate of the exposures involved essentially renders these concerns immaterial.

Given this flaw, which in many instances seems rooted in the adequacy of Intervenor's discovery efforts, see *infra* p. 101, these matters could be rejected out of hand. We nonetheless do deal with the first three of these

(Continued)

with the inclusion of those exposure figures would not exceed the 900 person-rem envelope.¹²

The one factual matter that we do consider because it is potentially "material" is the Intervenor's assertion that the Licensee's "to go" figure should be 400 person-rem rather than the 140 person-rem projected by YAEC, a difference of 260 person-rem. In contesting the 140 person-rem figure,¹³ the Intervenor has asserted that disputed material factual issues exist concerning that figure in that (1) because of the general description of the delineated activities and a separate category of "etc." or "miscellaneous" activities, they do not have enough information regarding the "to go" activities to affirm the reasonableness of the YAEC estimate (item 4); (2) YAEC estimation methodology is suspect (item 5); and (3) recognizing that yearly exposure rate for the prior years in which decommissioning has been conducted has been approximately 160 person-rem, it is "reasonable to assume" that rate will obtain for the 2 1/2 years that they assert remain to complete the balance of the project (item 6). We look to each of these asserted genuine material factual disputes in turn.

The agency's rules of practice in 10 C.F.R. § 2.749(c) provide:

Should it appear from the affidavits of a party opposing the motion that he cannot, for reasons stated, present by affidavit facts essential to justify his opposition, the presiding

concerns below in the context of our discussion of the validity the Intervenor's argument that the YAEC "to go" dose estimate is deficient and should be 400 person-rem. See *infra* pp. 100-03. As to the others, even putting aside the fact that the purported underestimation of public airborne effluent exposures seemingly is not relevant because the concern here is with occupational exposures, see *supra* note 10 and accompanying text, we note that there is no sufficiently probative evidence that this item or the "hot particle" or soil contamination concerns, even if accepted, would make any significant contribution to total DECON exposures. See *Anderson*, 477 U.S. at 249 (evidence that is "merely colorable" or is "not significantly probative" will not preclude summary judgment). Compare Mellor Supplemental Affidavit at 10-11 and Mellor Reply Affidavit at 8-11 with Resnikoff Opposition Affidavit at 11-12, 15-17 and Resnikoff Reply Affidavit at 2.

¹² The following Board-constructed table illustrates this point:

Yankee Rowe "To Date" Exposures	440 person-rem
Yankee Rowe "To Go" Estimated Exposures	140 person-rem
Background Underestimation (item 1)	25 person-rem
1992 "DECON" Exposures (item 2)	94 person-rem
Operation and Maintenance (item 3)	34 person-rem
Inhalation Doses (item 7)	7 person-rem
Offsite Waste Processing (item 8)	41 person-rem
Transportation Exposures (item 9)	96 person-rem
Yankee Rowe DECON Total Exposures	877 person-rem
Yankee Rowe SAFSTOR Estimate	186 person-rem
Yankee Rowe DECON/SAFSTOR Differential	691 person-rem

¹³ Although YAEC gives a "to go" estimate of 140 person-rem, in referring to this estimate the Intervenor uses a figure of 91 person-rem. See, e.g., Resnikoff Opposition Affidavit at 19. This apparently is taken from a subtotal figure given on a table supplied by Mr. Mellor to explain the nature of the Licensee's "to go" estimate. See Mellor Supplemental Affidavit, exh. 2. We are unable to discern the Intervenor's basis for using the lower figure, and thus utilize the higher, 140 person-rem figure supported by the Licensee.

officer may refuse the application for summary decision or may order a continuance to permit affidavits to be obtained or make such other order as is appropriate

In this instance, the Intervenor's assertions about a lack of information regarding activity descriptions and a "miscellaneous" activities category generally would be the type of argument made to support obtaining discovery. The problem is that, consistent with their previous concerns about their need for information to respond to the YAEC summary disposition motion, *see* LBP-96-15, 44 NRC at 38-39, they already have been given the opportunity to conduct discovery regarding their contention.

The Intervenor's complain about a lack of detail in the description in Mr. Mellor's July 10, 1996 affidavit, which indicated that the 140 person-rem "to go" figure was a "[p]rojection to compile all remaining decommissioning activities (e.g., reactor vessel removal, lower neutron shield tank removal, activated concrete removal, decontamination of buildings, etc.)." Mellor Summary Disposition Affidavit at 11 n.1. They, however, had an opportunity to take discovery to find out the exact nature of those items. They did not submit a motion to compel or any other complaint about the discovery information provided by YAEC. Consequently, we have no cause to believe the Intervenor's were denied any information they requested regarding the nature of the remaining "to go" activities. Having apparently failed fully to utilize the discovery afforded them, they cannot now interpose that shortcoming as the basis for a genuine material factual dispute.¹⁴

Regarding the question of the YAEC estimation method as it reflects on the viability of its "to go" estimate, as we noted above, the Licensee has provided an extensive narrative discussion of the history of its decommissioning dose estimation efforts, including the first estimate made by TLG Engineering, Inc., in 1992, a 1993 estimate prepared by YAEC itself, and the 1996 estimate that is the basis for the current "to go" estimate of 140 person-rem. *See* Mellor Summary Disposition Affidavit at 3-5; Mellor Supplemental Affidavit at 4-8. Additionally, YAEC sets forth a detailed explanation of the methodology, i.e., engineering analysis, used in arriving at those estimates, which the Staff finds acceptable. *See* Mellor Summary Disposition Affidavit at 2-3; Mellor Supplemental Affidavit at 13-15; Willis Affidavit at 2-3; Fairtile Affidavit at 2-3. In this regard, the Licensee describes a number of phenomena that provide confidence in its exposure estimates. These include (a) radioactive isotope decay from cobalt-60 that results in a 13% dose field reduction per year; (b) radioactive source term removal procedure, which results in dose rates diminishing because

¹⁴ The particular "miscellaneous" category that is the subject of this Intervenor concern, *see* Mellor Supplemental Affidavit, ex. 2, accounts for only 14 person-rem, an amount that, even if doubled or tripled, would make no material contribution to the occupational dose differential at issue here.

more contaminated components are removed first; and (c) integration of "lessons learned."

Finally, YAEC has provided supporting documentation (which it declares was provided to the Intervenor during discovery) that outlines in detail the various activities that make up its "to go" estimate. This documentation includes figures showing the estimate of exposure hours to perform each activity, the effective dose rate in the work area, and the estimated person-rem dose for the activity, the components needed to arrive at an estimate of worker exposure for the various activities. *See* Mellor Supplemental Affidavit, exh. 6, attach. 2 (Memorandum RP-96-19); *see also id.*, exh. 4 (Memorandum YSM-96-20).¹⁵

In the face of this information, the Intervenor declares that there are several disputed material factual issues regarding the validity of the YAEC estimates. *See* CAN/NECNP Disputed Facts at 4-8; CAN/NECNP Reply Disputed Facts at 2-7. Based on our review of the parties' filings, however, the only one of these that apparently would have any real significance relative to the validity of the YAEC estimates is the Intervenor's concern about concrete contamination. *See* CAN/NECNP Reply Disputed Facts at 3-4 ("significant portion of the remaining work" involves demolition and other activities associated with contaminated concrete).

According to the Intervenor, the "reasonableness" of the YAEC estimate is suspect because concrete decommissioning will be "dirty" and the extent of concrete contamination is unknown, meaning that, notwithstanding the general decline in the facility's radioactive inventory, this activity could cause unaccounted-for exposures. *See* CAN/NECNP Disputed Facts at 7; CAN/NECNP Reply Disputed Facts at 4; Resnikoff Opposition Affidavit at 9; Resnikoff Reply Affidavit at 2. In fact, as is reflected in the Yankee Rowe decommissioning plan, the Licensee has made efforts to survey and account for the extent of concrete contamination. *See* Yankee Atomic Electric Company, Yankee Nuclear Power Station Decommissioning Plan at 3.1-7 to -8, Tables 3.1-5 to -7 (rev. 0.0 Dec. 1993) [hereinafter Decommissioning Plan]; *see also* Mellor Supplemental Affidavit, exh. 6, attach. 2 (exposure estimates for activities including "concrete/steel decon," "[vapor container (vc)] concrete/steel decon" below and above charging floor, and "vc activated concrete removal"). Further, although the Intervenor postulate a "dirty" concrete decommissioning process based, at least in part, on the use of "explosives," the plan indicates that (1) explosives are not to be used in decommissioning; (2) structures generally are to be decontaminated before they are taken down; and (3) if coatings and hand wiping will not stabilize surface contamination, then airborne contamination control and waste processing systems will be used to control contamination releases.

¹⁵ So there is no confusion regarding our citations to the record, we note that the Mellor Supplemental Affidavit contains six exhibits, some of which, in turn, include attachments labeled as "exhibit."

See Decommissioning Plan at 1.2-4, 2.3-10, 2.3-12 to -13; *see also* 1 Yankee Atomic Electric Company, Final Safety Analysis Report, Yankee Nuclear Power Station, Rowe, Massachusetts at 10, 200-7, 200-9 to -10 (rev. June 1995). In the latter instance, any water from surface washing methods will be collected and processed in the plant liquid waste processing system, while contaminants from methods that will result in airborne particulate matter will be controlled using vacuum removal with high efficiency particulate air (HEPA) filtration systems. *See id.* In this light, the Intervenor's bald assertion that concrete decontamination will provide an unspecified level of exposure is simply conjecture that, even when supported by an expert, will not establish a genuine material factual dispute. *See United States v. Various Slot Machines on Guam*, 658 F.2d 697, 700 (9th Cir. 1981) (in the context of a summary judgment motion, an expert must back up his opinion with specific facts); *see also McGlinchy v. Shell Chemical Co.*, 845 F.2d 802, 807 (9th Cir. 1988) (expert's study based on "unsupported assumptions and unsound extrapolation" cannot be used to support summary judgment motion).

Finally, wholly inadequate to establish a material factual dispute is the Intervenor's assertion that it is "reasonable to assume" a 400 person-rem "to go" figure based on an "average" yearly 160 person-rem exposure rate over the purported 2½-year duration of the project. Resnikoff Opposition Affidavit at 9. Initially, this assertion suffers from the problem that it is based on a "rough estimate" that once resumed, "it is reasonable to expect" completion of "to go" decommissioning will take more than twice as long as the 1 year the Licensee has estimated. *Id.* In support of its 1-year estimate, YAEC cites its decommissioning plan schedule (Table 2.3-5) indicating that approximately 1½ years are required for dismantlement period activities, in conjunction with a decommissioning completion percentage of 60%. *See* Mellor Reply Affidavit at 7. The Intervenor's proffer their completion schedule based on the assertion that decommissioning activities can be expected to proceed at the same pace as has been achieved since 1993, without offering any reason this is so (other than it is "reasonable") or why the Licensee's proposed schedule is deficient. In this context, the Intervenor's again have provided nothing more than speculation, which is not sufficient to establish a genuine material factual dispute.

Even more troubling, however, is the fact that at its core their 400 person-rem "to go" dose argument is merely a variant of their "proportionality" theory that the recently filed Licensee and Staff analyses have thoroughly discredited and the Intervenor's have made no attempt to defend. As YAEC and the Staff made clear in their summary disposition submissions, a reasonably accurate collective dose assessment cannot be done by simply assuming that there is a proportionality between the occupational exposure rate resulting from facility cleanup activities for a particular level of radioactivity and the exposure rate likely to accrue in decommissioning any additional radioactive

inventory. Instead, a reasonably accurate dose assessment requires consideration of a number of factors, including component characteristics (e.g., location, size and shape, shielding, and complexity); exposure conditions (e.g., internal or external); chemical and physical nature of the radionuclide and its quantity; radionuclide decay mode and emission energy; and decommissioning operation phase. See Mellor Supplemental Affidavit at 16-18; Moeller Affidavit at 3-10; Willis Affidavit at 3-4.

The Intervenor now would have us ignore all these factors and make the simplistic assumption that the “to date” decommissioning activities are essentially identical to the remaining decommissioning activities so as to provide the same yearly 160 person-rem exposure rate during the time needed to complete “to go” decommissioning.¹⁶ In the face of the uncontroverted evidence now before us demonstrating that because the “proportionality” theory fails to account for these factors, it lacks any reasonable scientific basis for establishing a “to go” figure, we are unwilling to do so. We thus conclude that the Intervenor’s “average annual dose” variation on this theme, which incorporates the same analytical shortcomings as their proportionality “theory,” does not create a genuine material factual dispute about the validity of the Licensee’s “to go” estimate.

As we noted above, in light of the Licensee’s showing regarding the validity of its “to date” and “to go” DECON dose figures, even accepting the other occupational dose estimate revisions proffered by the Intervenor, see *supra* note 12, unless the Intervenor can establish a genuine material factual issue relative to their assertion that the “to go” dose estimate for Yankee Rowe decommissioning should be in the neighborhood of 400 person-rem, the Licensee would be entitled to summary disposition in its favor on the substance of their contention. Because the Intervenor has not done so, we grant YAEC’s dispositive motion.¹⁷

III. CONCLUSION

In connection with their challenges to the Licensee’s “to go” decommissioning dose estimate for Yankee Rowe as described in items 3, 4, and 5 above, the Intervenor has failed to show a genuine issue as to any material fact that

¹⁶ Although we need not resolve the matter, YAEC asserts that the average annual dose between 1993 and 1996 (apparently without counting doses for the year 1992 the Intervenor otherwise maintain should be included in the total dose figures) is, in fact, 130 person-rem rather than the Intervenor-proffered 160 person-rem average dose figure, an amount that approximates the highest annual dose during that period. See Mellor Reply Affidavit at 7.

¹⁷ Putting aside the question of the propriety of waiting until a reply pleading to challenge the Board’s ruling on the applicable legal framework for this proceeding, because we find in the Licensee’s favor on the “envelope” phase of this proceeding as it was outlined in our July 31, 1996 memorandum and order, we need not consider YAEC’s arguments regarding the validity of that Board determination.

would require an evidentiary hearing regarding the Licensee's factual demonstration that occupational exposures from its modified DECON plan fall within the applicable 900 person-rem "envelope." Because those items present the only disputed factual matters that potentially are material to the Intervenor's contention at issue in this proceeding, we conclude that, as a matter of law, Licensee YAEC is entitled to a decision in its favor regarding the merits of that contention.

For the foregoing reasons, it is, this twenty-seventh day of September 1996, ORDERED that

1. The September 13, 1996 request of CAN/NECNP for leave to file a reply to the Staff's September 9, 1996 response in support of YAEC's summary disposition motion is *granted*.

2. The September 17, 1996 request of CAN/NECNP for leave to file a reply to YAEC's September 13, 1996 reply is *denied*; provided, however, that the September 17, 1996 pleading entitled "[CAN/NECNP] Reply to YAEC's Reply Memorandum (Summary Disposition)" and the accompanying "Second Reply Affidavit of Marvin Resnikoff, Ph.D." shall remain lodged in the docket of this proceeding.

3. The July 10, 1996 "conditional" summary disposition motion of YAEC, as renewed in its supplemental filing of September 3, 1996, is *granted* and, for the reasons given in this memorandum and order, a decision regarding the merits of the Intervenor's admitted contention is rendered in favor of YAEC.

4. As the determination rendered herein terminates this proceeding before the Board, pursuant to 10 C.F.R. §2.786, within 15 days after service of this Memorandum and Order a party may file a petition for review with the Commission on the grounds specified in section 2.786(b)(4).

5. In accord with the Commission's ruling regarding a stay pending appeal from the Board's determination in LBP-96-2, 43 NRC 61 (1996), *see* CLI-96-5, 43 NRC 53, 59-60 (1996),¹⁸ any effectiveness of this Memorandum and Order is *stayed* up through and including *Wednesday, October 9, 1996*, to provide the

¹⁸ Yesterday, the Intervenor's filed a motion asking that, if we granted YAEC's summary disposition motion, we enter a 3-day "housekeeping" stay to permit them to file a stay request with the Commission. *See* [CAN/NECNP] Motion for Housekeeping Stay (Sept. 26, 1996) at 1. YAEC today has filed a pleading opposing the Intervenor's request on the ground that, having made no attempt to demonstrate compliance with the standards set forth in 10 C.F.R. §2.788, the Intervenor's only basis for a stay is their apparent assumption there is some right to a stay pending appeal. *See* Response of [YAEC] to Motion for "Housekeeping Stay" (Sept. 27, 1996) at 2. For its part, the Staff has no objection to the Intervenor's stay request. *See* NRC Staff's Response to Intervenor's September 26, 1996 Motion for Housekeeping Stay (Sept. 27, 1996) at 1.

We enter the stay above not at the request of the Intervenor's, but in conformance with the Commission's previous rulings relative to this proceeding. Moreover, in entering this stay, we do so with the expectation that the Intervenor's will indeed file their stay request with the Commission on September 30, 1996, as they represented in their September 26 pleading, so that the period we provide gives a reasonable amount of time for responses and a Commission determination regarding their motion.

parties with an opportunity to seek from the Commission any appropriate stay pending review.¹⁹

**THE ATOMIC SAFETY AND
LICENSING BOARD**

**G. Paul Bollwerk, III, Chairman
ADMINISTRATIVE JUDGE**

**Jerry R. Kline
ADMINISTRATIVE JUDGE**

**Thomas S. Elleman
ADMINISTRATIVE JUDGE**

**Rockville, Maryland
September 27, 1996**

¹⁹ Copies of this Memorandum and Order have been sent this date to counsel for YAEC by Internet E-mail transmission, to counsel for CAN/NECNP and the Commonwealth of Massachusetts by facsimile transmission, and to Staff counsel by E-mail transmission through the agency's wide area network.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

COMMISSIONERS:

Shirley Ann Jackson, Chairman
Kenneth C. Rogers
Greta J. Dicus
Nils J. Diaz
Edward McGaffigan, Jr.

In the Matter of

Docket No. 70-3070-ML

LOUISIANA ENERGY SERVICES, L.P.
(Calborne Enrichment Center)

October 2, 1996

The Commission considers a petition for review of an Atomic Safety and Licensing Board Partial Initial Decision, LBP-96-7, 43 NRC 142 (1996). The Petitioner requested review of only that section in the decision that resolved all contentions on emergency planning in favor of the Applicant. The Commission grants the petition for review in part and denies the petition in part. The Commission grants the petition only on a single issue: whether the Applicant's emergency plan clearly describes the intended role and training of the Applicant's onsite fire brigade. Finding that the Applicant has adequately clarified the role of the onsite fire brigade, the Commission finds no need to remand this question to the Board. The Commission orders that appropriate revisions be made to the Safety Analysis Report (SAR) and Safety Evaluation Report (SER) to reflect the clarified understanding of the onsite fire brigade's role.

EMERGENCY PLANNING: PREDICTIVE FINDINGS

Established NRC practice permits the licensing board, where appropriate, both to refer minor safety matters to the NRC Staff for posthearing resolution, and to make predictive findings on emergency planning that will be subject to posthearing verification. But only those matters not material to the basic

findings necessary for issuance of a license may be referred to the NRC Staff for posthearing resolution — e.g., minor procedural or verification questions.

ORDER

The Commission has before it a petition for review of the Atomic Safety and Licensing Board's Partial Initial Decision, LBP-96-7, 43 NRC 142 (1996), filed by the Intervenor, Citizens Against Nuclear Trash (CANT). CANT seeks Commission review of the portion of the Board's decision resolving all contentions on emergency planning in favor of the Applicant. The NRC Staff and the Applicant, Louisiana Energy Services (LES), oppose CANT's petition for review.

We deny the petition except for a single issue: Did the Licensing Board err when, after raising a question whether the Applicant's emergency plan clearly describes the intended role and training of the Applicant's onsite fire brigade, it left the question for posthearing resolution by the NRC Staff?¹ We hold that the Board should not have left the fire brigade question undecided, but find that any ambiguity about the intended role and training of the onsite brigade now has been resolved by the Applicant in its answer to CANT's petition for review. We direct the Applicant to amend its emergency plan accordingly. No further review or relief is necessary.

With respect to emergency planning it is "established NRC practice that, where appropriate, the Licensing Board may refer minor safety matters not pertinent to its basic findings to the NRC Staff for posthearing resolution, and may make predictive findings regarding emergency planning that are subject to posthearing verification." *Commonwealth of Massachusetts v. NRC*, 924 F.2d 311, 331 (D.C. Cir. 1991), *cert. denied*, 502 U.S. 899 (internal quotation and citation omitted). But only matters not material to the basic findings necessary for issuance of a license may be referred to the NRC Staff for posthearing resolution — e.g., minor procedural or verification questions. See *Consolidated Edison Co. of New York* (Indian Point, Unit 2), CLI-74-23, 7 AEC 947, 951-52 (1974). *Accord, Philadelphia Electric Co.* (Limerick Generating Station, Units 1 and 2), ALAB-836, 23 NRC 479, 494 (1986). "[T]he 'posthearing' approach should be employed sparingly and only in clear cases." *Indian Point*, 7 AEC at 952.

Here, the Board found (apparently *sua sponte*) that testimony by the Applicant's expert, Peter G. LeRoy, "appears to contradict" the written description

¹ CANT raises several other issues in its petition, largely related to compliance with Regulatory Guides (as opposed to compliance with regulations themselves). None of these issues meets the standards for review set out in 10 C.F.R. §2.786(b).

of the role of the onsite fire brigade contained in two documents, the Safety Analysis Report (SAR) and Safety Evaluation Report (SER). *See* 43 NRC at 161. The SAR and SER describe the onsite brigade as a “supplement” to the local fire department, while the expert viewed the onsite brigade as principally responsible for some types of fires, with the local fire department a mere “back-up.” *Id.* The Board referred this “ambiguity” to the NRC Staff and directed that, if necessary, the emergency plan, SAR, and SER be amended to reflect the actual intended role of the onsite brigade. The Board also directed the Staff to “ensure that the size and training of the brigade are sufficient to meet such a differing role.” *Id.*

By referring the role of the onsite fire brigade to the NRC Staff, the Board implicitly treated it as a minor matter. On the other hand, the Board characterized the fire brigade’s role as “important” and stated that it was “troubled” by the ambiguity introduced by the expert’s testimony. 43 NRC at 161. The issue is “important,” according to the Board, “because the intended role of the onsite fire brigade may affect the number of fire brigade members needed and the kind of training the brigade should receive.” *Id.* (emphasis added).

The fire brigade’s role also appears material to the Board’s basic emergency planning findings. The Board stated that LES must demonstrate that its emergency plan meets the requirements of NRC regulations. 43 NRC at 145. The Board went on to find that the Applicant’s emergency plan complies with the regulatory requirements to provide a “brief description of the responsibilities of licensee personnel should an accident occur” and “a brief description of . . . the training that the licensee will provide workers on how to respond to an emergency.” *See* 43 NRC at 156-58 (*citing* 10 C.F.R. §§ 40.31(j)(vii) and (x), 70.22(i)(3)(vii) and (x)). This finding provided, in part, the underpinning for the Board’s ultimate conclusion that “the CEC [Claiborne Enrichment Center] emergency plan complies with the Commission’s emergency plan regulations.” 43 NRC at 165.

In these circumstances, the Board itself ought to have resolved any question about the fire brigade’s role as part of its review of the CEC emergency plan. Under our case law, which as we explained above reserves the posthearing remedial device for “minor” matters, the Board should not have referred an “important” issue material to licensing to the NRC Staff for later resolution outside the adjudicatory process.

With the case in its current posture, however, we need not remand the fire brigade issue to the Board. The Applicant’s answer to CANT’s petition for review now has clarified any ambiguity in the intended role and training of the onsite brigade:

The SAR for the CEC accurately describes the respective roles of the onsite fire brigade and the local fire department in the event of a fire at the CEC. As stated in the SAR, “[t]he intent of the facility fire brigade is to be a first response effort designed to supplement the local fire department for fires at the plant and not to replace the local fire fighters.” App. Ex. 1(a) § 11.3.1.1.2. Similarly, SAR Section 4.4.4 provides that the fire brigade will be trained to respond to fires and contain fire damage and that the local fire department is available “if assistance is needed.”

These statements are entirely consistent with Mr. LeRoy’s testimony that in the event of a particular scenario involving a *storage yard fire*, for which there is little likelihood that off-site fire fighting capability will be required, “the off-site fire fighting capability will be relied upon as a backup to on-site fire fighting capabilities.” Leroy at 19 fol. Tr. 40. The onsite brigade, being present at the site, would provide the “first response effort” but would not replace local fire fighters who would fight a fire (if not already extinguished) upon their arrival. As the SER plainly states, “[t]he [onsite fire fighting] brigade members are trained and equipped to respond to fire emergencies and contain fire damage until offsite help from a neighboring fire department arrives.” SER at 4-33.

See Answer of Applicant LES in Opposition to Intervenor’s Petition for Review (May 31, 1996) at 6.

We hold the Applicant bound by this description of the onsite brigade’s role — which we understand to describe a “first response” but ultimately secondary role for the brigade except in instances where (as in some storage yard fires) it is able to extinguish the fire prior to arrival of the local fire department. We direct the Applicant to amend its emergency plan and its SAR to unambiguously reflect this understanding. Similarly, we direct the NRC Staff to revise its SER to include an accurate description of the onsite fire brigade’s clarified role.

That leaves only the question whether the emergency plan, incorporating the clarified role of the onsite fire brigade, satisfies NRC requirements. We find it does. Our rules require but a “brief description” of the “responsibilities” of the Licensee’s emergency personnel and of its “training” program. *See* 10 C.F.R. § 70.22(i)(3)(vii) and (x). In this Decision we already have ordered revisions in emergency planning documents to clarify the onsite brigade’s responsibilities. And an expert witness, Mr. LeRoy, has provided testimony affirming the capability and training of the onsite brigade in its clarified role. *See, e.g.*, Tr. 173 and pp. 28-29 fol. Tr. 40. In addition, the Licensing Board has approved the emergency planning documents’ description of training as a general matter. *See* 43 NRC at 158. Our inspection of those documents confirms the adequacy of the existing “brief description” of training, even as applied to the onsite brigade’s clarified role.²

² Of course, if we have overlooked any record evidence in resolving this petition for review, CANT is free to call it to our attention in a petition for reconsideration. *See* 10 C.F.R. § 2.771. It was the Licensing Board on its own, rather than CANT, that first identified the apparent ambiguity in the record on the onsite brigade’s role. *See* 43 NRC at 161.

We accordingly grant the petition for review in part and deny it in part and direct that the emergency plan, the SAR, and the SER be amended in accordance with this opinion.

IT IS SO ORDERED.

For the Commission

JOHN C. HOYLE
Secretary of the Commission

Dated at Rockville, Maryland,
this 2d day of October 1996.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

COMMISSIONERS:

Shirley Ann Jackson, Chairman
Kenneth C. Rogers
Greta J. Dicus
Nils J. Diaz
Edward McGaffigan, Jr.

In the Matter of

Docket No. 50-029-DCOM
(Decommissioning Plan)

YANKEE ATOMIC ELECTRIC
COMPANY
(Yankee Nuclear Power Station)

October 18, 1996

The Atomic Safety and Licensing Board issued a decision and order granting Yankee Atomic Electric Company's Motion for Summary Disposition in this decommissioning proceeding. LBP-96-18, 44 NRC 86 (1996). The Intervenor (Citizens Awareness Network and New England Coalition on Nuclear Pollution) filed with the Commission a Petition for Review of LBP-96-18 and also sought to stay the effectiveness of LBP-96-18 pending Commission consideration of their Petition for Review. The Commission concludes that the Intervenor's Petition for Review raises no substantial questions calling for Commission review of the Board's grant of summary disposition, and therefore denies the Petition for Review and dismisses the Stay Motion as moot. However, the Commission imposes an administrative stay to permit a reviewing court to consider in an orderly way any request for judicial stay that the Intervenor may file.

ORDER

On September 27, 1996, the Atomic Safety and Licensing Board issued a decision and order granting Yankee Atomic Electric Company's ("YAEC") Motion

for Summary Disposition in this decommissioning proceeding. LBP-96-18, 44 NRC 86 (1996). The Citizens Awareness Network and New England Coalition on Nuclear Pollution ("Intervenors") filed a Petition for Review of LBP-96-18 and also sought to stay the effectiveness of that order pending Commission consideration of their Petition for Review. The Commission on October 2, 1996, issued a "housekeeping stay" to permit consideration of the Petition for Review and the Stay Motion. On October 9, 1996, the Commission entered a second housekeeping stay, preventing YAEC from undertaking proposed "minor" decommissioning activities. Both the NRC Staff and YAEC subsequently filed answers opposing Intervenors' petition and stay motion.

The Commission now concludes that the Petition for Review raises no substantial questions calling for Commission review of the Board's grant of summary disposition. See 10 C.F.R. § 2.786(b)(4). We therefore deny the Petition for Review and dismiss the Stay Motion as moot.

We understand that Intervenors may seek judicial review of this final Commission action and, in the process, may seek a judicial stay preventing resumption of decommissioning activities by YAEC. To permit a reviewing court to consider such a stay request in an orderly way, we will adopt a two-stage administrative stay.¹ First, the stay will remain in effect until seven (7) calendar days after the issuance date of this Order. Second, if the Intervenors file a petition for review and a motion for a judicial stay with an appropriate United States Court of Appeals within that time, the administrative stay will automatically be extended for an additional fourteen (14) calendar days or until the court of appeals acts on the request for a judicial stay, whichever comes first. Cf. *Long Island Lighting Co.* (Shoreham Nuclear Power Station, Unit 1), CLI-91-8, 33 NRC 461, 471-72 (1991).

It is so ORDERED.

For the Commission

JOHN C. HOYLE
Secretary of the Commission

Dated at Rockville, Maryland,
this 18th day of October 1996.

¹This stay temporarily keeps in effect the housekeeping stays issued by the Commission on October 2 and 9, 1996.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

COMMISSIONERS:

Shirley Ann Jackson, Chairman
Kenneth C. Rogers
Greta J. Dicus
Nils J. Diaz
Edward McGaffigan, Jr.

In the Matter of

Docket Nos. 70-7001
70-7002

U.S. ENRICHMENT CORPORATION
(Paducah, Kentucky, and Piketon, Ohio)

October 18, 1996

The Commission considers four petitions for review of an initial Director's decision approving certificates for compliance for the U.S. Enrichment Corporation's gaseous diffusion plants in Piketon, Ohio, and Paducah, Kentucky. For failure to meet the requirements of 10 C.F.R. Part 76, the Commission denies two petitions for review, and refers these petitions to the NRC Staff for review and response. On the ground that no "good cause" was shown, the Commission denies a request for an extension of the time period for seeking Commission review of, and submitting comments on, the Director's decision. The Commission also denies a request that any interested party be permitted to file a petition for review; only those parties that participated in the initial comment stage may petition for review of the Director's decision under Part 70.

RULES OF PRACTICE: PETITION FOR REVIEW UNDER PART 76

To be eligible to petition for review of a Director's decision on the certification of a gaseous diffusion plant, an interested party must have either submitted written comments in response to a prior *Federal Register* notice, or provided oral comments at an NRC meeting held on the application or compliance plan. 10 C.F.R. § 76.62(c).

RULES OF PRACTICE: PETITION FOR REVIEW UNDER PART 76

Part 76 contemplates a Commission decision on petitions for review of certification decisions within a relatively short (60-day) time period. See 10 C.F.R. § 76.62(c). Extending the Part 76 petition deadline in the absence of a strong reason is not compatible with the contemplated review period.

MEMORANDUM AND ORDER

I. BACKGROUND

On September 19, 1996, the NRC published in the *Federal Register* (61 Fed. Reg. 49,360-63) notice of the certification decision of the Director, Office of Nuclear Material Safety and Safeguards (Director), for the U.S. Enrichment Corporation (USEC) to operate the two gaseous diffusion plants (GDPs) located at Paducah, Kentucky, and at Piketon, Ohio. The NRC also issued a Finding of No Significant Impact (FONSI) concerning the agency's approval of the compliance plan prepared by the U.S. Department of Energy (DOE) and submitted by USEC.

USEC or any person whose interest may be affected, and who had submitted written comments in response to the prior *Federal Register* Notice on the application or compliance plan under 10 C.F.R. § 76.37, or provided oral comments at an NRC meeting held on the application or compliance plan under 10 C.F.R. § 76.39, were eligible to file a petition with the Commission requesting review of the Director's decision within 15 days after publication of the Director's decision. 10 C.F.R. § 76.62(c).¹

The NRC received four petitions for review of the Director's decision. This Memorandum and Order addresses only certain threshold procedural matters that are raised by those petitions.

II. PETITIONS FOR REVIEW

The four petitions and related NRC actions to date are as follows:

1. By letter dated September 30, 1996, Vina K. Colley of McDermott, Ohio, who serves as President of PRESS, Portsmouth-Piketon Residents for

¹ Notice of receipt of the application had appeared in the *Federal Register* (60 Fed. Reg. 49,026) on September 21, 1995, allowing for a 45-day public comment period on the application and noticing public meetings to solicit public input on the certification. A second notice appeared in the *Federal Register* (60 Fed. Reg. 57,253) on November 14, 1995, providing for a 45-day public comment period on the compliance plan. Public meetings were held on November 28, 1995, in Portsmouth, Ohio, and on December 5, 1995, in Paducah, Kentucky.

Environmental Safety and Security, petitioned for Commission review. Her petition was docketed at the NRC on October 4, 1996. Ms. Colley had spoken at the NRC's public meeting in Portsmouth, Ohio, on November 28, 1995, regarding the application and compliance plan. On October 4, 1996, the Office of the Secretary served a copy of her petition on USEC and persons who had provided written comments on the application or compliance plan during the comment period or had provided oral comments at a meeting held on the application and compliance plan. The Office of the Secretary invited those served to file comments on Ms. Colley's petition by October 15, 1996.

2. By letter dated October 2, 1996, two individuals, Mark Donham and Kristi Hanson, of Brookport, Illinois, also petitioned for review. Mr. Donham participated in the public meeting in Paducah, Kentucky, on December 5, 1995, and he and Ms. Hanson joined in earlier written comments. Their petition was docketed at the NRC on October 8, 1996. On October 9, 1996, the Office of the Secretary served the petition on the service list, and invited those served to comment on the petition by October 21, 1996.
3. By letter dated September 28, 1996, Neilly Buckalew, submitted a petition for review in the capacity of Executive Director, Kwanitewk, NATIVE Resource/Network, Meriden, New Hampshire. This letter was docketed at the NRC on October 9, 1996. NRC records indicate that neither Neilly Buckalew nor anyone identified as representing Kwanitewk, NATIVE Resource/Network filed written comments on the certification application or compliance plan during the comment period or made oral comments at the public meetings.
4. By letter dated October 3, 1996, Diana Salisbury, of Sardinia, Ohio, petitioned for Commission review on behalf of the Sycamore Environmental Awareness Group. This correspondence was docketed at the NRC on October 7, 1996. By letter dated October 4, 1996, docketed at the NRC on October 9, 1996, Ms. Salisbury submitted an amendment to her letter of October 3, 1996. NRC records indicate that neither Ms. Salisbury nor anyone identified as representing the Sycamore Environmental Awareness Group filed written comments on the certification application or compliance plan during the comment period or made oral comments at the public meetings.

III. THRESHOLD PROCEDURAL MATTERS

The petitions for review raise certain procedural matters that will be addressed as threshold matters. These matters are as follows:

1. Petitioners' Eligibility to Petition for Review

As noted above, the Commission's regulations provide that USEC or any person whose interest may be affected, and who had submitted written comments in response to the prior *Federal Register* notice on the application or compliance plan under 10 C.F.R. § 76.37, or provided oral comments at an NRC meeting held on the application or compliance plan under section 76.39, is eligible to file a petition to the Commission requesting review of the Director's certification. Two of the petitions are being rejected for failure to meet the conditions of eligibility for the filing of a petition for review.

First, since neither Neilly Buckalew nor anyone identified as representing Kwanitewk, NATIVE Resource/Network, Meriden, Hew Hampshire, filed written comments on the certification application or compliance plan during the comment period or made oral comments at the public meetings, they are not eligible to seek Commission review pursuant to the plain terms of 10 C.F.R. § 76.62(c). Second, since neither Ms. Salisbury nor anyone identified as representing the Sycamore Environmental Awareness Group filed written comments on the certification application or compliance plan during the comment period or made oral comments at the public meetings, they are not eligible to seek Commission review pursuant to the terms of section 76.62(c).

The correspondence from these parties setting forth their petitions for review will be referred to the NRC Staff for review and for appropriate response. The referral to the NRC Staff does not alter the determination that these petitions are not before the Commission for review of the Director's decision.

2. Extension of the Comment Period

In her letter dated September 30, 1996, Ms. Colley also petitions for an extension of the 15-day period for petitioning for Commission review of the Director's decision. She asks that the Commission afford no less than an additional 30-day period for filing a petition and comments on the Director's certification decision. She alleges that the 15-day period is insufficient for citizens to obtain, review, and understand the necessary materials. She contends that making materials available at the NRC and at the two GDPs does not allow for full participation by citizens and taxpayers. In their letter dated October 2, 1996, Petitioners Donham and Hanson state that they join in the request of other parties for an extension of the 15-day period for requesting review.

The requests for an extension of the petition deadline are being denied. Commission rules allow for time extensions only for "good cause." See 10 C.F.R. § 76.74(b). Here, Petitioners have not established good cause for creation of an additional period for seeking Commission review and for filing further comments. Petitioners do not identify any particular documents that require

additional time for review and comment. In addition, Ms. Colley focuses in large part only on the potential for further review by other citizens and taxpayers across the nation; she gives no specific reason why she or others eligible to file petitions need additional time. Commission rules contemplate a Commission decision on petitions for review within a relatively short (60-day) time period. *See* section 76.62(c). Extending the petition deadline in the absence of a strong reason is not compatible with the contemplated review period.

3. Expansion of the Right to Seek Review

Ms. Colley requests that the Commission permit comments by any interested person of the United States. In its rules, however, the Commission did provide a period for general public comment on the application and compliance plan submitted by USEC. Thus, Ms. Colley appears to object to the NRC rule that makes early participation a condition for filing petitions seeking Commission review of the Director's decision.

This procedural requirement, in section 76.62(c), was established through notice-and-comment rulemaking. Ms. Colley's objection to the requirement and request for its alteration will not be entertained as part of the Commission review of the Director's decision, which necessarily focuses on technical and environmental considerations peculiar to the Piketon and Paducah facilities. The Commission has established a process for entertaining a petition for rulemaking (10 C.F.R. § 2.802), i.e., to issue, amend, or rescind any regulation, that Petitioner may wish to pursue.

Other matters raised by the petitions, including, for example, the various substantive challenges to the Director's certification decision and Ms. Colley's request for national public hearings on continued operation of the GDPs, are reserved for later Commission decision.²

For the foregoing reasons, and pursuant to my authority under 10 C.F.R. § 76.72(b), it is hereby ORDERED that:

1. The petition for review dated September 28, 1996, from Neilly Buckalew, submitted in the capacity of Executive Director, Kwanitewk, NATIVE Resource/Network, Meriden, Hew Hampshire, is rejected and referred to the NRC Staff for review and appropriate response;

2. The petition for review dated October 3, 1996, and its amendment dated October 4, 1996, by Diana Salisbury, of Sardinia, Ohio, on behalf of the

²The Commission has begun receiving responsive comments to the petitions, including a response from USEC to the Colley petition. Any issue raised in the responses and not addressed in this Order is reserved for later Commission determination.

Sycamore Environmental Awareness Group, are rejected and referred to the NRC Staff for review and appropriate response;

3. The request by Petitioners Colley, Donham, and Hanson for an additional period for seeking review and submitting comment on the Director's decision is denied; and,

4. The request by Petitioner Colley for expansion of the right to petition for Commission review of the Director's decision to any interested person is denied.

For the Commission

JOHN C. HOYLE
Secretary of the Commission

Dated at Rockville, Maryland,
this 18th day of October 1996.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

**Charles Bechhoefer, Chairman
Dr. Frank F. Hooper
Dr. Charles N. Kelber**

In the Matters of

**JAMES L. SHELTON
(Order Prohibiting Involvement
in NRC-Licensed Activities
(Effective Immediately))**

**Docket No. IA 95-055
(ASLBP No. 96-712-01-EA)**

**TESTCO, INC.
(Order Imposing Civil Monetary
Penalty; General License)**

**Docket No. 150-00032-EA
(ASLBP No. 96-719-04-EA)
(EA 95-101)
October 1, 1996**

The Atomic Safety and Licensing Board approves a settlement agreement in a consolidated enforcement proceeding.

**MEMORANDUM AND ORDER
(Approving Settlement Agreement)**

These two enforcement proceedings involve, respectively, an immediately effective enforcement order seeking to bar Mr. James L. Shelton (a radiographer) from participating in certain NRC-licensed activities for a period of 3 years (measured from October 31, 1995) and a proposed civil penalty of \$5000.00 against the firm of which Mr. Shelton serves as President. Atomic Safety and Licensing Boards, consisting of the same Administrative Judges, were established for each proceeding. Those Boards issued Notices of Hearing for

each proceeding. 61 Fed. Reg. 2848 (Jan. 29, 1996) (*Shelton* proceeding); 61 Fed. Reg. 43,268 (Aug. 21, 1996) (*Testco* proceeding). The proceedings have been consolidated. Prehearing Conference Order, dated August 15, 1996 (unpublished); *see also* 61 Fed. Reg. 43,268.

On September 17, 1996, the NRC Staff advised the Atomic Safety and Licensing Boards that it had reached a settlement with both Testco and Mr. Shelton. Under the agreement, Mr. Shelton (1) is prohibited from engaging in certain licensed activities until October 31, 1996; (2) must submit certain forms and pay certain fees prior to conducting such licensed activities during the period November 1, 1996 through December 31, 1998; (3) until October 31, 1998, must provide certain notifications to NRC prior to conducting those licensed activities; and (4) must pay a civil penalty of \$1000 in two installments due no later than October 31, 1996. A copy of the agreement is attached hereto.

Pursuant to 10 C.F.R. § 2.203, settlement agreements such as have been agreed to here are subject to Licensing Board approval, "according due weight to the position of the [NRC] staff." By motion dated September 17, 1996 (delivery of which to one of the Board members was delayed until the week of September 23-27, 1996), the Staff moved that we approve the agreement, which itself recites the Staff's position that the agreement "best serves the interests of the public and the parties," as well as the Atomic Energy Act and NRC requirements, and that we terminate the proceedings.

Absent any contrary information, and according due weight to the Staff's position, we hereby *approve* the Settlement Agreement submitted to us and *terminate* the proceedings.

Pursuant to 10 C.F.R. § 2.764, this Order is effective immediately but is subject to Commission review under 10 C.F.R. § 2.786.

It is so Ordered.

THE ATOMIC SAFETY AND
LICENSING BOARDS

Charles Bechhoefer, Chairman
ADMINISTRATIVE JUDGE

Dr. Frank F. Hooper (by CB)
ADMINISTRATIVE JUDGE

Dr. Charles N. Kelber
ADMINISTRATIVE JUDGE

Rockville, Maryland
October 1, 1996

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE OFFICE OF ENFORCEMENT

In the Matter of

Docket No. 150-00032
(General License (10 C.F.R. § 150.20))
(EA 95-101 and IA 95-055)

TESTCO, INC., and
JAMES L. SHELTON
(Greensboro, North Carolina)

SETTLEMENT AGREEMENT

On October 31, 1995, the NRC issued a written Notice of Violation and Proposed Imposition of Civil Penalty — \$5,000 (Notice) to Testco, Inc. (Licensee or TESTCO), and an Order Prohibiting Involvement in NRC-Licensed Activities (Effective Immediately) to Mr. James Shelton. The Notice and the Order stated the provisions of the NRC's requirements the Licensee had violated and the amount of the civil penalty proposed for the violation.

As a result of the Licensee's failure to adequately respond to the Notice, the NRC issued on March 19, 1996, an Order Imposing Civil Monetary Penalty — \$5,000. By a letter dated July 20, 1996, the Licensee requested a hearing concerning this matter before the Atomic Safety and Licensing Board, and the Board subsequently granted the request.

In telephone discussions on September 5 and 9, 1996, between Mr. James Shelton, President of TESTCO, and Mr. James Lieberman, Director, Office of Enforcement, Mr. Shelton indicated that TESTCO desires to settle this matter without further litigation, as noted below. The NRC Staff concludes that this Settlement Agreement best serves the interests of the public and the parties, and the purposes of the Atomic Energy Act of 1954, as amended, and the NRC's requirements.

Therefore, pursuant to section 81, subsections (b) and (o) of section 161, and section 234 of the Atomic Energy Act of 1954, as amended (42 U.S.C. §§ 2111, 2201(b), 2201(o), and 2282), and 10 C.F.R. § 2.203, the October 31, 1995, and March 19, 1996 Orders are hereby modified as follows:

1. Mr. Shelton is prohibited from engaging in licensed activities in areas under NRC jurisdiction until October 31, 1996. For purposes of this Settlement Agreement (Settlement), areas under NRC jurisdiction are

areas in non-Agreement States, offshore waters, or any areas under exclusive Federal jurisdiction.

2. Prior to conducting licensed activities in NRC jurisdiction after November 1, 1996, the Licensee is required to submit an NRC Form 241 that covers the remainder of calendar year 1996 (i.e., until December 31, 1996). The Licensee is also required to submit an NRC Form 241 prior to conducting licensed activities in calendar year 1997 and calendar year 1998. These submittals would be in accordance with 10 C.F.R. § 150.20(b); however, the Licensee should be aware that if it performs work in areas under NRC jurisdiction for more than 180 days in any calendar year, the Licensee is required to apply for a specific NRC license. Fees are required to be submitted upon each filing of NRC Form 241 and before commencing work. However, a separate fee is not required for the weekly notification under paragraph 3 below.
3. Until October 31, 1998, following submittals of the yearly NRC Form 241 under paragraph 2 above, Mr. James Shelton, on behalf of Testco, Inc., shall notify NRC Region II, by 9:00 a.m. EST Monday (or Tuesday, if Monday is a Federal holiday) of each week, whether the Licensee plans to perform radiography work in areas under NRC jurisdiction. Notification shall be made to the Chief, Materials Licensing/Inspection, Branch 1, by facsimile at (404) 331-7437 using the attached form, and receipt shall be verified by calling (404) 331-5624.
 - A. If radiography work is planned, the Licensee shall provide the location of the field sites under NRC jurisdiction where the work is planned that week, as well as the specific date(s) and time(s). Inasmuch as the Licensee is required to submit to the NRC written notification on a weekly basis, the provisions of 10 C.F.R. § 150.20(b)(1) requiring that additional NRC Form 241s be filed for the remainder of each calendar year prior to engaging in licensed activities are waived; the Licensee is not required to comply with the three day notification requirement as long as it is making the weekly notifications to NRC Region II.
 - B. If unplanned radiography work arises after the weekly notification, the new work cannot be performed unless the NRC has been provided a 24-hour written notification. Telephone notification is not acceptable.
 - C. Notification is required to include work on Federal property in Agreement States, unless the Licensee has a written statement from the Federal agency where work is planned that the area is not under exclusive Federal jurisdiction.
4. The Licensee agrees to pay a civil penalty of \$1,000. The Licensee shall pay \$500 within two weeks of the date of this Settlement and \$500 no

later than October 31, 1996. If the \$1,000 Penalty is not paid in full by October 31, 1996, TESTCO agrees to pay the full penalty described in the October 31, 1995 Notice (\$5,000) by November 30, 1996, and waives its right for a hearing concerning the civil penalty imposed by the March 19, 1996 Order.

5. The Licensee and Mr. Shelton agree to withdraw their respective requests for hearing in Docket Nos. EA 95-101 and IA 95-055 (now consolidated before an Atomic Safety and Licensing Board) in consideration of the modification of the October 31, 1995 and March 19, 1996 Orders, as provided under paragraphs 1 through 4 above.
6. If this Settlement is violated, the October 31, 1995 and the March 19, 1996 Orders shall be reinstated, and Mr. Shelton and the Licensee agree not to contest the reinstatement of these Orders.
7. The Staff, Mr. Shelton, and TESTCO shall jointly move the Atomic Safety and Licensing Board designated in the above-captioned proceedings for orders approving this Settlement and terminating the proceedings.

James Shelton, as an Individual

09/13/96

TESTCO, INC.

James Shelton, President

09/13/96

U.S. NUCLEAR REGULATORY COMMISSION

James Lieberman, Director
Office of Enforcement

09/16/96

Fax To: Chief, Materials Licensing/Inspection, Branch 1
From: James Shelton, President, Testco
Subject: Notification of Work in Areas Under NRC Jurisdiction
 For the Week of / /

1. Is radiography work planned in non-Agreement States or offshore waters?
 _____ (Yes/No)
 - A. If the answer to Question 1 is yes, skip to 3.
 - B. If the answer to Question 1 is no, and the work planned is not on a Federal property, skip to 6.
 - C. If the answer to Question 1 is no, and the work planned is on a Federal property, go to 2.

2. Is there a written statement from the Federal agency stating that the area is not under exclusive Federal jurisdiction? _____ (Yes/No)
 - A. If the answer to Question 2 is no, proceed to 3.
 - B. If the answer to Question 2 is yes, skip to 6.

3. Date and Time of Planned Work	4. Name and Phone Number of Firm	5. Work Location Address (Street Address, City, and State)

6. I, THE UNDERSIGNED, HEREBY CERTIFY THAT:
 - A. All the information in this form is true and complete.
 - B. I have read and understand the provisions of the general license in 10 C.F.R. § 150.20, and understand that I am required to comply with these provisions as well as all byproduct, source, or special nuclear material which I possess and use in areas under NRC jurisdiction under the general license for which this form is filed with the Nuclear Regulatory Commission.

- C. I understand that activities, including storage, conducted in areas under NRC jurisdiction under the general license in 10 C.F.R. § 150.20 are limited to 180 days in a calendar year.
- D. I understand that I may be inspected by the NRC at the above listed work site locations and at the licensee home office address for activities performed in areas under NRC jurisdiction. I am also aware that I am responsible for any fees associated with any inspections.
- E. I understand that conduct of any activities not described above, including conduct of activities on dates or locations different from those described above or without NRC authorization, may subject me to enforcement action, including civil or criminal penalties.

Certifying Officer, Name and Title

Signature

Date

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

G. Paul Bollwerk, III, Chairman
Dr. Charles N. Kelber
Dr. David R. Schink

In the Matter of

Docket No. IA 96-020
(ASLBP No. 96-715-03-EA)

JUAN GUZMAN
(Order Prohibiting Unescorted
Access or Involvement In
NRC-Licensed Activities)

October 16, 1996

MEMORANDUM AND ORDER
(Approving Settlement Agreement and Dismissing Proceeding)

In a joint motion filed October 4, 1996, Petitioners Juan and Laurene Guzman and the NRC Staff ask the Licensing Board to approve an attached settlement agreement and dismiss this proceeding. Finding their settlement accord is consistent with the public interest, we approve the agreement and terminate this case.

At issue in this proceeding is an April 19, 1996 Staff enforcement order issued in connection with Mr. Guzman's activities while employed as a contractor employee performing piping insulation work at Baltimore Gas and Electric Company's (BG&E) Calvert Cliffs Nuclear Power Plant, Units 1 and 2. The immediately effective order precludes Mr. Guzman for a period of 5 years from (1) any involvement in NRC-licensed activities; and (2) obtaining unescorted access to an NRC-licensed facility. The order further provides this 5-year period began on October 18, 1994, the date on which BG&E revoked Mr. Guzman's

unescorted access authorization and removed him from the protected area at the Calvert Cliffs facility for purported misrepresentations regarding his immigration status at that time. As the basis for its order, the Staff relies on Mr. Guzman's alleged attempts to falsify background information regarding himself, including providing a fraudulent "green card" and social security card and denying that an arrest record obtained by submitting his fingerprints to the Federal Bureau of Investigation belonged to him. *See* 61 Fed. Reg. 18,630, 18,630-31 (1996).

In a one-paragraph letter dated April 29, 1996, Mr. Guzman and his spouse, Laurene, requested a hearing in accordance with 10 C.F.R. § 2.202 to contest the Staff's April 1996 order. In its May 31, 1996 initial prehearing order the Board sought to convene an early July 1996 prehearing conference, but subsequently granted a series of postponements to provide the Guzmans with additional time to find an attorney.¹ Their efforts to obtain counsel, however, ultimately were unsuccessful. Accordingly, on August 28, 1996, the Board conducted a prehearing conference during which Mr. Guzman (aided by a United States Department of State-certified Spanish interpreter²) and Mrs. Guzman appeared *pro se*.

At the prehearing conference, the Board heard presentations on the pending issues of the Staff's challenge to Mrs. Guzman's standing and the efficacy of the Staff's immediate effectiveness determination.³ *See* Tr. at 9-64. The Board also considered the admissibility of certain "central litigation issues" proposed by the parties. We concluded, among other things, that we would permit the enforcement order to be challenged on the ground the 5-year prohibition term is excessive when compared to other, similar cases. *See* Tr. at 68-70; *see also* *Radiation Oncology Center at Marlton* (Marlton, New Jersey), LBP-95-25, 42 NRC 237, 238-39 (1995). We also decided we wished to receive additional submissions addressing the question of permitting litigation on the Guzman-proposed issue whether Mr. Guzman's status as a Mexican immigrant was a factor affecting the severity of the imposed prohibition. *See* Tr. at 70-73. Finally, the Board and the participants discussed future scheduling for the proceeding, which resulted in a directive that a 60-day discovery period would begin immediately. *See* Tr. at 74-83. *See also* Board Order (Memorializing Filing

¹ Because the Guzmans appeared to be in some financial distress, *see, e.g.*, Reply to NRC Staff Response Dated July 10, 1996 (Aug. 2, 1996) at 1, and based on our belief that in this enforcement proceeding the overall efficiency of the adjudicatory process would be materially aided if the Guzmans had counsel, the Board provided the Guzmans with information on organizations that could assist them in obtaining free or reduced-cost legal services. *See* Board Memorandum and Order (Scheduling Prehearing Conference) (Aug. 12, 1996) at 3 n.2 (unpublished); Board Memorandum and Order (Second Prehearing Order) (June 21, 1996) at 4 n.1 (unpublished).

² The terms and conditions governing the use of that interpreter were specified in an attachment to an August 26, 1996 Board issuance. *See* Board Memorandum (Use of Spanish Interpreter) (Aug. 26, 1996) attach. 1 (unpublished); *see also* Tr. at 3-6.

³ Because we approve the settlement reached by the participants, we need not resolve these issues.

Dates and Initiation of Discovery and Requesting Settlement Status Report) (Aug. 30, 1996) at 1-2 (unpublished).

Following the August 28 prehearing conference, the Guzmans and the Staff initiated settlement discussions. To permit negotiations to continue, on September 9, 1996, the Guzmans and the Staff asked that we hold the proceeding, including the discovery and issue briefing schedules, in abeyance through the end of September. We granted this request, as well as a September 25, 1996 motion to continue the schedule suspension through mid-October. Thereafter, the participants filed the joint settlement motion now before us.

Under the terms of the October 4, 1996 settlement agreement, the Staff agrees to modify the April 1996 enforcement order to reduce from 5 to 3 years the term of the prohibition on Mr. Guzman having any involvement in NRC-licensed activities or seeking/obtaining unescorted access to any NRC-licensed facility. Therefore, as revised, this prohibition would be in place until October 17, 1997. In addition, the settlement agreement provides that for a subsequent 2-year period (i.e., October 17, 1997, through October 16, 1999), if Mr. Guzman seeks employment with any person whose operations he knows, or reasonably should know, involve NRC-licensed or regulated activity, prior to being hired he must provide that person with a copy of the April 1996 order and the settlement agreement. In turn, the Guzmans agree to withdraw their hearing request.

Pursuant to subsections (b) and (o) of section 161 of the Atomic Energy Act of 1954, 42 U.S.C. § 2201(b), (o), and 10 C.F.R. § 2.203, we have reviewed the participants' joint settlement agreement to determine whether approval of the agreement and termination of this proceeding is in the public interest. Based on that review, and according due weight to the position of the Staff, we have concluded both actions are consonant with the public interest. We thus grant the participants' joint motion to approve the settlement agreement and dismiss this proceeding.

For the foregoing reasons, it is, this sixteenth day of October 1996, ORDERED that:

1. The October 4, 1996 joint motion of Juan and Laurene Guzman and the Staff is *granted* and we *approve* their October 4, 1996 "Joint Settlement Agreement," which is attached to and incorporated by reference in this Memorandum and Order.

2. This proceeding is *dismissed*.

THE ATOMIC SAFETY AND
LICENSING BOARD

G. Paul Bollwerk, III, Chairman
ADMINISTRATIVE JUDGE

Charles N. Kelber
ADMINISTRATIVE JUDGE

David R. Schink
ADMINISTRATIVE JUDGE

Rockville, Maryland
October 16, 1996

ATTACHMENT

UNITED STATES OF AMERICA NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of

Docket No. IA 96-020
(ASLBP No. 96-715-03-EA)

JUAN GUZMAN
(Order Prohibiting Unescorted
Access or Involvement In
NRC-Licensed Activities)

JOINT SETTLEMENT AGREEMENT

On April 19, 1996, the staff of the Nuclear Regulatory Commission (Staff) issued an Order Prohibiting Unescorted Access or Involvement in NRC-licensed Activities (Effective Immediately) to Juan Guzman. 61 Fed. Reg. 18,630. On April 29, 1996, Juan Guzman along with his spouse, Laurene Guzman, requested a hearing on the April 19, 1996 order.¹ In response to Mr. and Mrs. Guzman's hearing request, an Atomic Safety and Licensing Board was established on May 20, 1996. 61 Fed. Reg. 26,549.

After discussions between the Staff and the Guzmans, both the Staff and the Guzmans agree that it is in their respective interests and in the public interest to settle this proceeding without further litigation, and agree to the following terms and conditions:

1. Juan and Laurene Guzman agree to withdraw their request for a hearing, dated April 29, 1996.
2. The NRC Staff agrees to the modification of the Order Prohibiting Unescorted Access or Involvement in NRC-licensed Activities (Effective Immediately), dated April 19, 1996, as set forth in Paragraphs 3 and 4, below.

¹ Mrs. Guzman's right to participate in the proceeding was challenged by the Staff, and the issue of her status is pending before the Atomic Safety and Licensing Board.

3. Juan Guzman agrees that from October 18, 1994, the date of his termination of unescorted access, until October 17, 1997, he is prohibited from seeking or obtaining unescorted access at any NRC-licensed facility and may not be involved in any NRC-licensed activities. For the purposes of this agreement, the term, "licensed activities" includes any and all activities which a licensee must or is permitted to perform in order to conduct activities authorized by its NRC-issued license, including those necessary to achieve compliance with all regulatory requirements imposed by the Commission.
4. Juan Guzman agrees that for two years following the three year prohibition, (that is, from October 17, 1997 to October 16, 1999), should he seek employment with any person (meaning an individual, a business, or other entity) whose operations he knows or reasonably should know involve any NRC-licensed or regulated activity, Mr. Guzman will provide a copy of the April 19, 1996 order and this agreement to that person prior to being hired, so that the person is aware of the Order in deciding whether to hire him.
5. By signing this agreement, Mr. Guzman acknowledges his obligation, under federal statute and the Commission's regulations, to provide information to the NRC, an NRC licensee, or a contractor of an NRC licensee that is complete and accurate in all material respects. Mr. Guzman agrees that he will comply with all applicable NRC requirements.
6. Mr. Guzman acknowledges that he has read and fully understands the terms of this settlement agreement.
7. The Staff and Juan Guzman shall jointly move the Atomic Safety and Licensing Board designated in the above-captioned proceeding for an order approving this agreement and terminating this proceeding. Laurene Guzman shall file a notice of withdrawal of her hearing request at the same time the motion of the Staff and Mr. Guzman is filed. The terms of this agreement shall become effective upon approval of the Atomic Safety and Licensing Board.

Juan Guzman

Marian L. Zobler
Counsel for NRC Staff

Laurene Guzman

Dated this 4th day of October 1996

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

**Charles Bechhoefer, Chairman
Dr. Richard F. Foster
Frederick J. Shon**

In the Matter of

**Docket No. 50-508-OL
(ASLBP No. 83-486-01-OL)**

**WASHINGTON PUBLIC POWER
SUPPLY SYSTEM
(WPPSS Nuclear Project No. 3)**

October 16, 1996

The Atomic Safety and Licensing Board grants the Applicant's motion to withdraw its operating license application and to terminate the proceeding.

NEPA: AGENCY RESPONSIBILITIES

The NRC cannot delegate to a local group the responsibility under the National Environmental Policy Act (NEPA) to prepare an environmental assessment (EA). The EA must be prepared by NRC, not a local agency, although in preparing an EA the Staff may take into account site uses proposed by a local agency.

NEPA: ENVIRONMENTAL ASSESSMENT

Termination of an operating license application gives rise to a need, pursuant to 10 C.F.R. § 51.21, for an EA to consider the impacts of the termination.

NEPA: SCOPE OF ENVIRONMENTAL ANALYSIS

Because a construction permit termination would appear to have impacts that encompass operating license termination impacts, one EA would appear to suffice for both actions.

MEMORANDUM AND ORDER (Withdrawal of Application)

I. BACKGROUND

This proceeding concerns the application for a reactor operating license for WPPSS Nuclear Project No. 3 filed by Washington Public Power Supply System ("Applicant"). On August 16, 1996, the Applicant filed a Motion for Withdrawal of Application, requesting the issuance of an order authorizing the withdrawal of the Operating License (OL) application and terminating the proceeding. Attached to this motion was a request to the NRC Staff, dated August 8, 1996, to terminate the underlying construction permit (CP).¹

On September 5, 1996, the NRC Staff filed a response indicating that it had no objection to our granting the motion. None of the other parties responded — indeed, counsel for the Licensing Board Panel inquired by telephone of the one remaining Intervenor and was apprised that the Intervenor did not intend to respond to the Applicant's motion or to participate in the termination activities. The State of Washington, participating as an Interested State, also was advised about this license termination, but it did not respond.

II. SITE DEVELOPMENT PROPOSAL

The Applicant states that it plans to transfer ownership of the entire site (which includes the previously terminated WNP-5 project) to a new interlocal agency, known as the Satsop Adaptive Redevelopment Program ("SRP"), authorized by a recent change in Washington state law. It states that the WNP-3 project will not be completed as a nuclear power plant but that SRP will adapt and use the structures for economic development purposes. The SRP also will have authority

¹ Earlier, on July 12, 1983, the Applicant notified the Atomic Safety and Licensing Board that construction of the WNP-3 project would be deferred indefinitely. In a letter dated May 17, 1994 (updated February 15, 1995), it subsequently advised that the Applicant's Board of Directors voted to formally terminate the project. The Applicant's Board also voted at that time (1) to maintain the construction permit (CP) in effect, (2) to continue the deferred status of the OL application, and (3) to preserve the project in accordance with the NRC's "Policy Statement on Deferred Plants" (52 Fed. Reg. 38,077 (1987)).

for site restoration. As a result, the Applicant asserts that there is no basis or need for us to impose conditions on the withdrawal of the OL application or the termination of this proceeding, citing *Duke Power Co.* (Perkins Nuclear Station, Units 1, 2, and 3), LBP-82-81, 16 NRC 1128 (1982).

For its part, the Staff indicates that, prior to terminating the CP, it plans to meet with the Applicant and interested state and local agencies and to conduct a Staff site inspection. It will prepare an Environmental Assessment (EA) on the CP termination based on the meetings and any documentation it may require of the Applicant pursuant to 10 C.F.R. § 51.41. It pledges to "assure compliance with all appropriate safety and environmental requirements" in the context of the CP termination request.

III. BOARD ANALYSIS

The Applicant's solution for treatment of the site — in effect, a delegation of authority to a local agency — would be sufficient only for the type of condition dealt with in the cited *Perkins* case, where the only issues involved were whether the withdrawal should be with or without prejudice, or reimbursement of litigation expenses to the intervening groups. In this case, we cannot delegate to a local group the responsibilities under the National Environmental Policy Act (NEPA) imposed upon this agency. Moreover, termination of an operating license application gives rise to a need, pursuant to 10 C.F.R. § 51.21, for an environmental assessment (EA) to consider the impacts of the termination. *Consumers Power Co.* (Midland Plant, Units 1 and 2), LBP-86-33, 24 NRC 474 (1986); *id.*, LBP-86-39, 24 NRC 834 (1986).

An additional consideration here is that the CP termination, although technically a different action than the OL termination before us, would appear to have impacts that would encompass the OL termination impacts. Thus, one EA would appear to suffice for both actions, and the action proposed by the Staff to prepare an EA on the CP termination appears reasonable. The EA must be prepared by NRC, not a local agency, although in preparing an EA the Staff may take into account site uses proposed by a local agency.

Normally, both parties and the Licensing Board would have an opportunity to review the Staff's EA. 10 C.F.R. § 51.104(b). We could, therefore, withhold any determination on the Applicant's withdrawal request until the Staff's EA is submitted to us for approval. *Midland*, LBP-86-39, *supra*. The parties, however, have expressed no interest in reviewing the termination impacts — indeed, the sole remaining Intervenor expressly declined to do so, and the State, although advised of the opportunity for comment, has not expressed any interest. Further, the Staff is charged with preparing an adequate EA on the CP termination, and from the steps it described it is taking (NRC Staff Response at 2 n.1), we see

no likely default in NEPA responsibilities by NRC. That being so, we decline to defer our action on the OL termination request before us pending our review of the EA.

IV. ORDER

Accordingly, it is, this 16th day of October 1996, ORDERED:

1. The Applicant's motion for withdrawal of its OL application is hereby *granted*;
2. This proceeding is *terminated*.
3. Pursuant to 10 C.F.R. § 2.764, this Order is effective immediately but is subject to review by the Commission under 10 C.F.R. § 2.786.

THE ATOMIC SAFETY AND
LICENSING BOARD

Charles Bechhoefer, Chairman
ADMINISTRATIVE JUDGE

Dr. Richard F. Foster (by CB)
ADMINISTRATIVE JUDGE

Frederick J. Shon
ADMINISTRATIVE JUDGE

Rockville, Maryland
October 16, 1996

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

**Charles Bechhoefer, Chairman
Thomas D. Murphy
Frederick J. Shon**

In the Matter of

**Docket No. 72-18-ISFSI
(ASLBP No. 97-720-01-ISFSI)**

**NORTHERN STATES POWER
COMPANY
(Independent Spent Fuel Storage
Installation)**

October 24, 1996

In a proceeding in which a license for an independent dry cask spent fuel storage installation is being sought, the Atomic Safety and Licensing Board describes standards for intervention and establishes dates for amending petitions and for the initial prehearing conference.

**RULES OF PRACTICE: PARTICIPATION BY AN INTERESTED
STATE OR LOCAL GOVERNMENT**

State agencies may choose to participate either as a party under 10 C.F.R. § 2.714 or as an interested state under 10 C.F.R. § 2.715(c). To participate under 10 C.F.R. § 2.714, a state agency must satisfy the same standards as an individual petitioner.

RULES OF PRACTICE: INTERVENTION

To participate under 10 C.F.R. § 2.714, a petitioner must establish its standing, must indicate the aspects of the proceeding in which it seeks to participate, and must proffer at least one acceptable contention.

RULES OF PRACTICE: STANDING

In determining whether a petitioner has the requisite standing, the Commission uses contemporaneous judicial concepts of standing. Under those standards, the petitioner must demonstrate (1) that it has suffered or will likely suffer "injury in fact" from the proposed licensing action; (2) that the injury is arguably within the zones of interest sought to be protected by the statute being enforced; and (3) that the injury is redressable by a favorable decision in the proceeding.

RULES OF PRACTICE: STANDING (GROUP)

A group may demonstrate that it has suffered or will likely suffer injury in fact either through organizational injury or injury to a member that it represents.

RULES OF PRACTICE: STANDING (INDIAN TRIBES)

Indian Tribes have been permitted to intervene as an entity, without demonstrating that a particular tribe member has an interest and wishes to be represented by the tribe. They also have participated in the more routine manner of identifying a tribe member who has individual standing but wishes tribe representation.

MEMORANDUM AND ORDER **(Schedules for Further Filings and for** **Prehearing Conference)**

This proceeding involves the application of Northern States Power Company (NSP or Applicant) for a license under 10 C.F.R. Part 72 to possess spent fuel and other radioactive materials associated with spent fuel storage in an offsite independent spent fuel storage installation (ISFSI) in Goodhue County, Minnesota. The license, if granted, would authorize the Applicant to store spent fuel in a dry storage cask system.

Pending before this Atomic Safety and Licensing Board are requests for a hearing and petitions for leave to intervene filed by seven entities (listed chronologically):

1. State of Minnesota Department of Public Service (Petition dated September 25, 1996);
2. State of Minnesota Environmental Quality Board (Petition dated October 14, 1996);
3. Prairie Island Indian Community (Petition dated October 15, 1996);

4. The Prairie Island Coalition (Petition dated October 16, 1996);
5. City of Red Wing (Petition dated October 16, 1996);
6. City of Lake City, Minnesota (Petition dated October 17, 1996); and
7. Florence Township (Petition dated October 17, 1996).

Both the Staff and Applicant¹ have filed responses to the Minnesota Department of Public Service petition (which was submitted earlier than the other petitions, each of which was timely filed). Both point out that state agencies may choose to participate either as a party under 10 C.F.R. § 2.714 or as an interested state under 10 C.F.R. § 2.715(c). To participate under section 2.714, the Commission has long held that a state agency must satisfy the same standards as an individual petitioner. *Nuclear Fuel Services* (West Valley Reprocessing Plant), ALAB-263, 1 NRC 208, 216 n.14 (1975); *Vermont Yankee Nuclear Power Corp.* (Vermont Yankee Nuclear Power Station), LBP-87-7, 25 NRC 116, 118 (1987).

NSP and the Staff each point out that the Public Service petition does not satisfy the requirements for participation pursuant to section 2.714 but that the Department of Public Service could qualify as an interested state under section 2.715(c) and could participate under that authority, as long as at least one petitioner is admitted as a party under section 2.714. See *Niagara Mohawk Power Corp.* (Nine Mile Point Nuclear Station, Unit 2), LBP-83-45, 18 NRC 213 (1983). We agree.

To participate as a party under section 2.714, a petitioner must establish its standing, must indicate the aspects of the proceeding in which it seeks to participate, and must proffer at least one acceptable contention. The standing requirement stems from section 189a of the Atomic Energy Act, as amended, 42 U.S.C. § 2239(a), and 10 C.F.R. § 2.714(a)(1), which provide that any person "whose interest may be affected" may seek to intervene and/or request a hearing. "Person" is defined to include, *inter alia*, "public or private institution, group, government agency, . . . any State or any political subdivision of, or any political entity within a State." 10 C.F.R. § 2.4.

In determining whether a petitioner has the requisite standing, the Commission utilizes contemporaneous judicial concepts of standing. *Sacramento Municipal Utility District* (Rancho Seco Nuclear Generating Station), CLI-92-2, 35 NRC 47, 56 (1992); *Metropolitan Edison Co.* (Three Mile Island Nuclear Station, Unit 1), CLI-83-25, 18 NRC 327, 332 (1983). Under those standards, the petitioner must demonstrate (1) that it has suffered or will likely suffer "injury in fact" from the proposed licensing action; (2) that the injury is arguably within the zones of interest sought to be protected by the statute being enforced; and

¹NSP's answer was late-filed. NSP states that, because of the wording of the *Federal Register* notice initiating this proceeding, its counsel did not receive timely notice of the Department of Public Service petition. NSP moves for us to accept its late-filed answer, pointing out that given the early filing of the Public Service petition, there will be no delay in the proceeding. Good cause having been shown, we accept NSP's late-filed answer.

(3) that the injury is redressable by a favorable decision in the proceeding. *Public Service Co. of New Hampshire* (Seabrook Station, Unit 1), CLI-91-14, 34 NRC 261, 266-67 (1991); *Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), LBP-92-27, 36 NRC 196, 199 (1992).

A group may demonstrate that it has suffered or will likely suffer injury in fact either through organizational injury or injury to a member that it represents. More than a general statement is required — the means by which injury may be suffered must be demonstrated. Thus, for representational standing, a group must identify at least one of its members by name and address and demonstrate how that member may be affected (such as by activities on or near the site) and show (preferably by affidavit) that the group is authorized to request a hearing on behalf of the member. *Houston Lighting and Power Co.* (South Texas Project, Units 1 and 2), ALAB-549, 9 NRC 644, 646-47 (1979).

Indian tribes, however, have been permitted to intervene as an entity, without demonstrating that a particular tribe member has an interest and wishes to be represented by the tribe. *Sequoyah Fuels Corp. and General Atomics* (Gore, Oklahoma Site), LBP-94-19, 40 NRC 9, 13-14 (1994). They also have participated in the more routine manner of identifying a tribe member who has individual standing but wishes tribe representation. *Umetco Minerals Corp.*, LBP-94-18, 39 NRC 369 (1994). For this proceeding, the Prairie Island Indian Community should supplement its petition (as provided below) with an affidavit, either (1) from a tribe member with an individual interest who wishes to be represented by the tribe, setting forth a description of how he or she is affected, such as by residence a certain distance from the facility and how activities bearing upon the ISFSI could affect that individual; or (2) from a tribe official stating that the tribe wishes to participate as an entity and be represented by the tribe attorneys of record, and how the tribe as an entity is affected.

To participate as a party, a petitioner must also submit at least one acceptable contention, conforming to requirements set forth in 10 C.F.R. § 2.714(b)(2). Contentions need to be filed at least 15 days before the first prehearing conference (10 C.F.R. § 2.714(b)(1)) or by such other date as may be specified by the Board (10 C.F.R. § 2.711). Petitions may be amended without leave of the Board until that same date (10 C.F.R. § 2.714(a)(3)).

In this proceeding, the first prehearing conference is hereby scheduled for December 17-19, 1996, in St. Paul, Minnesota, at a time and location to be announced. Members of the public are invited to attend this conference but may not otherwise participate. Petitioners may amend their petitions and submit contentions by Monday, November 25, 1996 (service date). Responses to the contentions should be delivered to the Board members no later than close of business on Tuesday, December 10, 1996.

During the course of the proceeding, in accordance with 10 C.F.R. § 2.715(a), the Licensing Board will entertain written and oral limited appearance statements

of their positions on the issues from persons who are not parties or petitioners. These statements do not constitute testimony or evidence in this proceeding but may help the Board and/or parties in their deliberations on the boundaries of the issues to be considered. Oral statements will not be heard at the December 17-19 prehearing conference but will be heard at later sessions of the proceeding. Written statements may be submitted at any time. Written statements, or requests for oral statements, should be submitted to the Secretary, U.S. Nuclear Regulatory Commission, Washington, DC 20555, Attn: Docketing and Service Branch. A copy of such a statement or request should also be served on the Chairman of this Atomic Safety and Licensing Board, T3 F23, U.S. Nuclear Regulatory Commission, Washington, DC 20555.

* * * * *

IT IS SO ORDERED.

FOR THE ATOMIC SAFETY
AND LICENSING BOARD

Charles Bechhoefer, Chairman
ADMINISTRATIVE JUDGE

Rockville, Maryland
October 24, 1996

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

G. Paul Bollwerk, III, Chairman
Dr. Charles N. Kelber
Dr. Peter S. Lam

In the Matter of

Docket No. 50-219-OLA
(ASLBP No. 96-717-02-OLA)

GENERAL PUBLIC UTILITIES
NUCLEAR CORPORATION
(Oyster Creek Nuclear Generating
Station)

October 25, 1996

In this proceeding concerning citizen group challenges to a proposed technical specification change regarding heavy load handling over the Oyster Creek Nuclear Generating Station spent fuel pool, the Licensing Board rules (1) Petitioners Nuclear Information Resource Service (NIRS) and the Oyster Creek Nuclear Watch (OCNW) have established representational standing as of right; (2) Petitioner Citizens Awareness Network has failed to show either that it is entitled to standing as of right or that it should be given discretionary standing, but nonetheless will be permitted to participate as an amicus curiae; and (3) Petitioners NIRS and OCNW have put forth an admissible legal contention regarding validity of the proposed technical specification revision under the agency's "defense-in-depth" policy.

ATOMIC ENERGY ACT: HEARING RIGHT

OPERATING LICENSE AMENDMENTS: TECHNICAL SPECIFICATION CHANGES

A technical specification is a license condition, and a licensee request to change that condition constitutes a request to amend the license that creates adjudicatory hearing rights under Atomic Energy Act § 189a, 42 U.S.C. § 2239(a). See *Cleveland Electric Illuminating Co.* (Perry Nuclear Power Plant, Unit 1), CLI-93-21, 38 NRC 87, 91 n.6, 93 (1993).

ATOMIC ENERGY ACT: STANDING TO INTERVENE (REPRESENTATIONAL)

RULES OF PRACTICE: STANDING TO INTERVENE (REPRESENTATIONAL)

To have standing to participate as of right in a proceeding regarding an agency licensing action, a petitioner must demonstrate that (1) it has suffered or will suffer a distinct and palpable injury that constitutes injury in fact within the zone of interests arguably protected by the governing statute; (2) the injury is fairly traceable to the challenged action; and (3) the injury is likely to be redressed by a favorable decision. In addition, when an organization seeks to intervene on behalf of its members, that entity must show it has an individual member who can fulfill all the necessary elements and who has authorized the organization to represent his or her interests. See *Yankee Atomic Electric Co.* (Yankee Nuclear Power Station), CLI-96-1, 43 NRC 1, 6 (1996).

RULES OF PRACTICE: STANDING TO INTERVENE (CONSTRUCTION OF PETITION)

In making a standing determination, a presiding officer is to "construe the [intervention] petition in favor of the petitioner." *Georgia Institute of Technology* (Georgia Tech Research Reactor, Atlanta, Georgia), CLI-95-12, 42 NRC 111, 115 (1995).

ATOMIC ENERGY ACT: STANDING TO INTERVENE (INJURY IN FACT)

RULES OF PRACTICE: STANDING TO INTERVENE (INJURY IN FACT)

Relative to a threshold standing determination, even minor radiological exposures resulting from a proposed licensee activity can be enough to create

the requisite injury in fact. *See Yankee Atomic Electric Co.* (Yankee Nuclear Power Station), LBP-96-2, 43 NRC 61, 70, *aff'd*, CLI-96-7, 43 NRC 235, 246-48 (1996).

**RULES OF PRACTICE: STANDING TO INTERVENE
(AUTHORIZATION)**

If individuals relied upon to establish representational standing for an organization fail to indicate they are members of that organization, their proximity to the facility cannot be used as a basis for representational standing. *See Florida Power and Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), ALAB-952, 33 NRC 521, 530-31 (representational standing not present when individual relied on for standing is not organization member, but only representative of another organization), *aff'd*, CLI-91-13, 34 NRC 185 (1991).

**ATOMIC ENERGY ACT: STANDING TO INTERVENE
(INJURY IN FACT)**

**RULES OF PRACTICE: STANDING TO INTERVENE
(INJURY IN FACT)**

Concern that “bad precedent” may be set in proceeding that could impact the petitioner’s ability to contest similar matters in another proceeding is “generalized grievance” that is “too academic” to provide the requisite injury in fact needed for standing as of right. *See Ohio Edison Co.* (Perry Nuclear Power Plant, Unit 1), LBP-91-38, 34 NRC 229, 248-49 (1991), *aff'd as to another ruling*, CLI-92-11, 36 NRC 47 (1992), *petition for review dismissed*, *City of Cleveland v. NRC*, 68 F.3d 1361 (D.C. Cir. 1995).

RULES OF PRACTICE: INTERVENTION (DISCRETIONARY)

Under the six-factor test for discretionary intervention, a primary consideration is the first factor of assistance in developing a sound record. *See Portland General Electric Co.* (Pebble Springs Nuclear Plant, Units 1 and 2), CLI-76-27, 4 NRC 610, 617 (1976).

RULES OF PRACTICE: AMICUS CURIAE

Although requests for amicus curiae participation do not often arise in the context of Licensing Board hearings — in which factual questions generally predominate — because an amicus customarily does not present witnesses or cross-examine other parties’ witnesses, this happenstance “does not perforce

preclude the granting of leave in appropriate circumstances to file briefs or memoranda *amicus curiae* (or to present oral argument) on issues of law or fact that still remain for Licensing Board consideration." *Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), ALAB-862, 25 NRC 144, 150 (1987). Thus, in the context of a proceeding in which a legal issue predominates, permitting a petitioner that lacks standing to file an amicus pleading addressing that issue is entirely appropriate.

RULES OF PRACTICE: CONTENTIONS (SCOPE; SPECIFICITY AND BASIS)

Particularly in the context of dealing with pro se petitioners, a finding regarding a contention's specificity should include consideration of the contention's bases. See *Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), ALAB-899, 28 NRC 93, 97 (1988) (both contention and stated bases should be considered when question arises regarding admissibility of contention).

RULES OF PRACTICE: CONTENTIONS (POSSIBLE FAILURE TO COMPLY WITH REGULATORY REQUIREMENT)

If clear regulatory constraint mandates that a licensee take (or not take) a particular action, to gain the admission of a contention founded on the premise the licensee will not follow that requirement, a petitioner must make some particularized demonstration that there is a reasonable basis to believe the licensee would act contrary to the explicit terms of that regulatory requirement.

RULES OF PRACTICE: DISCOVERY (SUMMARY DISPOSITION); SUMMARY DISPOSITION (DISCOVERY)

In responding to a summary disposition motion, a party can assert, with appropriate supporting affidavits, that it needs discovery to answer the dispositive motion. See *Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), CLI-92-8, 35 NRC 145, 152 (1992).

MEMORANDUM AND ORDER
(Ruling on Intervention Petition)

In a *Federal Register* notice published May 8, 1996, the NRC Staff announced (1) a proposed "no significant hazards consideration" finding regarding an April 15, 1996 request by Licensee General Public Utilities Nuclear Corporation

(GPUN) to revise Technical Specification 5.3.1.B for the Oyster Creek Nuclear Generating Station (OCNGS); and (2) an opportunity for a hearing on that GPUN license amendment application. See 61 Fed. Reg. 20,842, 20,842-43, 20,848 (1996). Acting on the latter offering, on June 6, 1996, pro se Petitioners Nuclear Information and Resource Service (NIRS), Oyster Creek Nuclear Watch (OCNW), and the Citizens Awareness Network (CAN) filed a timely hearing request and petition to intervene seeking to challenge the proposed technical specification change. In response, both the Licensee and the Staff have challenged the sufficiency of the Petitioners' hearing request, asserting they lack standing and have not presented an admissible contention.

For the reasons set forth below, we find (1) Petitioners NIRS and OCNW have established their standing as of right; (2) petitioner CAN has failed to establish it is entitled to standing as of right or to show it should be afforded discretionary standing, but will be permitted to participate as an amicus curiae; and (3) Petitioners NIRS and OCNW have submitted a litigable contention. Accordingly, we grant the intervention petition as it relates to NIRS and OCNW and admit them as parties to this proceeding. In addition, because the admitted contention involves a legal question, we establish a schedule for summary disposition filings to resolve that issue.

I. BACKGROUND

A. Technical Specification 5.3.1.B and the GPUN Spent Fuel Off-Load Program

In its present form, under the headings of "*AUXILIARY EQUIPMENT*" and "Fuel Storage," OCNGS Technical Specification 5.3.1.B states that "[l]oads greater than [the] weight of one fuel assembly shall not be moved over stored irradiated fuel in the spent fuel storage facility." NRC Staff Response in Opposition to Request for Hearing and Petition to Intervene of [NIRS/OCNW/CAN] (June 26, 1996) unnumbered attach. 2 (OCNGS Technical Specification p. 5.3-1 (Apr. 10, 1995)) [hereinafter Staff Hearing Request Response].¹ The amendment proposed by GPUN would take this provision, make it the first of two subparts, and provide for additional language so that the subparts would read:

1. Loads greater than the weight of one fuel assembly shall not be moved over stored irradiated fuel in the spent fuel storage facility, except as noted in 5.3.1.B.2.

¹In the Board's initial prehearing order, to make it easier to locate and reference record documents, we asked that for all filings the participants provide "a separate alpha or numeric designation for each appended document (e.g., Exhibit 1; Attachment A)" See Board Memorandum and Order (Initial Prehearing Order) (June 18, 1996) at 4 (unpublished) [hereinafter Board Initial Order]. We expect the parties to comply with this requirement for any additional filings in this proceeding.

2. The shield plug and associated lifting hardware may be moved over irradiated fuel assemblies that are in a dry shielded canister within the transfer cask in the cask drop protection system.

Id. unnumbered attach. 1 (Letter from Michael B. Roche, Vice President and Director, OCNCS, to NRC Document Control Desk (Apr. 15, 1996) at unnumbered p. 6 (proposed revised OCNCS Technical Specification p. 5.3-1)).

In its contemplated “no significant hazards consideration” finding,² the Staff explains that this proposed change is designed to “facilitate the off load of spent fuel to the Oyster Creek Independent Spent Fuel Storage Installation (ISFSI).”³ 61 Fed. Reg. at 20,848. As described in more detail to the Licensing Board in a background presentation made by the Licensee during an August 7, 1996 prehearing conference, *see* Tr. at 19-37,⁴ the amendment request concerns a single step in the Licensee’s overall plan for moving the spent fuel currently in the OCNCS spent fuel pool into dry cask storage at the facility ISFSI to await ultimate disposal.

The NUHOMS dry canister storage system to be used at OCNCS has three main components: a 14-ton dry shielded canister (DSC); a 60-ton onsite transfer cask (TC); and a horizontal storage module (HSM).⁵ The DSC is a stainless steel cylindrical vessel that can hold up to fifty-two spent fuel assemblies, each of which weighs 800 pounds. The TC, a steel and lead-lined cylinder, holds a DSC as the DSC is being loaded with spent fuel assemblies in the OCNCS spent fuel pool and then transported on a trailer between the reactor building, where the spent fuel pool is located, and an HSM. The HSMs for the OCNCS ISFSI are located just beside the plant in a separate, secured area.

An HSM is a reinforced concrete unit consisting of a base mat, four walls, and a roof. Each of the ten HSMs currently at the OCNCS ISFSI holds a single, loaded DSC. A hydraulic ram pushes a loaded DSC from the TC into an

² In accordance with section 189a(1)(A) of the Atomic Energy Act (AEA), 42 U.S.C. § 2239(a)(1)(A), and 10 C.F.R. §§ 50.91-.92, if adopted, the Staff’s “no significant hazards consideration” finding would permit the Staff to issue the GPUN-requested technical specification change while this adjudicatory proceeding is pending. As far as the Board is aware, the Staff has not yet made that finding.

³ As defined in the agency’s regulations, an independent spent fuel storage installation, or ISFSI, is “a complex designed and constructed for the interim storage of spent nuclear fuel and other radioactive materials associated with spent fuel storage.” 10 C.F.R. § 72.3. Under 10 C.F.R. Part 72, Subpart K, an agency-adopted general license permits a reactor licensee to store spent fuel at a reactor-site ISFSI so long as the licensee uses a cask storage system approved by the agency.

⁴ *See also* Letter from Ann P. Hodgdon, NRC Staff Counsel, to the Licensing Board (Aug. 5, 1996) [hereinafter Hodgdon Letter], unnumbered attach. 1, at 9.1-6 to -9 (OCNCS [Final Safety Analysis Report (FSAR)] Update (Update 7 Dec. 1992)); *id.* unnumbered attach. 2, encl. 3, at 1-4 to -16 (U.S. Nuclear Regulatory Commission, Office of Nuclear Material Safety and Safeguards, Safety Evaluation Report of [Vectra Technologies, Inc.] Safety Analysis Report for the Standardized NUHOMS Horizontal Modular Storage System for Irradiated Nuclear Fuel (Dec. 1994)).

⁵ The NUHOMS system is among the agency-approved cask storage systems. *See* 10 C.F.R. § 72.214 (Certificate No. 1004).

HSM horizontally through an opening in the HSM. Inside the HSM, the DSC sits above the base mat on a steel frame support structure. Once the DSC is inside the HSM, the HSM opening is sealed with a reinforced concrete and steel door. Thereafter, spent fuel decay heat cooling occurs by means of a natural convection air flow system.

To get the fuel assemblies in the spent fuel pool into a DSC for transfer to an HSM, the Licensee first moves an empty DSC onto the ground floor of the reactor building and lifts the DSC up the equipment hatch opening approximately 100 feet to the third floor refueling deck. An empty TC is then placed at the foot of the equipment hatch opening on the ground floor. The DSC is lowered back down the equipment hatch opening into the TC, and this combined DSC/TC assembly is raised back up to the refueling deck. The DSC and the annulus between the DSC and the TC then are filled with water, and the DSC/TC assembly is lowered into the spent fuel pool.

To prevent serious damage to the spent fuel pool during this last process, the Licensee has developed a cask drop protection system (CDPS). This system, which was permanently installed in the early 1970s, consists of a tapered cylindrical stainless steel structure that has been attached to the sides of one corner of the OCNGS spent fuel pool. This cylinder, which also is filled with water, is intended to guide the DSC/TC assembly and, if necessary, restrain a falling DSC/TC assembly as it is placed into the pool to await the insertion of the fuel assemblies into the DSC. Also, to help provide a cushion, a 2¾-inch-thick aluminum alloy base plate is attached to the bottom of each TC. If a DSC/TC assembly were dropped, this base plate is intended to act as a piston and attenuate any forces generated by water displacement and guide cylinder wall impacts.

The CDPS guide cylinder itself consists of two parts, a lower dashpot cylinder and an upper guide cylinder. The bottom and sides of the lower dashpot cylinder have energy absorption capability to prevent damage to the spent fuel pool bottom and walls from any DSC/TC assembly impacts with the guide cylinder. The upper guide portion of the CDPS guide cylinder has a hinged gate that can be opened to permit fuel assemblies to be loaded into the DSC/TC assembly as it sits in the lower dashpot cylinder, thereby allowing both the DSC/TC assembly and the fuel assemblies to remain under water in the fuel pool during the entire loading process. The CDPS also has a 1-inch-thick stainless steel top plate cover extending over the guide cylinder, with a hole for inserting the DSC/TC assembly into the guide cylinder that is some 10 inches wider than the diameter of a DSC/TC assembly with its base plate attached.

After the DSC is loaded with spent fuel assemblies, the shield plug is set on top of the DSC to close it. The shield plug is a 4-ton metallic disc about 5½ feet in diameter and 8 inches thick. The shield plug is lowered by crane onto the loaded DSC inside the CDPS while attached to a 3-ton yoke by four

cables connected to four eyebolts imbedded in the shield plug top. The DSC/TC assembly is then removed from the CDPS by crane and the DSC is sealed on the top with additional protective layers. The water is removed from the DSC/TC assembly, inert gas is inserted, the TC is sealed, and the DSC/TC assembly is taken from the reactor building and transported by trailer to the ISFSI, where the sealed DSC is placed horizontally into an HSM, as described above.

The particular change in Technical Specification 5.3.1.B proposed by GPUN would permit the shield plug — which weighs considerably more than the single fuel assembly that now defines the load limit permitted to be moved over spent fuel — to be placed over the spent fuel assemblies in the DSC while the plug is being lowered into place.

B. NIRS/OCNW/CAN Intervention Petition and Contention

In contesting this GPUN license amendment,⁶ Petitioners NIRS and OCNW asserted in their June 6, 1996 hearing request and intervention petition that they had fulfilled the requirements for both intervention as of right because of the proximity of their members to the facility, while CAN declared its standing was based on the potential injury its New England-based membership would suffer from any “bad precedent” that might come from this proceeding. All three Petitioners argued they met the standards governing discretionary intervention as well. They further declared the “aspects” of the proposed technical specification about which they are concerned are the possibility of (1) a significant increase in accident probabilities; (2) an accident not previously identified in the Licensee’s Safety Analysis Report for OCNGS; and (3) a significant reduction in operating boiling water reactor (BWR) safety margins. They maintained these concerns are based on (1) NRC Bulletin 96-02, “Movement of Heavy Loads Over Spent Fuel, Over Fuel in the Reactor Core, or Over Safety-Related Equipment” (Apr. 11, 1996); (2) NRC Information Notice 96-26, “Recent Problems with Overhead Cranes” (Apr. 30, 1996); (3) a May 8, 1996 NRC Daily Event Report (DER) about a 5000-pound transportation cask that was dropped on the fuel handling floor at Indian Point Unit 2 while being lifted by a crane; and (4) a December 30, 1994 Preliminary Notice of Event or Unusual Occurrence (PNO-II-94-055), regarding the drop of a 350-pound core shroud head bolt over the spent fuel pool at Georgia Power Company’s Edwin Hatch Unit 1 that caused a 3-inch gash in the fuel pool liner and an accompanying 2000-gallon water leak that lowered the pool level by 2 inches. *See* [NIRS/OCNW/CAN] Request for a Hearing and

⁶ A technical specification is a license condition, and a licensee request to change that condition constitutes a request to amend the license that creates adjudicatory hearing rights under AEA section 189a, 42 U.S.C. § 2239(a). *See Cleveland Electric Illuminating Co. (Perry Nuclear Power Plant, Unit 1), CLI-93-21, 38 NRC 87, 91 n.6, 93 (1993).*

Petition to Intervene on [GPUN] License Amendment Request for [OCNGS] (June 6, 1996) at unnumbered pp. 2-8 [hereinafter Intervention Petition].

Both the Licensee and the Staff answered the Petitioners' hearing request. Licensee GPUN asserted each petitioner had failed to establish its standing to intervene either as a matter of right or discretion. *See* GPUN's Answer Opposing Request for Hearing and Petition for Intervention of [NIRS/OCNW/CAN] (June 21, 1996) at 9-18 [hereinafter GPUN Answer]. The Staff took the position that while NIRS and OCNW had established some of their members lived or had activities in proximity to the facility, these Petitioners had failed to show those members would suffer any injury as a result of the proposed amendment. The Staff also asserted that CAN had failed to establish its standing as of right and that all three Petitioners had failed to show they should be afforded discretionary standing. Further, on the matter of the aspects of the proceeding, the Staff declared the Petitioners' aspects were not related to the subject matter of the proposed amendment, criticizing in particular the relevance of the four documents referenced by the Petitioners in support of their hearing request. *See* Staff Hearing Request Response at 5-13. The Licensee, on the other hand, declared it would address the Petitioners' aspects when responding to the Petitioners' specific contentions. *See* GPUN Answer at 18.

Acting pursuant to a Board directive, on July 18, 1996, the Petitioners filed a supplemental intervention petition in which they set forth the following contention:

The GPUN application fails to provide defense-in-depth against the risks of a heavy load drop onto irradiated fuel and fails to satisfy NRC regulatory guidance as provided in NUREG-0612 "Control of Heavy Loads At Nuclear Power Plants" pertaining to defense-in-depth risk management to assure that a heavy load drop does not impact or encroach on irradiated fuel.

Supplemental Petition of [NIRS/OCNW/CAN] (July 18, 1996) at 2. As the bases for this contention, the Petitioners made several assertions that can be summarized as follows:

- A. Under 10 C.F.R. § 50.36(c)(1), GPUN is legally required to establish and maintain safety limits governing activities potentially affecting fuel rod cladding and fuel pool liner integrity. Technical Specification 5.3.1.B is designed to establish the specified safety limits.
- B. As is established by a June 16, 1995 DER (Reportable Event No. 28954) and a February 6, 1987 Licensee Event Report (LER) (LER No. 86-016-01), there are potentially degraded fuel assemblies in the OCNGS spent fuel pool. Because there is no assurance that such assemblies will not be placed in a DSC, the proposed Technical Specification change would introduce an unanalyzed threat in the event of a shield plug drop.
- C. The NRC's fundamental regulatory defense-in-depth principle is implemented in NUREG-0612 "Control of Heavy Loads at Nuclear Power Plants," which is the equivalent of a regulatory guide. Because OCNGS does not employ a single failure

proof crane for shield plug movement, consistent with NUREG-0612 guidelines as described in enclosure 1 to NRC Generic Letter 85-11 (June 28, 1985), GPUN must rely on analyzed safe load paths and restricted load limits for movement of heavy loads "to assure, to the extent practical" that heavy loads are not carried over or near irradiated fuel. Although GPUN claims in its safety evaluation regarding the proposed technical specification change that a shield plug drop accident is not credible because of GPUN administrative controls (e.g., rail stops), operator training, and inspections concerning dry-storage related spent fuel movements, this does not adequately address human error or mechanical/electrical failure issues. Rather, the most effective way to avoid such failures is to restrict both human-directed activity and prohibit the movement of heavy loads as is done with current Technical Specification 5.3.1.B. As such, consistent with the agency's NUREG-0612 defense-in-depth guidance, the existing provision cannot be revised as the Licensee has requested.

See id. at 2-6.⁷

In its July 29, 1996 answer to the Petitioners' supplemental petition, GPUN declared both their contention and the bases put forth in support of that contention are too vague and fail to establish a genuine dispute as to a material issue of fact or law. According to GPUN, the Petitioners' reliance on NUREG-0612 is misplaced because they fail to recognize that document's admonition to assure heavy loads are not carried over spent fuel "to the extent practical."

⁷ In a July 18 reply to the June 1996 GPUN and Staff answers to their initial intervention petition, among other things, the Petitioners asserted in connection with the GPUN answer that (1) notwithstanding GPUN's assertion that crane capacity exceeds the weight of the shield plug and lifting yoke, because that combined weight is many times the weight of a fuel assembly — the limiting weight under the existing technical specification — a drop on a fully loaded DSC could cause significant damage; (2) given that documents, such as NUREG/CR-4982, "Severe Accidents in Spent Fuel Pools in Support of Generic Safety Issue 82" (July 1987), establish the consequences of an accident involving a breach of the spent fuel pool liner and a rapid cooling water drain down are serious, the reduction in safety margins involved in the technical specification change does involve a threat of palpable injury and a risk to public health and safety; (3) a November 27, 1992 report of a substantial safety hazard filed under 10 C.F.R. Part 21, for the Susquehanna Steam Electric Station indicates that fuel pool cooling capability loss from a drain down can cause the failure of other safety-related reactor operations equipment; (4) the increase in human-directed activity and load weight involved in the spent fuel off-load activity constitutes an increase in the risk of human error and mechanical and/or electrical failure of load bearing equipment that jeopardizes the public health and safety; (5) the damage associated with a shield plug drop about which they are concerned is (a) damage to spent fuel in the DSC with the potential for recriticality, and (b) damage to the spent fuel pool liner with potential drain down affecting other fuel in storage racks; and (6) the first line of defense for criticality prevention strategy at the OCNCS spent fuel pool is the human-directed mechanical activity and weight limit restrictions imposed in the current Technical Specification 5.3.1.B. *See* Petitioners' Reply to NRC Staff and [GPUN] Answer Opposing Request for Hearing and Petition for Intervention of [NIRS/OCNW/CAN] (July 18, 1996) at 2-9.

Concerning the Staff's answer, the Petitioners declared: (1) their reference to NRC Bulletin 96-02, "Movement of Heavy Loads Over Spent Fuel, Over Fuel in the Reactor Core, or Over Safety-Related Equipment," gives appropriate background documentation; (2) their reliance on NRC Information Notice 96-26, "Recent Problems with Overhead Cranes," is appropriate because the increased risks associated with activities over or near irradiated fuel arising from potential crane equipment deterioration or inadequate crane equipment combined with inappropriate Licensee activities as outlined in that document are relevant at OCNCS, one of the oldest American operating reactors; (3) their reliance on the Hatch "bolt drop" preliminary notice is appropriate because of their concern about the possibility of a similar fuel pool liner tear associated with a shield plug drop accident, regardless of whether the bolt weighs less than a shield plug; and (4) their reliance on the Indian Point 2 DER regarding the drop of a 5000-pound metal transport container on the fuel handling floor is appropriate because it underscores their concern that heavy load accidents can happen. *See id.* at 9-12.

This qualifier, GPUN asserted, nullifies the Petitioners' apparent position that permitting any load heavier than a fuel assembly to be carried over spent fuel will violate "defense-in-depth" principles. According to the Licensee, the only time the shield plug is over spent fuel is when it is lowered onto the top of the loaded DSC, a step that cannot be avoided if the spent fuel is to be properly shielded as is required by other NRC regulatory requirements. Thus, consistent with NUREG-0612, GPUN has acted to limit the movement of heavy loads over spent fuel "to the extent practical." See GPUN's Answer to Supplemental Petition of [NIRS/OCNW/CAN] (July 29, 1996) at 5-9.

This being the case, the Licensee asserted the focus must be on the actions it has taken to assure heavy load lifts satisfy the preventative measures outlined in NUREG-0612, which include the use of safe load travel paths, mechanical stops to prevent crane travel outside the analyzed load paths, and use of detailed operating procedures and training. According to GPUN, its steps in these areas have not been contested by the Petitioners. See *id.* at 8.

As to the Petitioners' concern about the movement of heavy loads over degraded fuel, GPUN declared that the 1987 LER and the 1995 DER relied upon by the Petitioners provide no support for their general assertion there are an "undetermined" number of degraded fuel assemblies that may be loaded into the DSC. According to GPUN, the LER and the DER, in fact, establish only that a specific number of fuel elements — forty-seven — were damaged as a result of a specific problem with fuel pellet/clad interaction and one was damaged as a result of structural failure during movement. GPUN further stated that damaged fuel assemblies have no relevance to this proceeding because the certificate of compliance issued by the NRC for the NUHOMS storage system precludes damaged or unchanneled fuel assemblies from being loaded into the DSC. See *id.* at 9-11.

Finally, regarding a possible fuel pool liner breach from a shield plug drop, GPUN asserted this concern does not deserve further scrutiny because the Petitioners have not identified the failure mechanism that would make such a drop possible or the scenario under which such a drop would impinge on the fuel pool liner. See *id.* at 12-15.

In its response to the supplemental petition, the Staff maintained the Petitioners' contention lacks specificity as to the alleged failures in the GPUN application. The Petitioners' reference to 10 C.F.R. § 50.36(c)(1) as it sets "safety limits" is misplaced, according to the Staff, because the technical specification in question is a "design feature," not a "safety limit." The Staff asserted the appropriate regulatory reference is to section 50.36(c)(4). According to the Staff, this provision covers "design features" in technical specifications, which are those features of the facility such as construction materials and geometric arrangements that, if altered or modified, would have a significant effect on safety and are not covered under section 50.36(c)(1)-(3) as they relate to "safety limits"

like limiting safety system settings, limiting control settings, limiting conditions for operation, and surveillance requirements. *See* NRC Staff Response to Petitioners' Supplemental Petition (July 31, 1996) at 7.

The Staff also asserted the Petitioners' reliance upon NUREG-0612 as providing "regulatory guidance" is misplaced because that document is not a regulation or a Staff regulatory guide. The Staff further declared the Petitioners' reliance on NUREG-0612 as a basis for contending there can be no change in the load limit set in current Technical Specification 5.3.1.B is misdirected because that NUREG does not prohibit the movement of heavy loads, but deals only with the control of movement of such loads. The Staff also responded to the Petitioners' alleged concern about degraded fuel by reference to the NUHOMS certificate of compliance that precludes using a DSC to store fuel with known or suspected gross cladding breaches. Finally, the Staff declared the Licensee's CDPS makes any shield plug drop on the pool liner a matter of speculation. *See id.* at 8-12.

On August 7, 1996, the Board conducted a prehearing conference during which NIRS, GPUN, and the Staff had an opportunity to address further the questions of NIRS standing and the admissibility of the Petitioners' joint contention.⁸ As part of his presentation, the representative for Petitioner NIRS read into the record a statement in support of the Petitioners' contention that addressed a number of the GPUN and Staff objections. *See* Tr. at 66-76. Among other things, this NIRS statement made reference to three additional documents: an April 30, 1986 Staff memorandum on budget cut impacts that is asserted to provide a factual basis for the unpredictable nature of human error; the July 19, 1996 Oyster Creek Performance Review in which the Staff finds there have been "avoidable personnel errors" at the facility, particularly in the areas of operations and maintenance; and a July 20, 1995 GPUN reply to a 1995 NRC inspection report (No. 50-219/95-09), in which the Licensee concurs in a self-identified technical specification violation involving a failure to follow a requirement to have a licensed senior reactor operator or a senior reactor operator limited to fuel handling supervise core alterations. According to NIRS, these documents show that "the issue of human error provides support for the contention that it is indeed not practical to modify and reduce a current technical specification designed to preclude human error and/or mechanical failure from dropping a heavy load

⁸The August 7 prehearing conference was noticed in early July. *See* Board Order (Scheduling Filing Deadline for Supplemental Intervention Petitions and Responses and for Prehearing Conference) (July 3, 1996) at 2 (unpublished). The Board, however, was informed for the first time at the prehearing conference that the designated representatives of OCNW and CAN would not attend the August 7 proceeding. *See* Tr. at 7-8; *see also* Board Memorandum (Forwarding Documents for Docketing and Requesting Settlement Status Report) (Aug. 14, 1996) attach. 1-2 (unpublished). Acting on the motion of the Licensee, the Board ruled that while it would not dismiss OCNW and CAN for their failure to participate in the conference, the NIRS representative would not be permitted to make any presentation on the issue of OCNW's or CAN's standing to intervene. *See* Tr. at 9-14.

onto irradiated fuel without undermining the Defense-In-Depth Philosophy as established in NUREG-0612." Tr. at 70-71.

During the prehearing conference, NIRS also sought to counter the GPUN and Staff responses to the Petitioners' supplemental petition. Besides declaring that a shield plug drop accident was a credible event that constituted an unanalyzed condition, NIRS asserted GPUN had not answered the Petitioners' concerns about degraded fuel assemblies because it had not provided information about how the utility plans to screen the fuel for deteriorated bundles or about the consequences for criticality and shielding if such fuel bundles are involved in a heavy load drop accident. NIRS did state the Petitioners were willing to concede a spent fuel pool drain down resulting from liner damage from a shield plug drop was an unlikely event, but asserted the GPUN safety evaluation for the requested amendment still was insufficient because it did not adequately address the consequences during a shield plug lift of either a power loss to the crane drive motor or a seismic event. *See* Tr. at 72-76.

In response to NIRS's expressed concern about the lack of any GPUN analysis of the consequences of a shield plug drop onto the fuel assemblies in a DSC, *see* Tr. at 82, GPUN made reference to analyses it had made of several "worst case" scenarios relative to a possible shield plug drop. Although maintaining that the possibility of such a drop was incredible, GPUN noted that it had analyzed the potential for recriticality if, by whatever means, all fifty-two fuel assemblies in a DSC were damaged so that all the fuel is crushed together in the worst possible configuration in the bottom of the canister, thereby maximizing the potential for recriticality. GPUN concluded that even under this scenario, the potential of recriticality was very low (0.957). *See* Tr. at 85-86. In addition, GPUN analyzed the possible radiological consequences that could result from a shield plug drop given the geometrical configuration of the canister opening and the size and shape of the shield plug. GPUN determined that the maximum damage would accrue if the plug landed vertically on the cask mouth, impacting sixteen of the fifty-two fuel bundles in a fully loaded cask, with a resulting potential maximum release of 6.25 millirem at the facility site boundary. *See* Tr. at 92-94.

These analyses, which had not been given to the Petitioners, subsequently became the subject of unsuccessful settlement negotiations. *See* Petitioners Communication to the Honorable G. Paul Bollwerk, Esq., Dr. Peter Lam, and Dr. Charles Kelber Regarding Settlement with GPUN (Aug. 16, 1996). Ultimately, these analyses came into the Petitioners' hands as a result of Staff action to obtain them. *See* Letter from Ernest L. Blake, GPUN Counsel, to the Licensing Board at 1 (Aug. 27, 1996). Thereafter, in a September 9, 1996 pleading, commenting on the analyses, the Petitioners asserted that the expressed premise in the recriticality analysis that a drop accident would not damage the TC containing the DSC lacked justification and that the radiological consequences

analysis failed to address the question of occupational doses to facility workers. See Petitioners Status Report to the Honorable G. Paul Bollwerk, III, Dr. Peter Lam, and Dr. Charles Kelber Regarding GPUN Letter of August 23, 1996 (Sept. 9, 1996) at 1-2 [hereinafter Petitioners Status Report].

In a September 11 reply, the Licensee asserted the undamaged cask assumption for its nonmechanistic criticality analysis clearly was justified given the 4-inch-thick steel walls on the cask. As to the Petitioners' assertions regarding occupational doses, the Licensee labeled these complaints meritless both because they did not account for GPUN's comprehensive worker radiation protection program and because occupational exposures were not any part of the relief the Petitioners sought in their contention or the supporting bases. See Letter from Ernest L. Blake, Licensee Counsel, to the Licensing Board at 1-2 (Sept. 11, 1996). The Staff likewise criticized the Petitioners' filing as an attempt to raise new issues without addressing the "late-filing" factors in 10 C.F.R. § 2.714(a)(1). See NRC Staff Response to Petitioners' Status Report (Sept. 11, 1996) at 2-3.

II. ANALYSIS

A. Petitioners' Standing

1. *Standing as of Right*

As is generally the case with intervention petitions, our consideration of the Petitioners' hearing request begins with the question of their standing as of right. To have standing to participate as of right in a proceeding regarding an agency licensing action, a petitioner must demonstrate that (1) it has suffered or will suffer a distinct and palpable injury that constitutes injury in fact within the zone of interests arguably protected by the governing statute; (2) the injury is fairly traceable to the challenged action; and (3) the injury is likely to be redressed by a favorable decision. In addition, when, as here, an organization such as NIRS, OCNW, or CAN seeks to intervene on behalf of its members, see Intervention Petition at unnumbered p. 2, that entity must show it has an individual member who can fulfill all the necessary elements and who has authorized the organization to represent his or her interests. See *Yankee Atomic Electric Co.* (Yankee Nuclear Power Station), CLI-96-1, 43 NRC 1, 6 (1996).

In this instance, Petitioners NIRS and OCNW seek to establish their standing as of right under a different theory from that used by Petitioner CAN. NIRS and OCNW assert several of their members live, work, or engage in recreational activities sufficiently close to OCNWS to provide standing as of right. In contrast, CAN declares that although its members reside many hundreds of miles from OCNWS, the concerns of CAN members about the possible movement

of large loads over the spent fuel pools of the Yankee Nuclear Power Station in northwestern Massachusetts and, in particular, the Vermont Yankee Nuclear Power Station in southern Vermont are sufficient to provide CAN with standing. We address these theories separately.

a. NIRS/OCNW Standing

Petitioners NIRS and OCNW have supplied an affidavit from one individual who is a member of both organizations. He asserts he lives within the OCNWS ingestion pathway zone, which generally is within a 50-mile radius of a facility; that his work for OCNW, including trips to the OCNW post office box, frequently takes him within the OCNWS plume exposure emergency planning zone (EPZ), which generally is within a 10-mile radius of a facility; that his work for the local Izaak Walton League chapter, including work on conservation projects within 1 mile of the facility, frequently takes him within the EPZ; and that he engages in recreational activities on a bay within the EPZ.⁹ OCNW also relies on three other affidavits: one from a member who lives in a housing development wherein the facility emergency plan causes residents to drive toward the plant, which is within 1/2 mile; and two from individuals who, while declaring they live within the EPZ, fail to state they are OCNW members.¹⁰ Petitioners NIRS and OCNW maintain that this information, along with these affiants' assertions that a heavy load drop onto the irradiated fuel would result in offsite releases of radioactivity and that they are concerned about the health and safety consequences of such an accident involving the fuel transfer canisters, establish the requisite injury in fact to provide each organization with representational standing. *See* Intervention Petition at 2-3.

Both the Licensee and the Staff declare that any agency precedent regarding a "proximity" presumption for standing in licensing cases in which there is a "clear potential for offsite consequences" is inapplicable in the context of this narrow license amendment dealing with load handling. Instead, they assert the Petitioners must make a showing there is some distinct and palpable injury that has or will arise from the particular amendment at issue. NIRS and OCNW have

⁹ *See* Intervention Petition unnumbered attach. 1 (affidavit of William deCamp, Jr.). Although the respective 10-mile and 50-mile radius designations set forth in the agency's generic emergency planning guidance are often utilized to describe a facility's plume exposure EPZ and ingestion pathway zone, the actual shape of these emergency planning areas depends on the characteristics of the particular site. *See* U.S. Nuclear Regulatory Commission/Federal Emergency Management Agency, NUREG-0654/FEMA-REP-1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," at 11 (rev. 1 Nov. 1980). None of the participants has provided us with a description of the actual parameters of the OCNWS ingestion pathway zone or plume exposure EPZ. For present purposes, therefore, we assume the generic radius designations are applicable.

¹⁰ *See* Letter from Jean Burnett to Secretary of the Commission attach. (June 5, 1996); Letter from Shirley R. Schmidt to Secretary of the Commission attach. (June 5, 1996) [hereinafter Schmidt Letter]; Letter from Maria Szczech to Secretary of the Commission attach. (June 7, 1996) [hereinafter Szczech Letter].

failed to do this, both GPUN and the Staff state, because with the procedural and mechanical protections GPUN will utilize in moving and lowering the shield plug over the spent fuel in the DSC, the Petitioners have not shown there is a credible accident sequence that would result in a shield plug drop or that such a sequence will have offsite consequences. See GPUN Answer at 11-15; Staff Hearing Request Response at 7-8.

In making a standing determination, we are to “construe the petition in favor of the petitioner.” *Georgia Institute of Technology* (Georgia Tech Research Reactor, Atlanta, Georgia), CLI-95-12, 42 NRC 111, 115 (1995). Bearing this directive in mind, we conclude there is sufficient information on the record before us to establish a reasonable basis for the assertion of Petitioners NIRS and OCNW that a shield plug drop accident can occur and that such an accident can have offsite radiological consequences that may impact the Atomic Energy Act-protected health and safety interests of their members.

Petitioners NIRS and OCNW have provided a number of documents regarding load drop accidents at nuclear facilities. See, e.g., Intervention Petition unnumbered attach. 8 (NRC Information Notice 96-26 (Apr. 30, 1996); *id.* unnumbered attach. 9 (Headquarters Daily Report (May 8, 1996)); *id.* unnumbered attach. 10 (NRC Preliminary Notification of Event or Occurrence PNO-II-94-055 (Dec. 30, 1994)). These documents indicate that, for a variety of reasons including mechanical failure and human error, nuclear facility load drop accidents do happen that result in damage, sometimes substantial, to facility equipment. Given this information, we are unable to conclude that the possibility of a shield plug drop accident is so inherently “incredible” or “irrational” that it provides no reasonable basis upon which the Petitioners can establish their standing to challenge the requested amendment.

As for the consequences of such an accident, while again asserting it is based on a very low probability event, the Licensee has done an analysis of a “worst case” shield plug drop that indicates there could be some off-site consequences to such an occurrence, albeit in a range well below the public exposure limits established in 10 C.F.R. Part 100. Relative to a threshold standing determination, however, even minor radiological exposures resulting from a proposed licensee activity can be enough to create the requisite injury in fact. See *Yankee Atomic Electric Co.* (Yankee Nuclear Power Station), LBP-96-2, 43 NRC 61, 70, *aff’d*, CLI-96-7, 43 NRC 235, 246-48 (1996). In this instance, we consider the postulated exposures are sufficient to support the Petitioners’ standing claims.

Finally, based on the information supplied by two of their affiants, we find NIRS and OCNW have established there are reasonable grounds to conclude these radiological offsite consequences could impact organization members, thereby providing standing for NIRS and OCNW. Of the two individuals who

are NIRS and/or OCNW members,¹¹ the one, who is an OCNW member, lives within ½ mile of the facility, while the other, who is a member of both OCNW and NIRS, has organization-related and recreational activities that regularly bring him within the facility's 10-mile EPZ, sometimes as close as a mile (or less) from the facility. We find this showing of residence and regular activities near the facility, in conjunction with the evidence of possible offsite consequences from a shield plug drop accident, sufficient to provide these individual members, and therefore the organizations that represent them, with standing to contest GPUN's proposed technical specification change.¹²

b. CAN Standing

While OCNW and NIRS ground their standing as of right on the traditional "proximity" theory, CAN uses a more unconventional approach. As was noted above, CAN's standing assertion is rooted in its concern the precedent that may be set in this proceeding could impact its ability to contest similar amendment requests made by utilities operating nuclear power plants in the Massachusetts/Vermont area that is CAN's operational base. The affidavit from CAN's member makes it clear that her residence and activities are in that New England area, which is some 200 miles from the Oyster Creek facility.

CAN's "bad precedent" argument previously has been rejected as a basis for standing as of right. In *Ohio Edison Co.* (Perry Nuclear Power Plant, Unit 1), LBP-91-38, 34 NRC 229, 248-49 (1991), *aff'd as to another ruling*, CLI-92-11, 36 NRC 47 (1992), *petition for review dismissed*, *City of Cleveland v. NRC*, 68 F.3d 1361 (D.C. Cir. 1995), the Licensing Board found an almost identical assertion was the sort of "generalized grievance" that was "too academic" to provide the requisite injury in fact for standing as of right. We agree with that analysis, and adopt it here to reject CAN's argument regarding its standing as of right.

¹¹ Because the other two individuals have failed to indicate they are members of either organization, *see* Schmidt Letter attach.; Szczech Letter attach., their proximity to the facility cannot be used by NIRS or OCNW as a basis for representational standing. *See Florida Power and Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), ALAB-952, 33 NRC 521, 530-31 (representational standing not present when individual relied on for standing is not organization member, but only representative of another organization), *aff'd*, CLI-91-13, 34 NRC 185 (1991).

¹² Because we have before us specific evidence of possible offsite consequences in the vicinity of the facility from a shield plug drop incident, we need not reach the issue of whether any general presumption regarding possible consequences and proximity to the facility is appropriate. *Compare Virginia Electric and Power Co.* (North Anna Nuclear Power Station, Units 1 and 2), ALAB-522, 9 NRC 54, 56 (1979).

2. *Discretionary Standing*

CAN also claims that if we find it lacks standing as of right, it nonetheless should be granted discretionary standing under the governing factors the Commission first established in the *Pebble Springs* proceeding. As outlined in that decision, the factors we must consider are:

- (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.
- (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.

Portland General Electric Co. (Pebble Springs Nuclear Plant, Units 1 and 2), CLI-76-27, 4 NRC 610, 616 (1976).

As the Commission has made clear, *see id.* at 617, the primary consideration concerning discretionary intervention is the first factor — assistance in developing a sound record. In *Perry*, LBP-91-38, 34 NRC at 250, the Licensing Board found this factor strongly supported discretionary intervention because the party in question, having previously litigated related issues before the Commission and in federal court, was well-versed in the legal and factual issues involved in that proceeding. We cannot say the same for Petitioner CAN here. Appearing in this proceeding pro se and apparently without the assistance of any technical experts, CAN has not demonstrated any special experience or expertise it will bring to this proceeding in terms of developing a sound record. We thus conclude this important factor fails to support CAN's discretionary intervention.

Concerning factors two and three, like the *Perry* case, *see id.*, we find these weigh in favor of discretionary intervention. Although insufficient to establish "injury in fact," CAN's interest in stopping the proposed license amendment likewise is within the "zone of interests" relevant to this proceeding. At the same time, while too speculative to support standing as of right, its concerns about prejudice to its interest are not totally untoward in that the issue before us, as we explain below, is a legal matter that, depending on the breadth of any Commission rulings, could have implications for any future "heavy load lifting" proceedings.

Also as in *Perry*, *see id.*, factors four and five to a degree weigh against CAN discretionary intervention. Based on the record before us, it seems apparent the interest of OCNW and NIRS, who already have been found to have standing, is very much like that of CAN, albeit more concrete. Up to this point, NIRS (and to a lesser degree OCNW) has defended those interests vigorously. Regarding the availability of other means to protect that interest, it may well be, depending on the rulings in this case, that CAN would have some opportunity to contest a similar amendment request relative to Yankee Rowe or Vermont Yankee. As with *Perry*, however, these negative considerations are counterbalanced by the fact that, as we outline below, the issue before us appears to be one of law, so that additional CAN participation is not likely to broaden or delay the proceeding significantly. *See id.* at 250-51.

Considering all these factors, particularly CAN's lack of any specific showing about how its participation can reasonably be expected to assist in developing a sound record, we conclude that the balance does not weigh in favor of permitting CAN to become a discretionary intervenor. As such, we deny its intervention request in toto. Nonetheless, in light of CAN's apparent concern over this matter, we provide CAN with an opportunity, if CAN wishes to use it, to appear as amicus curiae and file a pleading providing the Board with its views on the legal issue we admit for litigation in this proceeding, as detailed below. *See Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), ALAB-862, 25 NRC 144, 150 (1987).¹³

B. Petitioners' Contention

Having determined which of the Petitioners has standing to be a party to this adjudication, we next turn to the matter of what, if any, issues there are for litigation. Certainly, the question of the admissibility of a petitioner's proffered

¹³ As the Appeal Board noted in *Seabrook*, 25 NRC at 150, the agency's rules of practice explicitly permit amicus curiae participation only in the context of appellate proceedings. As the Appeal Board also observed, however, this likely reflects the fact that requests for such participation do not often arise in the context of Licensing Board hearings — in which factual questions generally predominate — because an amicus customarily does not present witnesses or cross-examine other parties' witnesses. This happenstance, the Appeal Board concluded, "does not perform preclude the granting of leave in appropriate circumstances to file briefs or memoranda *amicus curiae* (or to present oral argument) on issues of law or fact that still remain for Licensing Board consideration." *Id.*

In the context of this proceeding, in which (as we conclude below) a legal issue predominates, consistent with this Appeal Board guidance we find permitting CAN to file an amicus pleading addressing that issue is entirely appropriate. If we later conclude this case requires an evidentiary hearing, we can then reassess the scope and means of CAN's participation.

So that the Board and the other parties will know its status, on or before *Friday, November 8, 1996*, CAN should file a pleading indicating whether it intends to participate as an amicus curiae. In deciding whether to participate as an amicus, CAN may wish to consider to what degree its participation in this proceeding may make it the target of issue preclusion claims (i.e., *res judicata* or collateral estoppel) if a similar technical specification change is requested at one of the New England facilities about which it is concerned. *See Perry*, LBP-91-38, 34 NRC at 251 n.68.

contentions is of equal import "because contentions play a vital role in agency licensing adjudications by framing the issues for consideration." *Yankee Atomic Electric Co.* (Yankee Nuclear Power Station), LBP-96-15, 44 NRC 8, 21 (1996).

In this instance, as was described above, the Petitioners have put forth one contention with several bases. Both the Licensee and the Staff have challenged the contention as lacking the necessary specificity under 10 C.F.R. § 2.714(b)(2) as well as failing to have a supporting basis that, as is required by section 2.714(b)(2)(ii) and Commission precedent, *see Yankee Rowe*, CLI-96-7, 43 NRC at 248-49, contains information sufficient "to show that a genuine dispute exists with the applicant on a material issue of fact or law."

On the question of specificity, the assertion of the Licensee and the Staff that the Petitioners' contention, in and of itself, lacks the requisite specificity has some merit. Nonetheless, and particularly in the context of dealing with pro se Petitioners, a finding regarding a contention's specificity should include consideration of the contention's bases. *See Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), ALAB-899, 28 NRC 93, 97 (1988) (both contention and stated bases should be considered when question arises regarding admissibility of contention).

As we have summarized them above, however, Bases A and B arguably provide little help in this regard. Because the focus of that contention, as it was crafted by the Petitioners, is on the agency's "defense-in-depth" principle as embodied in NUREG-0612,¹⁴ the relationship between those two bases and the contention is not readily apparent.¹⁵ When the language of the contention is considered in conjunction with Basis C, however, the requisite specificity clearly is present.

¹⁴ NUREG-0612 is a 1980 document that was intended to provide "the results of the NRC staff's review of the handling of heavy loads and includes the NRC staff's recommendations on actions that should be taken to assure safe handling of heavy loads." U.S. Nuclear Regulatory Commission, Office of Nuclear Reactor Regulation, NUREG-0612, "Control of Heavy Loads at Nuclear Power Plants," at iii (July 1980). In setting forth guidelines for handling heavy loads, NUREG-0612 clearly does so in the context of carrying out the regulatory philosophy of "defense-in-depth." *See id.* at 5-1 to -2. The "defense-in-depth" principle is the agency policy under which regulated entities are required to safeguard the public health and safety "through multiple intermeshing and overlapping protections." *Vermont Yankee Nuclear Power Corp.* (Vermont Yankee Nuclear Power Station), CLI-74-40, 8 AEC 809, 813 (1974).

¹⁵ As we have outlined it above, Basis A asserts that consistent with 10 C.F.R. § 50.36(c)(1), activities potentially affecting fuel rod cladding and fuel pool liner integrity are subject to safety limits and that the existing technical specification is designed to establish the specified safety limits by prohibiting the movement of any load greater than the weight of one fuel assembly over or near irradiated fuel. On its face, this basis appears to provide no support or otherwise bear a relationship to the Petitioners' contention. The same is true of Basis B. To whatever the degree the purported problem with degraded fuel might support a challenge to the Licensee's amendment request, it bears no apparent relationship to the NUREG-0612 "defense-in-depth" concern that is the focus of the contention.

As such, it is arguable that if Bases A and B merit any consideration, it is only as separate contentions. Nevertheless, for the reasons set forth below, whether as separate contentions or as bases for the Petitioners' stated contention, we find these concerns inadequate to provide an admissible issue.

Looking then to the question of the adequacy of the bases put forth in support of their contention, even if we consider Bases A and B as having an appropriate relationship to the Petitioners' stated contention, we find them inadequate to provide an admissible contention. Basis A suffers from two flaws. First, it is footed in the misapprehension that Technical Specification 5.3.1.B is a "safety limit" as that term is defined in 10 C.F.R. § 50.36(c)(1). As both the Licensee and the Staff correctly point out, this technical specification is in fact a "design feature" under section 50.36(c)(4). Even more telling, however, is the fact that, whether Technical Specification 5.3.1.B is a "safety limit" or a "design feature," nothing we are aware of in connection with section 50.36 precludes a change in the provisions of such a technical specification if the Licensee can make the appropriate showing. As such, that regulation, and so Basis A, is irrelevant to the Petitioners' contention that the requested change somehow violates NRC "defense-in-depth" principles.

As we have noted above, to establish their Basis B concern as an appropriate foundation for the admission of their contention, the Petitioners rely on certain Licensee documents they declare show there are at least forty-seven fuel assemblies in the OCNCS fuel pool with cladding failure. This is significant, they argue, because a shield plug drop accident involving a DSC containing such degraded fuel elements is unanalyzed in terms of possible recriticality. Further, they discount the representations of the Licensee and the Staff that loading such degraded fuel assemblies into a DSC would violate the generic certificate of compliance under which GPUN is permitted to use the NUHOMS storage system on the basis they have not been provided with documentation explaining how the Licensee will screen irradiated fuel assemblies for defects. *See Tr. at 74-75.*

Even assuming the mere declaration that a particular concern is "unanalyzed" is sufficient to provide a basis for a contention, *but see Yankee Rowe, LBP-96-2, 43 NRC at 75-76* (contention must not only allege decommissioning plan content deficiency, but show that purported deficiency has health and safety significance for decommissioning process), it is apparent from the materials before us that the Petitioners' recriticality concern has indeed been analyzed. The Licensee's recriticality study, which assumes all the fuel from a fully-loaded DSC is crushed together, clearly envelopes this concern. Therefore, relative to any purported lack of an analysis, there is no material factual dispute that warrants further inquiry.¹⁶

¹⁶ In their September 9 filing, the Petitioners acknowledge the results of the Licensee's recriticality analysis "appear technically correct," but then declare they have a new concern regarding the statement in the analysis that the impact of a shield plug drop would not be sufficient to breach the rigid structural material of the TC. Petitioners Status Report at 1-2. As the Staff correctly pointed out, if the Petitioners want to raise new concerns like this (or their additional claim about worker exposures), they must address the late-filing standards in 10 C.F.R. § 2.714(a).

(Continued)

Concerning the purported lack of documentation explaining the Licensee's fuel assembly screening process, as the Licensee and the Staff noted, the certificate of compliance governing the use of the NUHOMS dry storage system makes it clear that only those fuel assemblies that are "intact" with "no known or suspected gross cladding breaches" are eligible for storage in a DSC. Hodgdon Letter unnumbered attach. 2, encl. 2, at A-10 (U.S. Nuclear Regulatory Commission, Certificate of Compliance for Dry Cask Fuel Storage Casks, Certificate No. 1004 (Jan. 23, 1995) (Table 1-1b)) [hereinafter Certificate of Compliance No. 1004]; *see id.* at A-5 (Section 1.2.1 Fuel Specification Limit/Specification). Moreover, the certificate of compliance provides that these fuel specifications "must be met by every individual fuel assembly to be stored" in NUHOMS casks, *id.* at A-10 n.(1); *see id.* at A-5 (Section 1.2.1 Fuel Specification Applicability); that it must be "verified and documented" that each fuel assembly to be loaded into a DSC meets these specifications, *id.* at A-5 (Section 1.2.1 Fuel Specification Action); and that immediately before insertion of a spent fuel assembly into a DSC, "the identity of each fuel assembly shall be independently verified and documented," *id.* at A-6 (Section 1.2.1 Fuel Specification Surveillance).

These requirements, which are conditions of the certificate of compliance, *see id.* at A-1 (Section 1.0 Introduction) make it apparent that in order to meet these regulatory specifications established pursuant to 10 C.F.R. §§ 72.212, 72.236(a) to govern the use of the NUHOMS cask system, GPUN must not load degraded fuel assemblies into a DSC. Because clear regulatory constraints mandate GPUN must not load such spent fuel, to gain the admission of a contention founded on the premise GPUN will not follow these requirements, the Petitioners must make some particularized demonstration that there is a reasonable basis to believe GPUN would act contrary to their explicit terms. Having failed to make such a showing,¹⁷ the Petitioners' degraded fuel assembly concern is inadequate to establish a material factual dispute that warrants further inquiry.¹⁸

Because they have made no attempt to address these standards, we need give no further consideration to their added concerns.

¹⁷ As we noted previously, *see supra* p. 154, at the August 7 prehearing conference Petitioner NIRS provided several additional OCNCS-related documents describing (1) a November 1994 self-identified and corrected technical specification violation in which a reactor core alteration was made without the required supervision of an appropriate senior reactor operator, and (2) a July 1996 Staff performance review in which GPUN is criticized for the continued occurrence of "avoidable" operation and maintenance "personnel errors." Although these documents suggest that the Licensee's operation is not error free, they do not provide information that is sufficiently specific to establish the need for further inquiry on the factual question of the Licensee's ability properly to screen fuel assemblies as it is required to do under the NUHOMS certificate of compliance.

¹⁸ Although not directly related to Basis B (or apparently either of the other proffered bases), likewise insufficient to provide grounds for an admissible contention are the NIRS- expressed concerns about possible problems with load drop during crane power loss and seismic events. *See supra* p. 155. As the Licensee indicated, the former claim is based on a poorly drafted sentence in the GPUN safety evaluation regarding the proposed technical specification change that fails to make it clear that an installed protective device in fact addresses the problem of
(Continued)

In considering Basis C, we reach a different result. As our summary of that basis indicates, and as was explained to us during the prehearing conference, with this concern the Petitioners seek to establish the “single fuel assembly” weight limitation in existing Technical Specification 5.3.1.B reflects an agency judgment about the particular measures that are necessary for compliance with the purported regulatory guidance in NUREG-0612 as it is asserted to implement the “defense-in-depth” principle. According to the Petitioners, this weight limitation is a vital control meant to remove the potential that human error or any mechanical/electrical failure could cause damage to irradiated fuel.¹⁹ See Tr. at 68. Because of the importance of this limitation, the Petitioners assert, this technical specification cannot be changed.

The Licensee and the Staff have countered with arguments suggesting that the Petitioners’ interpretation of the significance and meaning of NUREG-0612 is misplaced. We find, however, that several factors provide sufficient reason to conclude Basis C establishes a material disputed issue of law that should be considered further.

The CDPS apparently has been in place for some time, *see supra* p. 149, indicating that the Licensee (and the Staff) had some notion GPUN at some point could be in a position to place an object heavier than a fuel assembly over fuel assemblies being packaged for removal and storage. Nonetheless, the existing technical specification with its specific “fuel assembly” weight limitation seemingly was adopted for OCNCS after NUREG-0612 was issued with its “to the extent practical” language. *See* U.S. Nuclear Regulatory Commission, Office of Nuclear Reactor Regulation, NUREG-0612, “Control of Heavy Loads at Nuclear Power Plants,” at 3-9 (Table 3.2-1), 5-2 (July 1980). Further, while the Staff and GPUN have asserted that NUREG-0612 is simply “guidance” that contains no regulatory mandate, as we pointed out during the prehearing conference, there are any number of references to NUREG-0612 “requirements” in the Licensee and agency documents provided to us. *See* Tr. at 99-101; *see also, e.g.*, Certificate of Compliance No. 1004, at 2 (“The [NUHOMS] TC is designed and fabricated as a lifting device to meet NUREG-0612 and ANSI N14.6 requirements.”).

This, we conclude, raises a legitimate question about the regulatory significance of that document and its “to the extent practical” language. When combined with the Petitioners’ challenge to the exact meaning of the NUREG-0612

power loss, while the latter does not account for the fact that the crane involved is seismically qualified. *See* Tr. at 87-88. The Petitioners’ present showing regarding these matters fails to establish the requisite material factual issue in dispute that warrants further inquiry.

¹⁹ As we have noted, *see supra* p. 154, the Petitioners have submitted several documents they assert establish there is a significant problem with human error at OCNCS. They do so, however, not in an attempt to support a claim that such human error raises questions about the adequacy of GPUN’s load handling training and procedures, but rather as support for their general assertion that it is “not practical” to change the existing technical specification without undermining the defense-in-depth principle embodied in NUREG-0612. *See* Tr. at 70-71.

“to the extent practical” terminology as it relates to the requested technical specification change, we find there is sufficient information to pose a matter of legal interpretation that merits further scrutiny. As such, we admit the Petitioners’ contention as it is supported (and explicated) by Basis C.

III. SCHEDULE

Section 2.714(b) of title 10 of the *Code of Federal Regulations* declares that a contention, such as the Petitioners’, that poses a legal question “must be decided on the basis of briefs or oral argument according to a schedule determined by the Commission or the presiding officer.” Notwithstanding the Licensee’s suggestion that admission of the Petitioners’ contention should be followed by discovery, *see* Tr. at 116, from all appearances the legal issue the Petitioners have framed is one that could be resolved on summary disposition without discovery.²⁰ Because the ultimate burden on this issue rests with GPUN, *see* 10 C.F.R. § 2.732, we establish the following schedule for further filings:²¹

GPUN Summary Disposition Motion ²²	Friday, November 15, 1996
Staff/Petitioners/Amicus Curiae Responses to GPUN Summary Disposition Motion and/or Petitioners’ Cross-Motion for Summary Disposition	Friday, December 6, 1996
GPUN Reply to Petitioners/Amicus Curiae Responses and/or Petitioners’ Cross-Motion for Summary Disposition, and Petitioners Reply to Staff Response	Friday, December 20, 1996

For all further pleadings in this proceeding, in addition to serving conforming paper copies on all parties, the amicus curiae (if CAN chooses to participate in this role), the Board members, and the Office of the Secretary, a courtesy copy of each filing shall be sent to all other parties, the amicus curiae, the Board members, and the Office of the Secretary by facsimile transmission, E-mail

²⁰ Consistent with existing agency practice, in responding to any GPUN (or Staff) summary disposition motion, Petitioners NIRS and OCNW can assert, with any appropriate supporting affidavits, that they need discovery to answer that dispositive motion. *See Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), CLI-92-8, 35 NRC 145, 152 (1992).

²¹ The Board will advise the parties at a later date if it intends to hold an oral argument regarding their summary disposition filings.

²² If the Staff wishes, it may file a dispositive motion on this date as well. If the Staff does so, the Petitioner and amicus curiae responses should encompass both the GPUN and Staff dispositive motions and the Staff is permitted to file a reply to any such responses in accordance with the schedule.

transmission, or other means that will ensure receipt by 4:30 p.m. Eastern Time on the date of filing.

Substantive summary disposition-related pleadings other than those authorized in the schedule above are not permitted without preapproval of the Board. Board preapproval must be sought in writing at least 24 hours before filing the pleading. The preapproval request must indicate whether the other parties to the proceeding oppose or support the request.²³

IV. CONCLUSION

Petitioners NIRS and OCNW have shown that (1) at least one of their members who has authorized NIRS or OCNW to represent his or her interests lives, works, or engages in recreational activities near OCNWS; and (2) there is some reasonable basis to believe that, as a consequence of a shield plug drop incident, those individuals' proximity to the facility can result in injury to their health and safety interests as those interests are protected by the Atomic Energy Act. Petitioners NIRS and OCNW thus have established their standing as of right to be parties to this proceeding. In contrast, the interest of Petitioner CAN and its proffered member (who lives well away from OCNWS) in avoiding adverse precedent from this case is too generalized and academic to provide CAN with standing as of right. Further, CAN has failed to demonstrate it should be granted discretionary standing. Therefore, CAN's intervention request is denied, although it can (if it wishes) participate in the initial summary disposition stage of this proceeding as an *amicus curiae*.

We also conclude that the Petitioners' joint contention, as supported by Basis C as summarized above, *see supra* pp. 151-52, is sufficient under 10 C.F.R. § 2.714(b)(2)(iii) to establish a genuine material issue of law. As such, we admit their contention and establish a schedule for further litigation on its merits.

For the foregoing reasons, it is, this twenty-fifth day of October 1996, ORDERED that:

1. Relative to the contention set forth in their July 18, 1996 supplemental intervention petition, as that contention is supported by Basis C as summarized above, the June 6, 1996 hearing request and petition to intervene of Petitioners NIRS, OCNW, and CAN is *granted* as to NIRS and OCNW and is *denied* as to CAN.

2. Litigation on this contention will commence immediately in conformance with the schedule and procedures specified in section III above.

²³ Our previous directives concerning the timing and content of motions for extension of time remain applicable. *See* Board Initial Order at 4.

3. In accordance with the terms specified in sections II and III above, CAN is *granted* permission to participate as an amicus curiae relative to the contention admitted in this proceeding.

4. In accordance with the provisions of 10 C.F.R. § 2.714a(a), as it rules upon an intervention petition, this memorandum and order may be appealed to the Commission within 10 days after it is served.

**THE ATOMIC SAFETY AND
LICENSING BOARD²⁴**

**G. Paul Bollwerk, III, Chairman
ADMINISTRATIVE JUDGE**

**Charles N. Kelber
ADMINISTRATIVE JUDGE**

**Peter S. Lam
ADMINISTRATIVE JUDGE**

Rockville, Maryland
October 25, 1996

²⁴ Copies of this Memorandum and Order have been sent this date to counsel for GPUN and the representatives for NIRS and CAN by facsimile transmission; to the representative for OCNW by Internet E-mail transmission; and to Staff counsel by E-Mail transmission through the agency's wide area network.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

OFFICE OF NUCLEAR REACTOR REGULATION

William T. Russell, Director

In the Matter of

All Dockets
(All Licenses)

ALL NUCLEAR POWER PLANTS

September 26, 1996

By petition dated March 5, 1996, Petitioner Charles Morris requested that the operating licenses of all nuclear power plants be immediately suspended, and remain suspended due to what Petitioner saw as a need to correct repeated errors in the plants' undervoltage relay setpoints and electrical distribution system designs. Petitioner provided a number of reasons to support his request.

In a Director's Decision dated September 26, 1996, the Director of Nuclear Reactor Regulation denied the relief sought by Petitioner, concluding that no substantial health and safety issues had been raised by Petitioner to warrant the action requested, as the NRC Staff had adequately addressed Petitioner's concerns. With regard to the request for immediate suspension, the Director concluded that licensees had to a large degree also already addressed the issues raised by Petitioner.

DIRECTOR'S DECISION UNDER 10 C.F.R. § 2.206**I. INTRODUCTION**

On March 5, 1996, Mr. Charles Morris (Petitioner) filed a petition with the Executive Director for Operations pursuant to section 2.206 of Title 10 of the *Code of Federal Regulations* (10 C.F.R. § 2.206). The Petitioner requested that

*Because of unusual circumstances, this Director's Decision was not published in the September 1996 *Issuances*.

the operating licenses of all nuclear power plants be suspended within 90 days and remain suspended until such time as those plants have (1) discovered the reason for what the Petitioner asserts are repeated errors in the undervoltage relay (UVR) setpoints (SPs) and electrical distribution system (EDS) designs and (2) provided convincing evidence that these deficiencies have finally been corrected. Since the Petitioner had requested action within 90 days, the request was treated as a request for immediate relief. The Petitioner also requested that the aforementioned evidence be reviewed by a competent third party, in addition to the Nuclear Regulatory Commission (NRC) Staff, and that if the NRC concludes that plants may safely operate with UVRs that cannot be properly set for long periods of time, the NRC should reach these conclusions by way of a public meeting.

On April 17, 1996, the Petitioner was informed that the request for the suspension of all nuclear power plant licenses within 90 days for the purposes of remedying repeated errors in UVR SPs and EDS designs was denied because licensees have, to a large degree, already addressed the issues that the Petitioner had raised. Also, the Petitioner was informed that the request was being evaluated pursuant to section 2.206 of the NRC's regulations and that a decision, as provided by section 2.206, would be made on the request within a reasonable time.

On the basis of my review of the issues raised by the Petitioner as discussed below, I have concluded that no substantial health and safety issues have been raised that would require the initiation of the action requested by the Petitioner.

II. DISCUSSION

In his petition, the Petitioner stated his concern that the "enduring and widespread nature of the electrical distribution system (EDS) and undervoltage relay (UVR) setpoint (SP) errors (e.g., incorrect UVR and thermal overload setpoints) was recognized by neither the licensees nor the NRC staff," and was not included in NRC Information Notice (IN) 93-99, "Undervoltage Relay and Thermal Overload Setpoint Problems."

IN 93-99 did, in fact, inform all holders of operating licenses or construction permits of the widespread nature of the SP errors by listing approximately forty licensees with incorrectly set UVRs or thermal overload (TOL) protective devices. The identification of these problems was not inadvertent, but was the result of concerted NRC Staff attention to these issues. As was indicated to the Petitioner in an April 17, 1996 letter acknowledging receipt of his March 5, 1996 section 2.206 petition, the Petitioner himself recognized that Electrical Distribution System Functional Inspections (EDSFIs) were highlighting these issues and that licensees were conducting self-initiated design-basis reviews

(possibly in anticipation of pending EDSFIs) to identify problems and were undertaking corrective actions.

In his March 5, 1996 petition, the Petitioner listed seven specific reasons that he believed caused repeated EDS and UVR deficiencies. The following is a description of each concern accompanied by the NRC Staff's response:

1. The Petitioner stated that NRC Branch Technical Position PSB-1, "Adequacy of Station Electric Distribution System Voltages," contained in NUREG-0800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants," which requires a degraded voltage relay with a long delay and a loss-of-power relay with a short delay, is inadequate because it does not recognize the complexity of the matter. Except for the arbitrary time delays associated with the UVRs, no recognition has been made of voltage dynamics and time dependence. Signal bandwidths, responses of tap-changing transformers, and UVR time delays have been overlooked and should be considered.

RESPONSE: NRC Branch Technical Position PSB-1 does not recommend that licensees arbitrarily select time delays for UVRs. On the contrary, PSB-1 states that "the selection of undervoltage and time delay setpoints shall be determined from an analysis of the voltage requirements of the Class 1E loads at all onsite system distributions levels." Further, it states that "Tap settings selected should be based on an analysis of the voltage at the terminals of the Class 1E loads. The analyses performed to determine minimum operating voltages should typically consider maximum unit steady state and transient loads . . ." Additionally, "the first time delay should be of a duration that established the existence of a sustained degraded voltage condition (i.e., something longer than a motor starting transient)" and "the second time delay should be of a limited duration such that the permanently connected Class 1E loads will not be damaged."

Therefore, the Staff concludes that NRC Branch Technical Position PSB-1 is adequate as it addresses those topics that the Petitioner believes are neglected by the Branch Technical Position.

2. The Petitioner asserted that UVR tolerances are statistical in nature and not, as the Staff and design engineers often regard them, limits to the errors in the relay SPs. This is a significant problem that may not be solved if previous approaches are utilized and decision analysis is not applied to study the consequences of attempting to prevent the occasional loss of the most vulnerable safety load at the expense of transferring a complete division to another power source with attendant problems.

RESPONSE: Regulatory Guide 1.105, "Instrument Setpoints for Safety-Related Systems," states that ISA-S67.04-1982, "Setpoints for Nuclear Safety-Related Instrumentation Used in Nuclear Power Plants," establishes NRC Staff guidance for ensuring that instrument SPs in safety-related

systems are initially within and remain within the technical specification limits. Section 4.3.1 of ISA-S67.04 states that instrument accuracies (uncertainties, errors, or tolerances) may be combined in one of five ways: algebraically, square root of the sum of the squares, statistically, probabilistically, or combinations of the first four. Justification is to be provided for the method used.

Regulatory Guide 1.105 expands upon this point:

Paragraph 4.3 of the standard specifies the methods for combining uncertainties in determining a trip setpoint and its allowable values. Typically, the NRC staff has accepted 95% as a probability limit for errors. That is, of the observed distribution of values for a particular error component in the empirical data base, 95% of the data points will be bounded by the value selected. If the data base follows a normal distribution, this corresponds to an error distribution approximately equal to a "two sigma" value.

Although the use of "two sigma" values (values equal to twice the standard deviations of the errors) does not completely ensure that the measured parameter will not exceed the safety analysis limit without accompanying protective action, the probability of all the individual errors occurring simultaneously at their extreme, nonconservative, random values is very low. Therefore, the regulatory guide and the industry standard together support a credible, statistical approach for establishing SPs that considers such things as sample size of error values, random versus nonrandom errors, and independence of errors.

The preparatory training for EDSFI team members also did not overlook the statistical nature of the UVR tolerances. In section 4.8.2 of the EDSFI training textbook, a discussion of instrumentation SP problems was provided with a sample application of ISA-S67.04 to degraded voltage relays. This methodology was also discussed in the course itself. Using this knowledge, EDFSI were conducted and findings were written covering improper degraded voltage relay SPs. As a result, licensees then followed this action with event notification and other activities as described in Information Notice 93-99.

Additionally, in response to a request from Region III pertaining to an unanalyzed degraded voltage concern at Perry Nuclear Power Plant, the Electrical Engineering Branch (EELB) of NRR in an April 13, 1992 memo provided inspectors in NRC regional offices with guidance for establishing an adequate SP for the degraded voltage relays by way of reference to section 4.8.2 of the EDSFI training course manual and Regulatory Guide 1.105. Furthermore, the Staff informed all holders of operating licenses about a statistical approach for establishment of UVR SPs when IN 91-29, "Deficiencies Identified During Electrical Distribution Functional

Inspections," made reference to ISA-S67.04-1982 for useful guidance in determination of SPs.

The Staff therefore has regarded the UVR SP determinations as statistical in nature.

3. The Petitioner stated that although General Design Criterion (GDC) 17, "Electric power systems," requires all EDS to be testable, only parts are tested because plants cannot conveniently be placed in a condition where actual loads can be placed on the EDS and measured.

RESPONSE: The Staff has always been aware that in certain situations it is not practical or safe to test each and every component in the exact way it is used. GDC 18, "Inspection and testing of electrical power systems," states that "systems shall be designed with a capability to test periodically . . . the operability of the systems as a whole and, under conditions as close to design as practical. . . ." Regulatory Guide 1.118, "Periodic Testing of Electric Power and Protection Systems," Revision 2, endorses IEEE Std 338-1977, "Criteria for the Periodic Testing of Nuclear Power Generating Station Safety Systems," which states that "the test program of each system shall be designed to provide for minimum interference with related operational channels, systems, or equipment." It further states that "wherever possible, tests shall be accomplished under actual or simulated operating conditions, including sequence of operations, for example, diesel load sequencing," but also

where it is not practicable to initiate the protective action, the system shall be designed such that . . . Designs . . . shall be justified on the basis that there is no practical system design that would permit operation of the actuated equipment without adversely affecting the safety or operability of the plant, and that the probability of failure of actuated equipment not tested during plant operation is acceptably low, and that the actuated equipment can be routinely tested when the plant is shut down.

It is the Staff's goal to have all components of the EDS periodically tested in a manner that is both reasonable and practical. Various practical test methods such as the use of miniflow paths, overlap testing, simulated loads, etc., have been found acceptable by the Staff.

NRC Temporary Instruction 2515/107 (which provided guidance for performing EDSFIs) required the EDSFI teams to "verify that the surveillance and test procedures are adequate to demonstrate the functionality of the equipment or system being tested or the design assumptions being verified."

Therefore, as shown above, testing of the EDS is evaluated in terms of satisfying NRC requirements (GDC-17 and GDC-18) utilizing the guidance provided by Regulatory Guide 1.118 for a reasonable and practical

approach (in lieu of testing each system as a whole), and tests are properly implemented in the manner described above.

4. The Petitioner pointed out that load nameplate ratings are used in voltage analyses even when common knowledge shows that most loads are operated at a fraction of their ratings. Furthermore, worst-case ambient temperatures are used to select motor protection time delays even though few loads, if any, see those conditions except during a loss-of-coolant accident when the motor protection is bypassed. Additionally, UVR output delays are treated as known quantities, when the protection of loads by time delays and inverse time overcurrent relays is a crude mitigating approach. As a related matter, the Petitioner objects to the inconsistent use of significant figures to represent EDS and UVR SP parameters.

RESPONSE: The aforementioned temporary instruction (TI) for the EDSFIs stated that the inspectors should verify that values for mechanical loads used for electrical calculations are based on actual system operating points during both normal and accident conditions. The Staff expects licensees to perform accurate, conservative, and bounding calculations involving worst-case estimates for parameters such as ambient temperatures and loads. The licensees' analyses are reviewed by the Staff utilizing engineering judgment and applicable industry guidance to ensure that reasonable, yet adequately safe, solutions are provided.

It is true that, occasionally, designs proposed by licensees do involve basic approaches (such as inverse time delay relays) and that some calculations performed by licensees involve the use of ultraprecise numerical values. What the Staff does require is that the designs utilized by licensees meet applicable NRC regulations and that adequate protection of public health and safety is ensured.

The Staff, therefore, concludes that component characteristics are treated and utilized properly in calculations that support EDS and UVR designs.

5. The Petitioner believed that when licensees have discovered that UVR SPs are set too low, the typical response has been to raise the SPs. This, in turn, reduces the safety advantage of providing UVRs for the EDS due to more frequent and unnecessary UVR actuations accompanied by possible undesirable power systems transfers.

RESPONSE: In a letter dated August 8, 1979, addressed to all power reactor licensees regarding the adequacy of station electric distribution systems voltages, the Staff stated that:

Protection of safety loads from undervoltage conditions must be designed to provide the required protection without causing voltages in excess of maximum voltage ratings of safety loads and without causing spurious separations of safety buses from offsite power.

Moreover,

[v]oltage-time settings for undervoltage relays shall be selected so as to avoid spurious separation of safety buses from offsite power during plant startup, normal operation and shutdown due to startup and/or operation of electric loads.

NRC Branch Technical Position PSB-1 states that:

imporper [sic] voltage protection logic can itself cause adverse effects on the Class 1E systems and equipment such as . . . spurious separation of Class 1E systems from offsite power due to normal motor starting transients.

Additionally, in IN 95-37, "Inadequate Offsite Power System Voltages During Design-Basis Events," the Staff informed power reactor licensees that although raising UVR SPs ensure that adequate voltages exist at equipment input terminals, the higher SPs also increase the potential for separation from the offsite power system during design-basis events over the range of normally anticipated offsite grid voltages.

In a more specific example, a February 23, 1995 Staff safety evaluation of the degraded voltage design for the Edwin I. Hatch Nuclear Plant determined that a combination of automatic and manual actions was an acceptable alternative approach to meet the branch technical position in lieu of raising the degraded voltage SPs which could lead to unwanted plant trips. That safety evaluation and the above Staff guidance provide evidence that the Staff has considered avoidance of spurious bus trips as one objective to be considered when selecting an adequate SP for UVRs.

The Staff, therefore, has repeatedly and in detail both considered the detrimental effects of raising the UVR SPs and communicated its concerns to licensees.

6. The Petitioner stated that in IN 95-05, "Undervoltage Protection Relay Settings Out of Tolerance Due to Test Equipment Harmonics," the Staff discovered that peak reading voltmeters calibrated for root mean square (RMS) are affected by the proportions of harmonics in the AC bus voltages and in the calibrators used to set the UVRs. Additionally, the harmonics affect the UVR responses by changing their SPs when the harmonic content of the bus voltage changes.

RESPONSE: IN 95-05 discusses three occurrences, reported by licensees, where harmonics in the output voltage of the power supplies used during testing and calibration of UVRs resulted in the relay SPs being out of tolerance. The SP errors were also affected by the use of digital voltmeters which do not respond to the harmonic content of the test input voltage as do the UVRs. The purpose of the IN was to inform all operating power plant licensees that harmonics in the voltage inputs (test source voltage or normal

bus voltage) to the UVRs impact the actual operating points of those relays, as the Petitioner believes, and to instruct the licensees to take appropriate action (i.e., install filters, adjust SPs, select proper test equipment, etc.) to ensure that UVR SPs are adequate.

The Staff, therefore, has addressed this concern and brought it to the attention of licensees who are taking appropriate action as discussed above.

7. The Petitioner concluded that impedances and inrush currents to motors and other loads are not known to the precision with which the Staff and the licensees' engineers have been trying to set UVRs. Both groups must recognize that their task may be impossible and that their attempts to do so have increased the risk of a nuclear accident.

RESPONSE: Branch Technical Position PSB-1 states that voltage analyses (including effects of impedances and inrush currents) should be performed with analytical techniques and assumptions verified by actual measurement. It also states that, in general, test results should not be more than 3% lower than the analytical results. This level of precision has been determined to be acceptable based on engineering judgment.

Furthermore, as stated in the response to the Petitioner's fourth concern, even though licensees propose solutions involving different equipment and unique, precise calculations (which should be supported by actual test data as mentioned above), Staff reviews are conducted utilizing both guidance from Branch Technical Position PSB-1 and engineering judgment to ensure that all applicable regulations are met and that adequate protection of public health and safety is ensured. This approach provides reasonable assurance that the level of risk of a nuclear accident is not increased and remains acceptable.

Choosing an SP above an analytical limit based on minimum voltage requirements and below nominal voltage ranges while accounting for instrumentation errors and analytical inaccuracies is often a challenge that leads licensees to use more precise equipment and more precise calculations. It is concerns such as these that have led the Staff to consider alternative approaches to its position on degraded voltage protection on a plant-specific basis as noted above in the Staff's response to the Petitioner's fifth concern.

Therefore, although the Staff has concluded that the task is not impossible, it has recognized alternative approaches that address degraded voltage concerns without increasing the risk of an accident.

To continue the discussion, identification of problems with UVRs and EDSs was not inadvertent. The NRC Staff had undertaken more global measures to ensure that concerns such as those raised by the Petitioner were addressed satisfactorily. Because previous NRC inspection teams had observed that the required functional capabilities of certain safety-related systems (including EDSs) were compromised due to a lack of proper engineering support and

the introduction of various design deficiencies, EDFSI's were scheduled to be conducted for all operating plants beginning with pilot inspections in 1989. NRC TI 2515/107 was issued on October 19, 1990, to be made part of the NRC Inspection Manual. That TI stated that calculations to establish protective relay SPs had not been initially performed or were not updated to reflect SP changes and plant modifications. These failures constituted some of the deficiencies that had been encountered by previous inspection teams. The TI stated, with regard to those concerns voiced by the Petitioner, that the forthcoming inspections should verify:

- That ratings and SPs have been correctly chosen and controlled for protective and control relays and circuit breakers to ensure proper coordination, protection, required automatic action, and annunciation.
- The adequacy of the load study, voltage profiles, voltage drop calculations, motor starting study, load shedding, engineered safety features (ESF) bus load sequencing and overload trip settings for ESF loads including consideration of steady-state and accident-transient loads and consideration of acceleration of the loads during degraded voltage conditions that may occur during various modes of plant operation and accident mitigation scenarios.
- The adequacy of short-circuit calculations, design of protective relay logic and relay setting calculations, grounding calculations and schemes, and protective device coordination studies.
- That SPs for overcurrent protective relays are correctly chosen (1) to ensure proper breaker coordination between different voltage levels; (2) to prevent exceeding the vendor-specified thermal limits on motors, containment electrical penetrations and cable insulation systems; (3) to allow starting of electrical equipment under degraded voltage conditions; and (4) to provide adequate pretrip alarms, when applicable.
- The adequacy of SPs and time delays for other protective relays for attributes such as undervoltage, underfrequency, reverse power, ground faults, differential current, thermal overload and phase synchronization to assure functionality of the EDS.
- That mechanical loads, such as pump horsepower, correspond to actual system operating points during normal and accident conditions and have been correctly translated to electrical loads and incorporated in the electrical load list as appropriate.
- That surveillance and test procedures are adequate to demonstrate the functionality of the equipment or system being tested or the design assumptions being verified.

NRC inspectors (including NRC contractors) assigned to the EDFSI teams attended a week-long course (held in September and December 1990) to enhance their knowledge of EDSs, the TI, and related requirements. Using the guidance

provided by the TI and the EDSFI training course, the EDSFI teams then conducted inspections of the EDSs through early 1994 at most operating nuclear power plants. As a result, numerous deficiencies were identified and documented in plant-specific EDSFI inspection reports, and corrective actions were taken. Those corrective actions were subsequently evaluated, found acceptable by the Staff, and documented in followup inspection reports. Many of these deficiencies and corrective actions were listed in IN 93-99 and include incorrect UVR relay and thermal overload SPs caused by design errors, as well as other points raised by the Petitioner.

In summary, as stated in my April 17, 1996 letter, I believe that the NRC Staff recognized the existence of repeated errors and widespread EDS design deficiencies, including those associated with UVR SPs, took appropriate actions (conducted EDSFIs, identified deficiencies, required corrective actions) based on those observations, and made all licensees aware of typical design deficiencies encountered during EDSFIs and licensees' self-initiated efforts by issuing INs such as IN 91-29, "Deficiencies Identified During Electrical Distribution System Functional Inspections," its supplements, and IN 93-99. Additionally, the Staff has continued to inform power reactor licensees of other design deficiencies when they are encountered (e.g., IN 95-37 which discusses UVR SPs in relationship to inadequate offsite power system voltages during design-basis events) and will continue to do so in the future when necessary. Such action by the Staff is appropriate to address repeated errors in UVR SPs and EDS designs and to provide reasonable assurance of adequate protection of public health and safety.

III. CONCLUSION

The institution of proceedings pursuant to section 2.206 is appropriate only if substantial health and safety issues have been raised. See *Consolidated Edison Co. of New York* (Indian Point, Units 1, 2, and 3), CLI-75-8, 2 NRC 173, 175 (1975), and *Washington Public Power Supply System* (WPPSS Nuclear Project No. 2), DD-84-7, 19 NRC 899, 924 (1984). This is the standard that has been applied to the concerns raised by the Petitioner to determine whether the action requested by the Petitioner, or enforcement action, is warranted.

On the basis of the preceding assessment, I have concluded that no substantial health and safety issues have been raised by the Petitioner that would warrant the action requested by the Petitioner. I further conclude that the Petitioner's concerns have been adequately addressed by the Staff and that there is no need for a third-party review. Additionally, with regard to plants with UVRs that cannot be properly set, the Staff has shown in plant-specific evaluations, such as described above, that other alternative designs are acceptable.

The Petitioner's request for action pursuant to section 2.206 is denied. As provided for in 10 C.F.R. § 2.206(c), a copy of the decision will be filed with the Secretary of the Commission for the Commission's review. The decision will constitute the final action of the Commission 25 days after issuance unless the Commission, on its own motion, institutes review of the decision in that time.

**FOR THE NUCLEAR
REGULATORY COMMISSION**

**William T. Russell, Director
Office of Nuclear Reactor
Regulation**

**Dated at Rockville, Maryland,
this 26th day of September 1996.**

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

OFFICE OF NUCLEAR REACTOR REGULATION

Frank J. Miraglia, Acting Director

In the Matter of

Docket No. 50-302

FLORIDA POWER CORPORATION
(Crystal River Nuclear Generating
Plant, Unit 3)

October 7, 1996

The Acting Director grants a petition filed by Mr. Louis D. Putney, Esq., on behalf of Barry L. Bennett, to the extent that it requested the NRC to determine the validity of alleged security deficiencies at Crystal River Nuclear Generating Plant, Unit 3 (CR3). Most of the allegations were not substantiated. The Acting Director denies the petition to the extent that it requested the Acting Director to institute a proceeding to suspend or revoke the operating license of CR3, pursuant to 10 C.F.R. § 2.202, upon confirmation of the validity of the allegations. The Acting Director determines that with respect to the Petitioner's substantiated concerns and other security concerns identified by the NRC Staff, the Licensee took appropriate action to correct the deficiencies and no further action is warranted.

SECURITY PLAN: DRILLS

There is no regulatory requirement to report the results of drills to the NRC unless certain safeguards system weaknesses are discovered during the drills that could allow unauthorized or undetected access to protected or vital areas of the reactor. *See* 10 C.F.R. §§ 73.55 and 73.71.

DIRECTOR'S DECISION UNDER 10 C.F.R. § 2.206

I. INTRODUCTION

On March 28, 1996, Louis D. Putney, Esq., on behalf of Barry L. Bennett (Petitioner), filed a petition pursuant to section 2.206 of Title 10 of the *Code of Federal Regulations* (10 C.F.R. § 2.206) and alleged a number of security deficiencies at Florida Power Corporation's (the Licensee's) Crystal River Nuclear Generating Plant, Unit 3 (CR3). The Petitioner requested that the U.S. Nuclear Regulatory Commission (NRC or the Staff) investigate the security deficiencies at CR3 and, upon determination of their validity, institute a proceeding to suspend or revoke the operating license of CR3, pursuant to 10 C.F.R. § 2.202, until such time as these concerns are corrected. The petition was referred to the Office of Nuclear Reactor Regulation (NRR) for action in accordance with section 2.206.

In a letter dated April 24, 1996, to the Petitioner, the Director of NRR acknowledged receipt of the petition and informed the Petitioner that his request was being treated as a petition under section 2.206. The April 24th letter also informed the Petitioner that as provided by section 2.206, action will be taken on his request within a reasonable time. Receipt of the petition was noticed in the *Federal Register* (61 Fed. Reg. 31,562 (1996)). The Staff has completed its review of the issues and has reached its conclusions, which are discussed herein.

II. BACKGROUND

The Petitioner alleged security deficiencies at the CR3 plant and stated that they render the nuclear security program at CR3 ineffective. As the basis of his request, the Petitioner described examples of the security concerns, which involved the following four areas: compliance with licensing requirements and maintaining an effective security program; a pattern of lax security and failure to report security breaches; a practice of using only one guard to monitor several protected zones or entrances to the protected area; and a reduction of security force personnel.

The NRC Staff has reviewed the petition and the results of this review are discussed below.

A special inspection was conducted during the periods of March 18-22 and April 3-5, 1996, and is documented in NRC Inspection Report (IR) 50-302/96-02. This IR contains safeguards information as defined by 10 C.F.R. § 73.21 and its disclosure to unauthorized individuals is prohibited by section 147 of the Atomic Energy Act of 1954, as amended, and therefore is not available for public review. However, the IR summary does not contain safeguards information and,

therefore, is available for public review at the Commission's Public Document Room, 2120 L Street, NW, Washington, DC, and at the local public document room located at Coastal Region Library, 8619 W. Crystal Street, Crystal River, FL 32629.

III. DISCUSSION

The Petitioner alleged that CR3's compliance with one of its licensing requirements, that is, maintaining a security program that would be effective against terrorist attack, is inadequate. Specifically, the Petitioner alleges that an operational security response effectiveness drill conducted in 1995 was unsuccessful and the results were not formally documented and reported to the NRC. Further, the Petitioner claims that the deficiencies revealed by the drill have never been corrected, and thus the plant remains susceptible to terrorist attack.

Two types of security drills have been conducted at CR3: an Operational Safeguards Response Evaluation (OSRE) by the NRC and a Security Organization Response Exercise (SORX) by the Licensee. The NRC Staff conducted an OSRE on February 15-18, 1994, and its results are documented in a letter to the Licensee dated August 11, 1994. The Licensee conducted SORX drills during May and June 1995. The Staff contacted Louis D. Putney, the attorney for the Petitioner, to clarify whether the Petitioner's concern is related to the Licensee's SORX or the NRC's Operational Safeguards Response Evaluation. Mr. Putney confirmed that the issue is related to the Licensee's SORX drill.

In the course of the March 18-22 and April 3-5, 1996 inspection, the inspector reviewed documentation, and interviewed Licensee representatives to determine whether the Licensee was meeting commitments specified in the Training and Qualification Plan (T&QP).

The inspector verified during these two inspection periods that the security force was being trained in accordance with the provisions outlined in the T&QP by reviewing 1995 records for ten randomly selected security force members employed in the position of either response team member, alarm station operator/analyst, or access control officer. All members of the security force were appropriately equipped. The records reviewed indicate that the tasks, weapon requalification scores, and physical fitness requirements were documented satisfactorily. Interviews with security officers in various positions verified that they were knowledgeable of their duties and responsibilities. The inspector concluded that the Licensee, at the time of these inspections, was meeting the commitments specified in the Licensee's T&QP.

The inspector reviewed the Licensee's documentation for SORX drills, which were conducted during May and June 1995. The Licensee used attendance sheets

to document each participant's attendance and performance. All participants for the seven SORX drills were documented as performing satisfactorily. In addition, these attendance sheets were signed and dated by the instructor/assessor, who on several occasions was the Petitioner. The Licensee stated that the drills were successful, and inspection of the Licensee's records and interviews with its employees did not show otherwise. Upon further discussion with Licensee representatives, the inspector learned that the Licensee documented the 1993 and 1994 drills on Form TDP-307 and the 1995 drills on the attendance sheets as discussed above. Based on review of the documentation, interviews of the Licensee representatives and security officers, and direct observations, the inspector concluded that there were no discovered vulnerabilities in the Licensee's safeguards system or violations of licensed requirements during the Licensee's SORX drills and that the Licensee's training and qualification program meets the requirements in the T&QP.

The NRC inspector verified that the 1995 SORX drill results were not reported to the NRC, as alleged by the Petitioner. However, there is no regulatory requirement to report the results of drills unless certain safeguards system weaknesses are discovered during the drills that could allow unauthorized or undetected access to protected or vital areas of the reactor. If the above weaknesses are discovered they are required to be compensated, corrected, and reported or documented in accordance with NRC regulations: 10 C.F.R. §§ 73.55 and 73.71. No such vulnerabilities in the 1995 SORX drills were identified. The Staff did not find violations of regulatory requirements in the conduct or documentation of the 1995 drills, and the Petitioner's concerns are not substantiated.

The Petitioner states that "there is a general laxity of security" and "a pattern of failure to report security breaches" at Crystal River. As the basis for these claims, the Petitioner cites three separate incidents that occurred in 1995 for which security reports were not filed: (1) a guard was found asleep at a compensatory post, (2) a security lieutenant took his badge off site, and (3) a guard was found reading a book instead of watching three security zones as assigned.

Pursuant to 10 C.F.R. § 73.71, licensees are required to report certain safeguards events to the NRC within 1 hour of discovery, and other events must be recorded within 24 hours in the Safeguards Event Logs that are maintained by each Licensee. During the weeks of March 18-22 and April 3-5, 1996, the inspector reviewed the Licensee's Safeguards Event Logs for the period January 1995 to March 1996 to verify that the criteria specified in section 73.71 were being met. The inspector verified that the three safeguards events identified by the Petitioner were documented in Security Incident Reports and logged in the Licensee's Safeguards Event Log as required by section 73.71. The inspector also determined that these three events were not 1-hour-reportable events

pursuant to section 73.71 and Appendix G of Part 73. All of the three events identified by the Petitioner were properly logged and compensated for in accordance with section 73.71. Therefore, the Staff substantiated that these incidents occurred, but did not substantiate the Petitioner's claim of "failure to report security breaches."

During the March and April inspections, the inspector identified four violations of regulatory requirements relating to failure to adhere to the Licensee's Physical Security Plan but unrelated to the specific issues raised by the Petitioner. By letter dated May 1, 1996, the Staff issued a Notice of Violation citing these violations.

Three of these violations are related to operability of the vehicle barrier gate, protected area lighting, and storage of safeguards material. In response, on May 31, 1996, the Licensee submitted its corrective action plan to ensure that such violations would not recur.

The fourth violation related to certain compensatory measures that the Licensee implemented as part of its security upgrade. Specifically, the violation cited that the Licensee's compensatory actions decreased the effectiveness of the alarm stations and did not meet the provisions specified in 10 C.F.R. § 50.54(p). The NRC Staff, in a letter dated March 29, 1996, informed the Licensee to cease the compensatory measures. In a subsequent meeting with the NRC on April 2, 1996, the Licensee informed the NRC of the actions that it would take to maintain compliance with regulatory requirements. During the inspection of April 3-5, 1996, the NRC Staff verified that the Licensee was adhering to its commitments. Although this violation was serious, the NRC Staff believes that the timely actions implemented by the Licensee to correct these deficiencies were satisfactory and that no further action by the NRC is warranted. Further, the Staff concludes that neither the incidents identified by the Petitioner with respect to security personnel's performance, nor the violations identified by the Staff constitute "a general laxity of security."

The Petitioner states that the Licensee's current practice of using only one guard to monitor several protected zones or entrances to the protected area does not provide adequate security. The Licensee has committed to monitoring multiple protected zones or entrances in its NRC-approved Physical Security Plan (hereinafter referred to as the Plan) which describes compensatory measures that must be implemented when equipment or other resources are not in service. During the weeks of March 18-22 and April 3-5, 1996, the inspector reviewed the Licensee's security program at CR3 with respect to guard monitoring of protected zones and found it to be in compliance with the Plan. Additionally, the inspector reviewed the established compensatory posts and determined that they were in accordance with the Licensee's Plan and also with the recommended NRC guidance developed in NUREG-1045, "Guidance on the Application

of Compensatory Safeguards Measures for Power Reactor Licensees," dated January 1984.

On the basis of its inspection, the Staff finds that the Licensee's current practice of monitoring multiple protected zones or entrances to the protected area is consistent with the Plan and provides adequate security. Therefore, the Petitioner's concern regarding the adequacy of having one guard monitor several protected zones or entrances to the protected area was not substantiated.

The Petitioner states that the Licensee intends to reduce its security force at CR3, and on that basis, the Petitioner raises a concern that the reduction in the security force would compromise security at the plant. In a discussion with Licensee representatives on April 4, 1996, the inspector confirmed that the Licensee intends to implement cost-saving measures that would employ new technology and result in a slight reduction in the number of security officers. The mere reduction in force does not indicate that plant security will be compromised. The Licensee must ensure that, notwithstanding its cost-saving measures, its plan and security staffing will meet NRC requirements and are adequate to protect public health and safety. The number of security officers the Licensee intends to utilize is required to, and will, meet the current commitments specified in the Licensee's Plan. If the Licensee decides to change the Plan commitments, it must identify the changes and submit them to NRC in accordance with NRC regulations. Therefore, the Staff finds that the Petitioner's concern regarding personnel reduction and its consequent effect on plant security is not substantiated.

IV. CONCLUSION

The Petitioner's allegations have been partly substantiated. However, the NRC Staff concludes that these concerns do not warrant suspension or revocation of Florida Power's license to operate CR3. With respect to violations identified, the NRC is satisfied that the Licensee has taken appropriate action to correct the deficiencies. No further action based on concerns raised by the Petitioner is warranted. See *Consolidated Edison Co. of New York* (Indian Point, Units 1, 2, and 3), CLI-75-8, 2 NRC 173, 175 (1975); *Washington Public Power Supply System* (WPPSS Nuclear Project No. 2), DD-84-7, 19 NRC 899, 924 (1984). Therefore, any further action on the issues addressed in this Director's Decision is not warranted and the Petitioner's request for suspension or revocation pursuant to section 2.202 is denied. As provided in 10 C.F.R. § 2.206(c), a copy of this Director's Decision will be filed with the Secretary of the Commission for the Commission's review.

As provided by this regulation, the Decision will constitute the final action of the Commission 25 days after issuance, unless the Commission, on its own motion, institutes a review of the Decision within that time.

**FOR THE NUCLEAR
REGULATORY COMMISSION**

**Frank J. Miraglia, Acting Director
Office of Nuclear Reactor
Regulation**

**Dated at Rockville, Maryland,
this 7th day of October 1996.**

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

OFFICE OF NUCLEAR REACTOR REGULATION

William T. Russell, Director

In the Matter of

Docket Nos. 50-413
50-414
(License Nos. NFP-35
NPF-52)

DUKE POWER COMPANY, *et al.*
(Catawba Nuclear Station,
Units 1 and 2)

October 10, 1996

By a petition dated February 13, 1996, Charles Morris (Petitioner) requested that the U.S. Nuclear Regulatory Commission (NRC) suspend the operating licenses for the Catawba Nuclear Station (Catawba) and ten other unidentified licensees due to these plants lacking circuit breaker coordination. On May 1, 1996, Petitioner submitted an addendum to his petition, listing a number of cases involving nine other nuclear power plants for which lack of protective device coordination had been identified.

In a Director's Decision dated October 10, 1996, the Acting Director of Nuclear Reactor Regulation denied the relief sought by Petitioner. With regard to Catawba's lack of circuit breaker coordination, the Director concluded that the Licensee had documented adequate technical justification for the lack of such coordination. With regard to the other plants mentioned in the petition and addendum, the Director concluded that those cases had already been addressed by way of the NRC's inspection report item closeout process.

DIRECTOR'S DECISION UNDER 10 C.F.R. § 2.206

I. INTRODUCTION

On February 13, 1996, Mr. Charles Morris of Middletown, Maryland, filed a petition with the U.S. Nuclear Regulatory Commission (NRC) pursuant to Title 10 of the *Code of Federal Regulations*, section 2.206 (10 C.F.R. § 2.206). In the petition, the Petitioner requested the NRC to suspend the operating licenses for the Catawba Nuclear Station and "some ten other licensees with uncoordinated breakers" (not specifically identified in his initial petition) until the lack of circuit breaker coordination has been remedied. Mr. Morris also requested that enforcement conferences be held on these cases and that Catawba be defueled. Mr. Morris also asked that the NRC take enforcement action against Catawba for operating with a "known safety deficiency of which they did not inform the NRC." This aspect will be addressed separately as stated in the April 2, 1996 letter to Mr. Morris. On May 1, 1996, Mr. Morris submitted an addendum to his petition, providing a list of fourteen cases involving nine other nuclear power plants for which lack of protective device coordination had been identified as a concern by electrical distribution system functional inspection (EDSFI) teams; see Section II for information.

II. DISCUSSION

During an EDSFI conducted by the NRC Staff from January 13 to February 14, 1992, at the Catawba Nuclear Station, circuit breaker coordination deficiencies were identified for the 600-Vac essential motor control centers (MCCs) and the 125-Vdc system. This circuit breaker coordination issue was addressed in EDSFI Inspection Report 50-413, 414/92-01, dated March 18, 1992, as a deviation from a written commitment. Section 5.3.1 of the Institute of Electrical and Electronics Engineers (IEEE) Standard 308-1974, "IEEE Standard Criteria for Class 1E Power Systems for Nuclear Power Generating Stations," stipulates that protective devices shall be provided to limit the degradation of Class 1E power systems. The Catawba Final Safety Analysis Report (FSAR) states that the system meets the requirements of this standard. The FSAR also states that the protective devices on the 600-Vac essential auxiliary power (EPE) system are set to achieve a selective tripping scheme so that a minimal amount of equipment is isolated for an adverse condition such as a fault.

Contrary to this IEEE standard, however, the Licensee's protective devices may not limit the degradation of the 125-Vdc vital instrumentation and control (I&C) power system distribution center and other main feeder circuit breakers. An analysis performed by the Licensee showed that coordination did not exist

for fault currents from 3500 amperes up to the maximum fault current of 9500 amperes. A fault on the battery charger feeder cable could cause both the charger and the battery to be isolated from the remainder of the distribution system and loads.

In addition, the outgoing feeder breakers for the 600-Vac essential MCCs have thermal elements and the incoming MCC breakers have instantaneous elements. The incoming breaker (supply breaker) and the feeder breakers at each of the 600-Vac MCCs were not coordinated for the maximum expected short-circuit current. A fault on any of the MCC outgoing feeders could cause the MCC incoming breakers to trip, resulting in a loss of the MCC.

Enclosed with the letter dated April 16, 1992, Duke Power Company (the Licensee) provided a response to this deviation that stated that the 125-Vdc vital I&C power (EPL) system primarily uses molded-case circuit breakers in the 125-Vdc distribution centers and power panelboards for protection. The battery, main, and tie breakers are equipped only with adjustable magnetic trip units. The battery charger breaker is a thermal magnetic type with an adjustable magnetic trip setting. The rest of the breakers are of a nonadjustable thermal magnetic type.

The Licensee's response concluded that this design was acceptable for the following reasons:

1. The EPL system is not a shared system between the two Catawba units; thus, a postulated fault in the EPL system of one unit will not affect the opposite unit.
2. The EPL system for each unit is composed of two completely redundant and separate trains, each consisting of two load channels for a total of four load channels per unit. A postulated fault would, at worst, disable two load channels of the same train, yet the redundant train would remain unaffected.
3. Selected loads such as the diesel load sequencer, essential switchgear and load center controls, and auxiliary feedwater pump turbine controls are not only fed by the EPL system, but are auctioneered with the 125-Vdc diesel auxiliary power (EPQ) system. As a result, if the EPL system was unable to feed these loads, the EPQ system would supply them without interruption. Further, a fault on the EPL system will not affect the EPQ system or vice versa.

The Licensee's response further states that the incoming 600-Vac breakers were incorporated in the design to provide a means of local isolation for the 600-Vac Class 1E MCCs. The Licensee deemed acceptable the use of circuit breakers having a continuous rating equal to the MCC incoming rating and their instantaneous trip settings at maximum, 10 times their continuous rating.

In the response to the deviation, the Licensee committed to perform a detailed study to identify acceptable methods to achieve improved protective device

coordination within the EPL system and to evaluate the feasibility of eliminating the incoming 600-Vac MCC breakers. The Licensee committed to either update the FSAR to justify the deviation from the IEEE Standard 308-1974 or to modify the system to meet this IEEE standard. Subsequent to completing the detailed study and evaluating the feasibility of making system modifications, the Licensee proposed modifying the FSAR.

Deterministic Analysis

To review and evaluate the lack of circuit breaker coordination in the Catawba EPL and EPE circuits, the Staff requested the Licensee to provide additional information. The Licensee's response of March 2, 1994, addressed fault types, fault locations, breakers that are coordinated and breakers that are not coordinated, the impact of the upstream breaker opening, and the safety significance of the loss of a train. The Staff also requested additional information regarding the 2-kV-rated interlocking armored cabling; the operating history of faults; the measures provided to detect, locate, and correct faults; and related criteria and practices incorporated to ensure continued system functional performance. The Licensee's responses to these requests were enclosed in its letter to the NRC of May 17, 1996.

125-Vdc Vital EPL System

The EPL system is an ungrounded system and therefore can remain operational for a single postulated fault of either positive-to-ground or negative-to-ground. In order to render the system inoperable, postulated faults would have to be either a simultaneous positive-to-ground and negative-to-ground fault or a double-line (positive-to-negative) fault. The former type of fault requires that two failures occur, which is beyond the design basis for the plant. The occurrence of a single line-to-ground fault will not affect the functional capability of the power system. However, upon the occurrence of such a fault, a ground fault detector will alert the control room operator by way of an annunciator and a computer alarm. A program that seeks to maintain a dark control room annunciator board promptly addresses ground faults. The latter type of fault is thought to be unlikely in view of a study performed with information obtained from the Nuclear Plant Reliability Database System (NPRDS) and the Catawba probabilistic risk assessment (PRA). The Licensee analyzed failures at Catawba since 1985 and all U.S. plants since 1990. Three reported cases were found in which a double-line fault occurred on a direct-current system. One case that occurred at Catawba involved a shorted lamp holder and was attributed to improper installation during maintenance. The two other cases occurred at nuclear

plants operated by other utilities and involved component failures within battery chargers; in both of these other cases, the plant status was not affected. No cases were reported that involved double-line faults attributed to cable faults. In addition, no faults of the types that could challenge the EPL system were identified in the NPRDS.

The Licensee's circuit breaker coordination analysis for the EPL system postulates faults at selected locations within the system. The analysis was performed in accordance with the guidelines of IEEE Standard 946-1993, "IEEE Recommended Practice for the Design of DC Auxiliary Power Systems for Generating Stations," and included EPL system load groups A and D for both units. These two load groups for both units were analyzed since the 125-Vdc vital batteries associated with them are capable of producing the highest fault current. The coordination analysis postulates faults at nine locations within each of the four EPL load groups. These locations are as follows: (1) battery charger output; (2) auctioneering diode assembly input; (3) inverter input; (4) auctioneered distribution center bus; (5) load end of 4160-Vac essential switchgear control power feeder breaker and first termination point of associated feeder cable; (6) load end of 600-Vac essential load center control power feeder breaker and first termination point of associated feeder cable; (7) load end of diesel generator load sequencer control power feeder breaker and first termination point of associated feeder cable; (8) power panelboard bus; and (9) load end of the largest breaker used in a power panelboard and the first termination point of the associated feeder cable. These fault locations were chosen to represent a broad cross-section of possible fault locations. At these locations, calculated fault currents for the two A load groups (one A load group per unit) and the two B load groups are very similar, as may be expected since the two units are very similar. The analysis results also show that for faults at locations (2) and (4), the breakers are fully coordinated, while for faults at locations (5), (6), (7), and (9), the breakers are partially coordinated. For postulated faults at locations (1), (3), and (8), the breakers are not coordinated. In the analysis, full breaker coordination is considered to exist if the breaker nearest the fault clears without operating (opening) any upstream breakers, or if the consequences of operating an upstream breaker are no more severe than those associated with operating the breaker nearest the fault. Partial coordination is considered to exist if some of the upstream breakers, except the battery breaker or the load center incoming breaker, could operate before the breaker nearest the fault clears. For those cases in which either the battery compartment breaker or the load center breaker could operate before the breaker nearest the fault operates, coordination is considered not to exist. If an upstream breaker, such as the load center incoming breaker, operates before the breaker nearest the fault opens, one of the four EPL system load centers would be lost.

The EPL circuit breaker coordination analysis neglects cable faults and credits cable resistances in the fault current calculations. The cabling used in the system is 2-kV-rated interlocking armored cable. This cabling has the same construction as nonarmored cable, except that a steel armor covering is applied around the entire outer circumference. This interlocked steel outer covering protects the cable from damage or degradation during loading, unloading, transporting, installation, and while in service at the plant. The cabling was purchased with an insulation system rated at 2000. Vac. The cable conductors were high-potential tested underwater and spark tested at the factory with values required by standards for 2-kV cable. The low voltage of the EPL system does not produce internal ionization or corona that would cause an internal flashover or failure between conductors within the armored cable. Further, the cable insulation system has a greater thickness than the insulation system of standard 600-Vac-rated cable and therefore provides higher dielectric capability, enhanced physical protection, and added margin for aging considerations.

In addition, the Licensee had an interlocked armored cable fault test performed at the High Power Laboratory of the Westinghouse Electric Corporation. This test did not result in any additional shorts between conductors within the multiconductor cable. Similar interlocking armored cabling is used at the Oconee Nuclear Station, which has an inservice cable monitoring program. For this program, six cable samples were installed inside one of the containment buildings. At 5-year intervals, a 5-foot segment is removed from each cable sample for testing. This testing measures, documents, and trends the mechanical and electrical properties of the cable. Past test results from this program collectively show that cable samples are in good physical condition after 20 years in a reactor building environment. The installed interlocking armored cabling at Catawba is identical or superior to the cable that is installed at Oconee. A similar monitoring program to evaluate and trend cable problems has been in place at Catawba since January 1995. The purpose of this program is to evaluate and record problems or malfunctions of plant cables and, if an adverse trend develops, take corrective actions to address the problem. Deficiencies that would be reported as a result of this program include short circuits, insulation damage, and problems with cable terminations and splices. Since cabling of the same basic specifications and ratings is used in both safety and nonsafety applications at Catawba, all plant cabling is included in the scope of this trending program. Data on failures or problems with cables are collected at the end of each quarter; since January 1995 there has only been one failure.

Neither of the Catawba units has ever experienced a single line-to-ground fault that caused the EPL system to become inoperable. As noted previously, this result is due in part to the ungrounded system design. A complete review of the EPL system work order history revealed that five ground faults have been experienced in the last 5 years. Each of these faults resulted in an

alarm both locally and in the control room and was caused by solenoid valve problems. Three cases involved failed solenoid valve components, and the other two cases involved water intrusion into solenoids, which was subsequently corrected. Because of the intermittent nature and high resistance of these faults, it sometimes took an extensive amount of time to specifically locate and correct the ground fault. However, none of these faults caused the EPL system to become functionally inoperable. The Licensee has implemented additional measures to aggressively locate and correct ground faults that may occur in the future. These measures include the procurement of an advanced ground-locating device that will allow ground faults of a high-resistance nature to be located more readily. The EPL system work order history search also revealed that only one ground fault detector has failed during the last 5 years. Because the original ground detector was no longer available from the manufacturer, a substitute part had to be located and an evaluation performed to verify its acceptability for use in the application. As a result, it took longer than normal to restore the unit to service. However, the EPL system is checked weekly in accordance with an administrative procedure for ground faults by way of another method that is independent of the ground detector system. Thus, in the unlikely event of a ground fault detector failure, a ground would very likely be detected by way of the independent alternate means before a fault-related problem developed.

To ensure continued functional performance of the EPL system, the following additional criteria and practices are in place at Catawba. Only a minimal amount of cable splicing is permitted, and no cable splicing is allowed in raceways. Safety-related cables routed underground are installed in conduit or cable trenches, and are not directly buried in the earth. Cable ampacities used for cables are based on 70% of the standard industry ampacity ratings. Further, for the EPL system, higher rated voltage (2000 Vac versus 125 Vac) cable is used with the steel interlocking armor jacket to provide additional physical protection.

Although the EPL system analysis described above demonstrates that full circuit breaker coordination does not exist for all postulated faults, this fact has no significance for the operational capabilities of the system because the faults that result in lack of breaker coordination are limited. These faults are limited in both type (doubled-sided, solid, low-resistance ones) and location (postulating such faults at many locations does not result in a lack of breaker coordination). Monitoring by ground fault detectors further limits such faults since this activity minimizes the potential for bigger problems, such as positive-to-negative faults. In the event that such a fault does result in the loss of an EPL load distribution center, an independent and redundant EPL load distribution center is provided to supply safety-related loads. Further, should a fault-induced transient occur as a result of the loss of one of the two plant transient-inducing EPL load distribution centers, the plant can be safely shut down using only the loads powered from either one of the two EPQ system auctioneered distribution centers. In addition,

the safety significance of the loss of one EPL load group is analyzed in the Catawba FSAR. This analysis includes the loss of an EPL load group as a result of any postulated cause. Thus, the loss of an EPL load group as a result of any cause (faults or any other cause) is within the licensing basis (i.e., analyzed in the FSAR) for Catawba Units 1 and 2.

600-Vac EPE System

The Licensee also provided additional information on the lack of breaker coordination in the EPE system. This additional information included the analysis performed for the EPE system, fault locations, identification of the breakers that are coordinated and those that are not, the impact of upstream breakers opening, the significance of taking out an EPE train, and measures taken to prevent degrading the installed equipment during modification and maintenance work activities.

The fault current analysis for the EPE system was performed in accordance with the guidelines in IEEE Standard 141-1986, "IEEE Recommended Practice for Electric Power Distribution for Industrial Plants." For each 600-Vac essential MCC, all load breakers and cables were reviewed to determine which circuit can produce the highest fault current. For each MCC, a coordination evaluation was performed for the worst-case feeder (load) breaker and the incoming (supply) breaker. In this analysis, the feeder breaker fault is modeled at the load or at the first cable termination outside the MCC. For the fault current analysis, the normal load current for all nonfaulted feeder breaker loads is added to the feeder breaker fault current to establish the total current experienced by the incoming breaker during the fault. Also, in this analysis, the feeder breaker fault current is obtained by adding the fault contribution from the incoming breaker and the fault contribution from the large motor loads connected to the bus. The fault currents were determined for both the normal and accident cases. The normal-operation case produces the highest postulated fault current and, as such, is used throughout the analysis. The postulated faults in the analysis are three-phase, bolted faults, and all fault currents and load currents are based on the highest bus voltage for the normal operating case.

Fault locations for the Unit 1 Train A and B EPE MCC circuits were established. The Unit 2 Train A and B circuits are similar. Based on the unlikely occurrence of bus faults and/or breaker faults at Catawba, faults were not postulated on the output of the feeder breaker. In addition, because of the 2-kV-rated interlocked armor cable protection and the fact that no faults have occurred on any such cable in service at any of the Duke Power nuclear plants, faults were not postulated along the routes of the cable. Further, the fault current calculations credit cable impedances and postulate faults at the input terminals of the load or at the first cable termination after the cable leaves the MCCs. The

2-kV-rated interlocking armored cabling used in the EPE system is the same as that used in the EPL system. Thus, the cable analysis information previously mentioned for the EPL system is applicable to the EPE system.

The Unit 1 EPE system includes eleven MCCs. Analysis shows that for ten of these MCCs, the incoming breakers are coordinated for the worst-case postulated fault at the first cable termination outside the MCC. The remaining MCC is provided with two incoming breakers, which can be powered from either a Unit 1 or a Unit 2 load center. The two incoming breakers supplying this MCC are not fully coordinated for a fault at the worst-case load, which is a control room ventilation system air-handling unit. This unit is connected with a 250-MCM cable that is 100 feet long. The other loads powered by this MCC are fed from smaller breakers and cables with lower maximum fault current and thus are coordinated with the incoming breakers.

The two incoming breakers for the one MCC are mechanically interlocked such that one breaker is always locked in the open position. If the incoming breaker in service to this MCC trips to clear a fault, power is lost to some Train A control room ventilation system and nuclear service water system loads. An important function associated with these systems is maintaining pressurization of the control room. If this MCC is deenergized under nonaccident conditions, control room pressurization decreases until the operators manually transfer the system to Train B. This result is not viewed any differently than the result of losing the pressurizing fan alone and has little impact. If the MCC is deenergized under accident conditions, the design is such that pressurization is reestablished automatically from Train B, and this situation has little impact.

To ensure continued fault-free functional operation of the EPE system, modifications and maintenance work are controlled by station procedures. The Catawba inspection and maintenance procedure for MCC breakers addresses much of the work related to the EPE MCCs. This procedure, along with other station procedures, provides strict controls on any changes from the normal system configuration, such as placement of grounding jumpers or test alignments. These types of configuration changes are documented on a circuit alteration/restoration log sheet attached to the procedure. Before the work can be closed out and the equipment reenergized, the proper steps in the restoration section of the procedure must be completed and verified by an independent technician. Typical restoration activities performed at the completion of maintenance work on EPE MCC feeders include removing all test equipment and verifying that the MCC compartment is wired according to the latest wiring diagram. If required, motor phase rotation testing would also be performed. If the feeder breaker has been removed or replaced, a thermography test of the energized breaker will be conducted. Additional specified functional verification requirements, such as verifying proper full-speed operation and normal pressure and flow parameters, may be performed, depending on the

type of equipment involved with the work. In addition, the test requirements section of the inspection and maintenance procedure for MCC breakers specifies that megger testing of the load is to be performed if a fault is suspected. The procedure signoff sheet includes a section for recording such megger readings.

The Licensee's March 2, 1994 analysis indicated that selected circuit breakers associated with certain EPE MCCs are not coordinated for postulated faults. However, the technical significance of this fact is low, which is due, in part, to such faults being limited in both type (bolted low-impedance faults) and location (postulating such faults in many EPE system locations does not result in lack of breaker coordination). Assurance that such faults are limited is further established by the positive test results obtained for the interlocking armored cabling and the strict adherence to maintenance procedures. In addition, an analysis of the loads powered by each of the eleven 600-Vac EPE system MCCs indicates that loss of power to any one of these MCCs because of a fault or for any other reason would not directly result in a reactor transient. Further, Trains A and B of the EPE system are redundant and, as such, loss of functions from any MCC is backed up by the redundant MCC of the other train. Finally, each MCC is provided with a control room alarm for loss of power to facilitate restoration of equipment in a timely manner by operator actions.

Probabilistic Risk Assessment

To further supplement the deterministic engineering analysis results, the Staff requested the Licensee to consider using PRA techniques to better understand the likelihood and impact of the lack of breaker coordination in the Catawba EPL and EPE systems. The Licensee responded in the attachments to a letter dated December 29, 1994, by addressing EPL and EPE system uncoordinated breakers within a PRA framework. Following the review of the submitted PRA information, the Staff requested by letter dated April 30, 1996, that the Licensee specifically address the uncoordinated breaker issue including the (1) initiating event (IE) frequency; (2) conditional impact of the IE on plant operation; (3) ability to recover from an uncoordinated breaker event; and (4) recovery by way of the standby shutdown facility (SSF). The Licensee provided this additional PRA information in the enclosures to a letter dated May 17, 1996. The paragraphs below discuss the PRA and the lack of breaker coordination in the EPL and EPE systems.

125-Vdc EPL System

In the Catawba PRA, the Licensee identified a "Loss of Vital Instrumentation and Control" as an initiator-coded T14. With uncoordinated breakers, some line-

to-line electrical faults in the 125-Vdc feeders could cause both the loss of a vital I&C power distribution center (T14 initiator) and a subsequent turbine trip and reactor trip.

In Calculation CNC-1535.00-00-0007 enclosed in its December 29, 1994 letter, the Licensee established the frequency of the T14 initiating event at 5E-02 per year. This value had also been used in the Catawba PRA, which supported the Licensee's individual plant examination (IPE). The IE frequency had been based on the operational experience of one event in 20 reactor-years of operation at the combined Catawba and McGuire units (four units) from 1987 to 1991. The event involved manual tripping of a 125-Vdc vital I&C power distribution center at the McGuire station in 1987. In response to this event, the NRC issued Information Notice 88-45, "Problems in Protective Relay and Circuit Breaker Coordination." Because no other T14 IE occurred since that time frame, the actual IE frequency would be lower.

In order to establish the fraction of the T14 initiator event frequency that could be associated with breaker miscoordination, the Licensee performed an NPRDS search for all dc line-to-line faults. The data search included all U.S. nuclear plants from 1990 (Catawba since 1985) to the present. The NPRDS search identified only one such fault at Catawba and three faults at all U.S. plants. In recognition of the fact that the results of NPRDS searches are dependent on the search commands, the Staff requested the Oak Ridge National Laboratory (ORNL) to perform a similar search. ORNL obtained the same results as did the Licensee for the Duke Power plants. However, ORNL found a slightly higher rate for the other U.S. plants. In no case did cable failure(s) result in a line-to-line fault or a plant trip.

In order to estimate (bound) the contribution of a cable fault to the T14 initiator event frequency, the Licensee assumed that one cable fault occurred out of a combined 46 years of reactor operation at the Catawba and the McGuire units. This assumption resulted in a cable fault frequency of 2E-02 per unit-year. Catawba Unit 1 has about 18,500 cables and about 30 feeders per 125-Vdc vital distribution center. From these data, cable faults causing loss of a single distribution center have an IE frequency of 3E-05 per year ((2E-02)(30)/18,500 = 3E-05 per year). A second (somewhat higher) estimate was obtained by using the IEEE Standard 500-1984, "IEEE Guide to the Collection and Presentation of Electrical, Electronic, Sensing Component, and Mechanical Equipment Reliability Data for Nuclear-Power Generating Stations," which specifies a composite cable failure rate of 7.54E-06 per hour per plant for power, control, and signal cables combined. Line-to-line cable failure rate is a small fraction of this rate. With this cable failure rate, the failure rate of a single distribution center is 1E-04 per year ((7.54E-06)(8760)(30)/18,500 = 1E-04 per year).

The Catawba PRA used a generic value for bus fault probability of $2E-03$ per year, where the term bus fault includes distribution center or panel faults, cable faults, and terminal faults. Although this IE is only 4% of the T14 initiator frequency, it is obviously higher than the probability figures derived from plant operational experience and IEEE 500-1984 data (i.e., the cable fault contribution was 5% of the bus fault probability using IEEE data, and 1.5% using operational experience). On the basis of this rationale, the Staff concluded that the cable fault contribution was bounded by the distribution center fault probability used in the Catawba PRA.

Unit 1 has six 125-Vdc load distribution centers: 1EDA, 1EDB, 1EDC, 1EDD, 1EDE, and 1EDF. The Licensee evaluated the plant response on loss of power for each of the Unit 1 distribution centers. The Unit 2 system is similar to Unit 1, and the evaluation for Unit 1 is applicable to Unit 2.

The Licensee's evaluation indicates that a loss of power at 1EDB or 1EDC would result in a loss of a vital I&C power 120-Vac inverter, one solid-state protection system (SSPS) channel, one nuclear instrumentation channel, and a process protection channel. A loss of power at 1EDA or 1EDD would result in similar channel losses, plus a loss of power to process control for associated pressurizer power-operated relief valves (PORVs), to control solenoids for certain main steam isolation valves, and to control solenoids for attendant main feedwater control valves. However, except for the loss of the PORVs, a loss of any of these four distribution centers would not significantly impact the plant's accident mitigation capability. Loss of one channel of the SSPS, process protection channels, main steam isolation valves, and main feedwater control valves would not preclude mitigation unless there were additional faults.

Distribution center 1EDE or 1EDF provides control power for safety equipment. The Licensee's breaker coordination analysis indicates that the other four distribution centers lack full coordination. Distribution center 1EDE is powered by two power supplies that are auctioneered. One of these auctioneered power supplies is from 1EDA, and the other is from one of the trains of the 125-Vdc EPQ system. Similarly, 1EDF is powered by two power supplies that are auctioneered. One of these auctioneered power supplies is from 1EDD and the other is from the other train of the 125-Vdc EPQ system. Thus, even though distribution centers 1EDE and 1EDF may be fed from uncoordinated distribution centers 1EDA and 1EDD, respectively, in the event of loss of 1EDA or 1EDD, the distribution centers 1EDE or 1EDF will continue to be powered by the alternate power source. Further, a loss of power at 1EDE or 1EDF would not result in a plant transient and thus would not result in an immediate need for mitigating systems, although the resulting loss of control power to equipment would require resolution within the specified time period of the applicable Technical Specifications Action Statement.

In addition to redundant mitigation capability, Catawba is provided with a manually activated SSF. The SSF is an independent structure with its own ac and dc power supplies, instrumentation, and reactor coolant makeup pump. Upon loss of normal ac or dc power, the SSF can be used to remove core decay heat and provide reactor coolant pump seal protection if the event leads to the loss of all plant-side safety systems. The SSF reduces the contribution of the T14 initiators by more than an order of magnitude, resulting in a total contribution of $6.7\text{E-}08$ per reactor-year, or less than 0.1% to the total core damage frequency (CDF).

Using a T14 IE frequency of $5\text{E-}02$ per year, the Licensee derived a total CDF of $7.76\text{E-}05$ per year in the Catawba IPE. Applying information from the IEEE standard for cable fault frequency to the four distribution centers lacking full coordination, which is a subset of the T14 initiator, reveals that the contribution to the total CDF from the loss of a 125-Vdc load distribution center is less than $1\text{E-}09$ per reactor-year. The Licensee also performed a sensitivity study by changing the T14 IE frequency from $5\text{E-}02$ per year to 1.0 per year. The total CDF changed by 1.55% (i.e., the total CDF changed from $7.76\text{E-}05$ per year to $7.88\text{E-}05$ per year). The sensitivity study indicates that any increase in the CDF from a lack of breaker coordination would be small.

600-Vac EPE System

As previously mentioned in this report, the Licensee's breaker coordination study indicates that out of eleven MCCs in the EPE system, only one MCC, 1EMXG, is uncoordinated. This calculation, however, excluded all cable faults from the 600-Vac EPE system MCCs to the first cable termination on the basis that the occurrence of severe cable faults was of low probability. The Licensee states that no severe cable faults have been reported in its seven nuclear plants, which have a combined operational experience of 120 reactor-years. On the basis of the IEEE Standard 500-1984 data of 4.8 failures per million hours per plant for power cables, the Licensee calculated that a typical plant with 18,500 cables had a probability of a cable failure of $2.3\text{E-}06$ per year per cable, and the probability of an MCC loss as a result of cable failure is $7\text{E-}05$ per year for a typical MCC with 30 feeders.

In the Catawba PRA, loss of a 600-Vac MCC is addressed through its plant response characteristics (mission time) because the loss of an MCC does not cause a reactor transient. The Catawba PRA study identified a probability of loss of a 600-Vac MCC as $1.5\text{E-}04$ for a 24-hour mission time, and the contribution of cable faults to this mission time as $5\text{E-}07$. Therefore, the Catawba PRA indicates that cable faults did not have any significant impact on the overall MCC failure probability calculated in the PRA.

The Licensee's study revealed that a loss of any of the eleven 600-Vac EPE system MCCs would not directly lead to a reactor trip. In a review of the 600-Vac EPE system MCC loads, the Staff arrived at the same conclusion. Although such an MCC loss would not result in a reactor transient, it would render one train of safety systems inoperable and would require entry into applicable limiting conditions of operation defined in the Technical Specifications. However, a loss of any MCC would only affect one train, and the redundant train would be available for accident mitigation.

The Licensee did not provide an analysis of the effect of SSF availability on the CDF from the loss of a 600-Vac MCC. The SSF response for the 600-Vac EPE system is expected to be similar to that previously explained herein for the EPL system.

In Calculation CNC-1535.00-00-0007, enclosed with the Licensee's letter of December 29, 1994, the Licensee indicated that on the basis of the Catawba PRA, the MCC 1EMXG had a failure probability of $1.4E-04$ for a 24-hour mission time. Within this MCC, only one breaker feeding a control room air-handling unit lacked coordination with its upstream breaker. With this uncoordinated breaker, the MCC failure rate would increase by $1E-06$ for a 24-hour mission time, or the impact would be approximately two orders of magnitude less than the total MCC failure probability. The Licensee's sensitivity study provided in Calculation CNC-1535.00-00-0007 indicates that even if the failure rate of the uncoordinated MCC 1EMXG were increased by an order of magnitude from $1E-06$ to $1E-05$, the resulting failure probability for the MCC 1EMXG would increase by only 7.1%.

On the basis of these considerations, the Staff concluded that the lack of breaker coordination in the EPE system has a negligible impact on the MCC failure probability as calculated in the Catawba IPE.

Full circuit breaker coordination is a desirable design feature for ac and dc power distribution systems in a nuclear plant since it assists in minimizing equipment losses if electrical faults occur. The Staff has reviewed the Licensee's submittals addressing the lack of full circuit breaker coordination within the 125-Vdc EPL and 600-Vac EPE systems. The Licensee's circuit breaker coordination analysis shows that the Catawba EPL and EPE systems lack full breaker coordination. However, the faults that must occur to cause a lack of breaker coordination in these systems are limited by type and location. Such faults have a low probability of occurrence because the interlocking armored cabling is unlikely to develop such faults. Further, ongoing measures, such as ground fault detection, incorporating design criteria and practices, and strict adherence to modification and maintenance procedures, tend to minimize the likelihood of the occurrence of faults within the EPL and EPE systems that would result in miscoordinated breakers. Plant operational experience and IEEE Standard 500-1984 data indicate that line-to-line faults are of low probability.

The probability of a line-to-line fault is $2\text{E-}02$ per year and the probability of loss of a 125-Vdc distribution center is $1\text{E-}04$ per year. In the 600-Vac EPE MCCs, the Licensee has never experienced any severe cable fault in 120 reactor-years of operation of the seven Duke Power nuclear plants. The IEEE Standard 500-1984 data indicate a probability of a cable failure of $4.2\text{E-}02$ per year and a corresponding probability of a loss of an MCC resulting from cable failure of $7\text{E-}05$ per year. These results further support assumptions used in the Licensee's breaker coordination analysis. However, in the unlikely event that such faults should occur in an EPL or EPE system train, a redundant and separate train is provided to perform the safety function.

The Catawba SSF reduces the impact on CDF of a loss of either one of two 125-Vdc distribution centers by more than an order of magnitude. Similar results would be expected for the 600-Vac EPE MCCs. In addition, a calculation by the Licensee indicates that increasing the T14 IE frequency from $5\text{E-}02$ per year to 1.0 per year would increase the total CDF by 1.55% from $7.76\text{E-}06$ per year to $7.88\text{E-}05$ per year. A similar calculation for the 600-Vac MCCs indicates that with lack of breaker coordination, the failure probability of the worst-case MCC would rise from $1.4\text{E-}04$ per 24-hour mission time by $1\text{E-}06$ per 24-hour mission time. The Licensee's sensitivity study indicates that when the failure rate of the worst-case uncoordinated MCC was increased from $1\text{E-}06$ to $1\text{E-}05$, the resulting failure probability of the MCC would increase by 7.1%. Thus, the lack of circuit breaker coordination in the Catawba 125-Vdc EPL and 600-Vac EPE systems has a negligible impact on the CDF.

On the basis of this information, the Staff concludes that the Licensee has documented adequate technical justification for the lack of breaker coordination in the Catawba 125-Vdc EPL and the 600-Vac EPE systems. Accordingly, the Staff concludes that there is no basis to suspend the Catawba operating licenses. The Staff will pursue separately the requirement for the Licensee to bring the FSAR into conformance with the as-built plant.

Lack of Protective Device Coordination at Other Nuclear Plants

As previously indicated in the Introduction section of this Decision, the Petitioner submitted an addendum to his petition on May 1, 1996. This addendum included a list of fourteen cases, involving nine other nuclear power plants, in which lack of protective device coordination was identified as a concern by EDSFI teams. These fourteen cases were addressed by way of the NRC's inspection report item closeout process. As documented in the publicly available closeout inspection reports, these cases were resolved by (1) additional calculations and analyses showing that protective device coordination exists, and/or (2) plant hardware modifications such as replacement circuit breakers or fuses. The following list identifies each of these fourteen cases by an EDSFI

inspection followup item (IFI) number and the publicly available inspection report in which the lack of protective device coordination issue was closed out.

Plant Name	EDSFI IFI Number	Report Date	Closeout	
			Insp. Report	Report Date
1. Oyster Creek	219/92-80-11	7/9/92	94-01	3/10/94
2. Nine Mile Point 1	220/91-80-07	1/10/92	94-20	11/4/94
3. Nine Mile Point 1	220/91-80-07A	1/10/92	94-20	11/4/94
4. Nine Mile Point 1	220/91-80-07B	1/10/92	94-20	11/4/94
5. Nine Mile Point 1	220/91-80-07C	1/10/92	94-20	11/4/94
6. Dresden	237/91-201-05	9/20/91	92-21	10/8/92
7. Quad Cities	254/91-011-09A	6/24/91	94-26	12/5/94
8. Quad Cities	254/91-011-9B	6/24/91	94-26	12/5/94
9. Quad Cities	254/91-011-9C	6/24/91	94-26	12/5/94
10. Hatch	321/91-202-07	8/22/91	93-19	11/2/93
11. McGuire	369/91-09-01	2/19/91	94-20	10/12/94
12. Fort Calhoun	285/91-01-03	5/20/91	92-30	12/31/92
13. WNP2	397/92-01-20	5/5/92	93-16	6/4/93
14. Beaver Valley 2	412/91-80-02	4/1/92	93-27	1/24/94

III. CONCLUSION

The institution of proceedings in response to a request pursuant to section 2.206 is appropriate only when substantial health and safety issues have been raised. See *Consolidated Edison Co. of New York* (Indian Point, Units 1, 2, and 3), CLI-75-8, 2 NRC 173, 176 (1975), and *Washington Public Power Supply System* (WPPSS Nuclear Project No. 2), DD-84-7, 19 NRC 899, 923 (1984). This standard has been applied to the concerns raised by the Petitioner to determine if the action he requested is warranted, and the NRC Staff finds no basis for taking such actions. Rather, as previously explained herein, the NRC Staff believes that the Petitioner has not raised any substantial health and safety issues. Accordingly, the Petitioner's request for action pursuant to section 2.206, as specifically stated in his letter of February 13, 1996, and supplemented by a letter dated May 1, 1996, is denied.

A copy of this Director's Decision will be filed with the Secretary of the Commission for the Commission's review in accordance with 10 C.F.R. § 2.206(c). This Decision will become the final action of the Commission 25

days after issuance unless the Commission, on its own motion, institutes review of the Decision within that time.

**FOR THE NUCLEAR
REGULATORY COMMISSION**

**Frank J. Miraglia, Acting Director
Office of Nuclear Reactor
Regulation**

**Dated at Rockville, Maryland,
this 10th day of October 1996.**

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

OFFICE OF NUCLEAR REACTOR REGULATION

Frank J. Miraglia, Acting Director

In the Matter of

Docket Nos. 50-440-A
50-346-A

CLEVELAND ELECTRIC ILLUMINATING
COMPANY

(Perry Nuclear Power Plant,
Unit 1; Davis-Besse Nuclear
Power Station, Unit 1)

October 17, 1996

In a petition, dated January 23, 1996, and supplemented by letters dated May 31, and August 13, 1996, the City of Cleveland, Ohio, which owns and operates Cleveland Public Power, requested the Executive Director for Operations to take enforcement action against the Cleveland Electric Illuminating Company for allegedly violating the antitrust license conditions applicable to its nuclear units. The petition, which raised four specific issues, was referred to the Director, Office of Nuclear Reactor Regulation, for review pursuant to 10 C.F.R. § 2.206.

In a Director's Decision issued on October 17, 1996, the Acting Director of Nuclear Reactor Regulation determined that no NRC proceeding should be instituted and no further regulatory action by the NRC is required regarding the issues raised by Petitioner. The Acting Director concluded that the matters raised were either effectively resolved by the Federal Energy Regulatory Commission (FERC) or are pending before FERC and are within its jurisdiction to decide; and the Petitioner otherwise failed to show it had been harmed.

DIRECTOR'S DECISION UNDER 10 C.F.R. § 2.206

I. INTRODUCTION

The City of Cleveland, Ohio, which owns and operates Cleveland Public Power (CPP or the City), in a petition, dated January 23, 1996, requested the Executive Director for Operations of the U.S. Nuclear Regulatory Commission (NRC or the Commission) to take enforcement action against the Cleveland Electric Illuminating Company (CEI) for allegedly violating the antitrust license conditions applicable to its nuclear units. The petition was referred to the Director, Office of Nuclear Reactor Regulation, for review.

CPP requested that NRC, on an expedited basis, (1) declare that CEI is obligated to provide the wheeling and interconnection services specified in the petition; (2) issue a Notice of Violation related to that obligation; (3) impose a requirement by order directing CEI to reply in writing and admit or deny violation of that obligation and setting forth the steps it is taking to comply with the antitrust license conditions; (4) impose a requirement by order directing CEI to comply with the portions of the antitrust license conditions at issue and directing CEI to withdraw from the Federal Energy Regulatory Commission (FERC) portions of its filings in Docket No. ER93-471-000, as specified in the petition, which are contrary to CEI's obligations under the antitrust license conditions, including withdrawal of the deviation charge from rate schedules and withdrawal of that portion of the "Operating Agreement" that provides Toledo Edison highest priority treatment; and (5) impose civil monetary penalties for CEI's violations of the license conditions.

Four specific violations of the antitrust license conditions are alleged in the City's section 2.206 petition. The first allegation is that CEI has violated License Condition No. 3, concerning wheeling service, by refusing to provide 40 MW of firm wheeling service from Ohio Power Company to CPP to provide electrical service to Medical Center Company (Medco), a former CEI retail customer. The second allegation is that CEI has violated License Condition Nos. 6 and 11,¹ which concern the sale of emergency power, by contracting in the 1987 "Centerior Dispatch Operating Agreement" to provide Toledo Edison Company emergency power on a preferential basis. The third allegation is that CEI has violated License Condition No. 2, concerning the offering of interconnections upon reasonable terms and conditions, by failing to offer CPP a fourth interconnection point. The fourth allegation is that CEI has violated License Condition No. 2 by imposing unreasonable deviation charges

¹License Condition No. 11, which concerns wholesale power and coordination services, is mentioned in the introductory portion of the petition, but no argument is provided to support the claim nor is this condition otherwise mentioned in any substantive discussion in the petition.

for unscheduled power delivered over existing interconnections in excess of the amount scheduled for delivery.

CEI responded to the City of Cleveland's petition in a letter dated May 6, 1996, stating that the allegations should be dismissed not only because they lack merit but also because they relate to matters currently under FERC consideration.

II. BACKGROUND

On the basis of the record developed during the antitrust hearings of Davis-Besse and Perry, an NRC Atomic Safety and Licensing Board found, in a decision dated January 6, 1977, that CEI and the other applicants engaged in activity that was inconsistent with the antitrust laws, *Toledo Edison Co. (Davis-Besse Nuclear Power Station, Units 1, 2, and 3), LBP-77-1, 5 NRC 133 (1977), aff'd with modifications, ALAB-560, 10 NRC 265 (1979)*. The Board also found that because the municipal system of Cleveland was isolated electrically from utilities other than CEI, and was able to obtain only emergency power from CEI, it was essential, in order for CPP to remain a viable competitor, that Cleveland have power wheeled to it over CEI's transmission system. The Board noted that CPP was unable to obtain wheeling service because CEI would not agree to third-party wheeling on any terms. The Board concluded that failure to exercise its authority under the Atomic Energy Act to issue license conditions would result in a continuation of this anticompetitive conduct. CEI, as an applicant, was ordered to implement the following license condition (No. 3):

Applicants shall engage in wheeling for and at the request of other entities [any electric generation and/or distribution system or municipality or cooperative with a statutory right or privilege to engage in either of these functions] in the CCCT [Combined CAPCO Territories]:

- (a) of electric energy from delivery points of applicants to the entity(ies); and,
- (b) of power generated by or available to the other entity, as a result of its ownership or entitlements [includes but is not limited to power made available to an entity pursuant to an exchange agreement] in generating facilities, to delivery points of Applicants designated by the other entity.

Such wheeling services shall be available with respect to any unused capacity on the transmission lines of Applicants, the use of which will not jeopardize Applicants' system. In the event Applicants must reduce wheeling services to other entities due to lack of capacity, such reduction shall not be effected until reductions of at least 5% have been made in transmission capacity allocations to other Applicants in these proceedings and thereafter shall be made in proportion to reductions imposed upon other Applicants to this proceeding.

Applicants shall make reasonable provisions for *disclosed* transmission requirements of other entities in the CCCT in planning future transmission either individually or within the CAPCO grouping. By "disclosed" is meant the giving of reasonable advance notification of future requirements by entities utilizing wheeling services to be made available by Applicants.

Ten other antitrust license conditions were added to the Davis-Besse and Perry licenses covering the sale of wholesale power; the offering of interconnections; the sale of economy energy, maintenance power, and emergency power; access to ownership shares in the nuclear units; the sharing of reserves; and the provision of coordination services. NRC ordered that these conditions be implemented in a manner consistent with the provisions of the Federal Power Act. ALAB-560, *supra*, 10 NRC at 295-99.

Since the late 1970s, CPP, the City of Cleveland's municipal power system, has sought greater access to the CEI transmission grid. CPP has its own distribution system and generates a portion of its own power supply requirements. To seek out the most cost-efficient source of power supply, CPP needs meaningful access to transmission facilities serving the local area, which are owned by CEI.

III. DISCUSSION

CPP alleges four specific violations of the antitrust license conditions. The first allegation is that CEI violated License Condition No. 3 by refusing to provide firm wheeling service to CPP. This allegation is the result of one disputed transaction, CEI's refusal to wheel 40 MW from Ohio Power Company to CPP to service Medco, currently a CEI retail customer. CPP claims that Medco has decided to become a native load customer of CPP and that there is no credible basis upon which to contend that the transaction at issue constitutes retail wheeling. CPP claims that there was no request for CEI to provide retail wheeling services, and the requested 40-MW wholesale purchase from Ohio Power is to serve CPP's native load. CPP alleges that CEI is attempting to delay the loss of a significant retail customer.

CEI responds to the allegation by stating that the written contract between CPP and Medco reflects a direct pass-through of CPP payments to Ohio Power. CEI further claims that CPP is acting as a strawman to facilitate retail wheeling of power from Ohio Power to Medco. CEI contends that the transactions are shams designed to circumvent prohibitions in the Federal Power Act §§ 212(g) and 212(h), against retail wheeling. Section 212(g) prohibits issuing orders under the Federal Power Act that are inconsistent with any state law that governs the retail marketing areas of electric utilities. Section 212(h) prohibits mandatory retail wheeling and sham wholesale transactions.

Two FERC proceedings are in progress concerning CEI's refusal to transmit the Ohio Power purchase: a CEI petition filed November 2, 1995, requesting a ruling that CEI is not required to provide the requested service under the Federal Power Act §§ 211 or 212 (Docket No. EL96-9-000), and a CPP complaint filed November 29, 1995, concerning CEI's refusal to transmit the Ohio Power purchase (Docket No. EL96-21-000).

On July 31, 1996, FERC issued an order in connection with the wheeling transaction raised in the City of Cleveland's 2.206 petition. FERC decided in favor of the City and found that CEI is obligated under the existing transmission service agreement to provide the requested transmission service and that the service did not violate the Federal Power Act. Since the transmission will be over CEI's lines to Cleveland and the sale to Medco will be over Cleveland's 138-kV line, FERC found that this case did not involve the transmission of electric energy by CEI directly to an ultimate consumer, that is, there was no "sham" transaction.

In a letter to the NRC dated August 8, 1996, counsel for CEI stated that, based on the FERC decision, a signed service agreement reserving 40 MW of firm transmission service for the requested period September 1 through December 31, 1996, has been forwarded to the City of Cleveland. In a letter to the NRC dated August 13, 1996, CPP's counsel urged the imposition of sanctions, even in light of the FERC decision, stating that "CEI's expressed willingness (August 8 letter) to comply now with its wheeling obligations does not excuse the Company's unwarranted refusal to wheel absent a directive from a federal agency." Counsel for CEI responded in an August 21, 1996 letter that "CEI sought declaratory ruling on the appropriateness of this request promptly enough to obtain a determination without impacting the September 1 service date." CEI agreed to a subsequent CPP request after the FERC order and transmission service began on August 17, 1996. CEI's counsel further stated that

as a result, CEI's actions have not resulted in any loss of transmission services to the City of Cleveland. In essence, the City of Cleveland is asking for the imposition of penalties solely because CEI exercised appropriate legal procedures to determine the propriety of the service request. Such appropriate process cannot and should not be the basis for any sanctions.

In a letter to the NRC dated September 23, 1996, counsel for CEI forwarded an opinion of the Ohio Supreme Court holding that the Public Utility Commission of Ohio (PUCO) has jurisdiction to consider CEI's complaint that the Medco transaction violated the Ohio Certified Territory Act and directing PUCO to do so. The September 23, 1996 letter also forwarded CEI's request for rehearing of the FERC decision in the Medco transaction, stating that while CEI continues to exercise its legal rights to determine the legality of the transaction, CEI would continue to honor the service agreement that it executed after the FERC decision.

The FERC order directing CEI to provide the requested transmission service effectively resolves the first issue in the 2.206 petition. Sanctions are not warranted when a licensee pursues legal procedures to resolve a disputed request for transmission service. For this reason, I am denying CPP's section 2.206 request for an enforcement action against CEI on this first issue.

The second issue raised by CPP alleges that CEI violated License Condition No. 6 by contracting with Toledo Edison Company to provide emergency power on a preferential basis.² CPP objects to language in the 1987 Centerior Dispatch Operating Agreement that states that CEI and Toledo Edison (collectively "Operating Companies") "will assign highest priority to provide each other emergency power. An Operating Company will terminate an existing emergency supply to an outside utility in order to honor a request for emergency power from an Operating Company." There is also similar priority language concerning sales of short-term power. CPP has also brought this issue before FERC.

CEI's response to the second issue states that the operation of Toledo Edison and CEI as an integrated system under Centerior necessarily requires them to provide power to each other as an internal system. CEI further states that this is not an act of anticompetitive discrimination but the workings of an integrated system required by the Securities and Exchange Commission. CEI claims that CPP is treated no differently from any other outside entity and has suffered absolutely no injury from the provisions and asserts that CPP has never been denied short-term or emergency power. CEI states that it has sold and will continue to sell emergency power to CPP on an as-needed basis and has never refused to provide emergency service when it had it available on its system. CEI further stated that it was not aware of any instance in which short-term or emergency power was provided to CPP under terms less favorable than those to other utilities outside the Centerior system. CEI concluded that it has honored both the letter and the spirit of License Condition No. 6.³

As to the second issue, CPP has not shown that it has been harmed or could be harmed by the language in the Centerior Dispatch Operating Agreement. Under the agreement, Toledo Edison and CEI are affiliated in that they are part of an integrated Centerior system. CPP has not shown that it has been treated differently than other outside (nonaffiliated) utilities, or that it has been denied access to emergency or short-term power. In any event, CPP has brought its concerns about the operating agreement before the FERC. For these reasons, no action by the NRC is warranted, and I am denying CPP's section 2.206 request for enforcement action against CEI on this second issue.

The third issue raised by CPP alleges that CEI has violated License Condition No. 2 by failing to offer CPP a fourth interconnection point. License Condition No. 2 requires that CEI (and the other applicants) shall offer interconnections on reasonable terms and conditions at the request of any other local electric

²Specifically, License Condition No. 6 requires CEI to sell emergency power to requesting entities upon terms and conditions no less favorable than those Applicants make available: (a) to each other pursuant to the Central Area Power Coordination Group (CAPCO) agreements or pursuant to bilateral contract; or (b) to non-Applicant entities outside the Combined CAPCO Company Territories.

³See note 2, above.

entities.⁴ CPP states that a fourth interconnection point is needed to provide reliable service to the west side of Cleveland. CPP states that the current transfer capability limit is expected to be exceeded within 2 years. CEI previously committed to permit a fourth interconnection in a letter dated September 19, 1985, from CEI's chairman to the Mayor of Cleveland, which acknowledged the requests for the third and fourth interconnections; and in exchange for Cleveland's agreement not to oppose the CEI merger with Toledo Edison, CEI committed to concur in CPP's request for FERC approval of the two interconnections. CPP alleges that CEI has refused CPP's request for installation of a fourth interconnection.

A CPP complaint was filed with FERC in April 1993. On June 9, 1995, FERC issued an order directing CEI to provide a fourth interconnection and to file with FERC the proposed charges for the interconnection. The decision by FERC found that the letter of September 19, 1985, a 1985 contract between CEI, Toledo Edison, and American Municipal Power—Ohio, and the license conditions all supported the issuance of the order requiring the fourth interconnection.

CEI responded to the third issue by stating that it has complied with License Condition No. 2 by installing and maintaining three prior interconnections, sufficient to meet all of CPP's current needs, and by working toward the installation of a fourth interconnection. CEI claims it has not refused the fourth interconnection but instead has expended significant effort to establish reasonable terms for the interconnection and to ensure that it is compatible in terms of safety and reliability with CEI's system. CEI has filed suit in the Ohio Court of Common Pleas to require CPP to comply with engineering and utility industry standards in its construction projects. CEI further claims that CPP admitted in a separate lawsuit that its system does not meet applicable codes and standards. On July 7, 1995, CEI sought a rehearing on the FERC order to proceed with the fourth interconnection. CEI states that the rehearing was sought on the FERC order for two reasons: (1) CEI believes that the order should not have been issued without findings that the interconnection was warranted under sections 202(b) and 210 of the Federal Power Act and (2) CEI has indicated that a number of technical issues and safety and reliability concerns need to be resolved before the interconnection can be installed.

The issue of whether CEI is required to provide a fourth interconnection was resolved with the FERC order of June 9, 1995, directing CEI to proceed with the interconnection (71 FERC ¶61,324). The unresolved technical, safety, and reliability issues raised in CEI's appeal of the FERC order will be resolved in

⁴ Specifically, License Condition No. 2 requires CEI to offer interconnections upon reasonable terms and conditions at the request of any other electric entities in its service area, with due regard for any necessary and applicable safety procedures.

the FERC rehearing process. For these reasons, I am denying CPP's section 2.206 request for enforcement action against CEI on this third issue.

The fourth and final allegation raised by CPP is that CEI has violated License Condition No. 2⁵ by imposing unreasonable deviation charges for unscheduled power delivered in excess of the amount CPP had scheduled for delivery. CPP states that in March 1993, CEI unilaterally filed with FERC proposed amendments to the 1975 Interconnection Agreement. One amendment added a requirement that CPP pay a deviation charge of \$75 per kW-month for the maximum number of kilowatts of power delivered by CEI in any hour in excess of the amount scheduled by CPP for that hour. Another amendment covers overscheduling of power supplies by CPP and allows CEI to retain the excess energy for its own use while paying CPP a rate equal to half of CEI's fuel cost for that excess power. CPP alleges that the deviation charges are discriminatory and represent an anticompetitive restriction on CPP's right to obtain interconnections on reasonable terms. CPP claims that these provisions apply to all deviations above and below zero, no matter how insignificant. CPP alleges that the failure to utilize a deadband approach with no charges for small deviations from scheduled power to recognize the impossibility of zero deviations, is contrary to standard industry practice. CPP states that the deviation charges are anticompetitive in that CPP is the only utility against which the deviation charges would be imposed and also the only utility in direct competition with CEI.

CEI's response to the fourth issue states that this allegation distorts the meaning of License Condition No. 2, which relates to the installation of interconnections upon reasonable terms and conditions, not incentives that CEI proposes to FERC to encourage CPP to minimize unscheduled power deliveries from CEI.

A FERC administrative law judge (ALJ) issued an initial decision on the issue of the deviation charges on November 28, 1994. CPP's arguments opposing CEI's compensation proposal (of half of its then-current fuel charge for deviations below that scheduled) were rejected by the ALJ. The ALJ's decision also upheld the imposition of a deviation charge for power supplied in excess of that scheduled by CPP, but reduced the amount from \$75 per kW-month to \$25 per kW-month. The decision also rejected CPP's proposed 6% deadband, finding "no reason appears why any deadband should be adopted for the purposes of this decision."

⁵ See note 4, above.

The issues raised by CPP in this fourth allegation are primarily tariff-related issues and fall clearly under the jurisdiction of FERC.⁶ The final FERC decision in this matter will resolve the issues, and any excess amounts paid by CPP will be refunded with interest in accordance with FERC regulations. For these reasons, I am denying CPP's section 2.206 request for an enforcement action against CEI on this fourth issue.

IV. CONCLUSION

I have concluded that FERC's order requiring CEI to provide the requested wheeling transmission service in the Medco transaction effectively resolves the first issue raised in CPP's section 2.206 petition and request for action by NRC. In regard to the second issue concerning CEI's contracting with Toledo Edison Company to provide emergency power on a preferential basis, CPP has not shown that it had been harmed or could be harmed as a result of the language in the Centerior Dispatch Operating Agreement. Nor has CPP shown that it has been treated differently than any other outside (nonaffiliated) utilities. This matter is also the subject of a FERC proceeding. I am therefore denying CPP's section 2.206 request for enforcement action against CEI on this second issue. I have concluded with respect to the third issue concerning CEI's alleged refusal to offer a fourth interconnection that the FERC order of June 9, 1995, effectively resolves this issue by ordering CEI to provide the fourth interconnection, and that the unresolved issues raised in CEI's appeal of the FERC order will be resolved in the rehearing process. I have concluded that the fourth issue raised concerning deviation charges for unscheduled power deliveries is primarily a tariff-related issue and falls clearly under the jurisdiction of FERC. The initial decision by the ALJ in this case addressed each of the concerns raised in this fourth issue. The final FERC decision in this matter will resolve these issues, and any excess amounts paid by CPP will be refunded with interest in accordance with FERC regulations. I have concluded that no enforcement action is warranted for this fourth issue. As a result of the foregoing, I have determined that no NRC

⁶ As indicated in *Florida Power and Light Co. (St. Lucie Nuclear Power Plant, Unit 2)*, DD-81-15, 14 NRC 589 (1981), issues of terms used in license conditions raised before FERC "will not institute a requested proceeding where the petitioner's basis for relief rests on resolution of an issue that is pending before another agency and that is peculiarly within the competence of that agency to decide." The Staff continues to employ the concept of "watchful deference" when an issue is before FERC. See *Florida Power and Light Co. (St. Lucie Nuclear Power Plant, Unit 2)*, DD-95-10, 41 NRC 361 (1995).

proceeding should be instituted and no further regulatory action by the NRC is required.

**FOR THE NUCLEAR
REGULATORY COMMISSION**

**Frank J. Miraglia, Acting Director
Office of Nuclear Reactor
Regulation**

**Dated at Rockville, Maryland,
this 17th day of October 1996.**

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

OFFICE OF NUCLEAR REACTOR REGULATION

Ashok C. Thadani, Acting Director

In the Matter of

Docket No. 50-245
(License No. DPR-21)

NORTHEAST NUCLEAR ENERGY
COMPANY
(Millstone Nuclear Power Station,
Unit 1)

October 31, 1996

The Acting Director of Nuclear Reactor Regulation has denied a petition by Anthony J. Ross that enforcement action be taken against Northeast Utilities and certain managers for violations involving the gas turbine battery, harassment and intimidation, and falsification of nuclear documents. Following his assessment of the petition, the Acting Director concluded that appropriate enforcement action had already been taken for certain of the Petitioner's concerns while other concerns were not substantiated so that additional enforcement action was not warranted and the petition should be denied.

Technical issue discussed: maintenance and surveillance.

DIRECTOR'S DECISION UNDER 10 C.F.R. § 2.206

I. INTRODUCTION

On January 2, 1995, Mr. Anthony J. Ross (Petitioner) filed a petition with the Executive Director for Operations of the Nuclear Regulatory Commission (NRC) pursuant to section 2.206 of Title 10 of the *Code of Federal Regulations* (10 C.F.R. § 2.206). In the petition, the Petitioner raised concerns regarding (1) employee harassment and intimidation by Northeast Utilities (NU); (2) the falsification of nuclear documents concerning the gas turbine battery; (3) failure

to enter a Technical Specification Limiting Condition for Operation (LCO) after a failed surveillance; and (4) his belief that numerous violations have occurred in 1992 and 1993 regarding the gas turbine battery. Because of these problems, the Petitioner alleges that the gas turbine is still inoperable. In addition, the Petitioner asserts that these problems have not been handled appropriately by the NRC and NU, and that NU and the NRC are engaged in an apparent "coverup" of problems with surveillances of the gas turbine battery.

The Petitioner requested that the NRC (1) assess a Severity Level II violation and a Severity Level III violation against his department manager and his first-line supervisor for their apparent violations of 10 C.F.R. § 50.7; (2) institute sanctions against the Petitioner's first-line supervisor, NU, and the Millstone Unit 1 organization for engaging in deliberate misconduct in violation of 10 C.F.R. § 50.5; and (3) remove the Petitioner's first-line supervisor from his position until a "satisfactory solution to the falsifying of nuclear documents" by this individual can be achieved.

On February 23, 1995, I informed the Petitioner that the petition had been referred to me pursuant to section 2.206 of the Commission's regulations. I also informed the Petitioner that the NRC would take appropriate action within a reasonable time regarding the specific concerns raised in the petition. I also stated that the Petitioner's allegations that the NRC has not been appropriately handling certain violations and is engaged in a "coverup" of the problems related to the gas turbine battery had been referred to the Office of the Inspector General (OIG). Therefore, this Director's Decision does not address that issue. On the basis of a review of the remaining issues raised by the Petitioner, as discussed below, I have concluded that no substantial health and safety issues have been raised that would require the initiation of additional formal enforcement action.

II. DISCUSSION

A. Background

The Petitioner alleges that during an annual surveillance of the gas turbine battery on September 20, 1994, he identified that some of the intercell bolted connections of the gas turbine battery were greater than 65 micro-ohms, which was greater than the acceptance criteria specified in Procedure SP 779.5, "Gas Turbine Battery Annual Inspection." The Petitioner alleges that although he notified the Operations Department shift supervisor and his first-line supervisor, his first-line supervisor signed the surveillance as "yes," referring to the "acceptance criteria met," when clearly the requirements were not met as specified by Procedure SP 779.5. The Petitioner alleges further that, when the Operations Department was notified by him of the failed surveillance, the Millstone Unit 1 organization willfully failed to enter a 4-day LCO as required by the Technical

Specifications, in order to keep the unit on-line to produce revenues. In addition, the Petitioner asserts that about a week after this incident, he received copies of the 1992 and 1993 annual gas turbine battery surveillances that indicated a number of problems and violations that have not been handled appropriately by NU and the NRC, and that the gas turbine is still inoperable due to these problems. Finally, the Petitioner alleges that he has been subjected to harassment and intimidation by his first-line supervisor and department manager for raising these concerns.

B. Petitioner's Concern Regarding Falsification of Nuclear Documents

During an inspection held September 27 through November 15, 1994, as documented in Inspection Report (IR) 50-245/94-31, 50-336/94-30, 50-423/94-28 (IR 94-31), dated December 16, 1994, and an inspection held May 15 through June 23, 1995, as documented in IR 50-245/95-22, 50-336/95-22, 50-423/95-22 (IR 95-22), dated July 21, 1995, the NRC reviewed gas turbine battery maintenance and surveillance activities at Millstone Unit 1. The inspection determined that on September 20, 1994, the date the Petitioner alleges the gas turbine battery failed the surveillance, the Licensee for Millstone Unit 1 (Northeast Nuclear Energy Company — NNECO) performed the annual surveillance of the gas turbine battery as specified by Procedure SP 779.5. This annual preventive maintenance identified three intercell connection resistance readings that did not meet the surveillance acceptance criterion in that the resistance readings were greater than the accepted values. The electricians notified the shift supervisor and the maintenance foreman of the unsatisfactory readings and documented the results in the surveillance procedure.

The NRC reviewed the completed surveillance and noted that the "acceptance criteria met" block was checked "yes," indicating satisfactory surveillance results; however, the resistance readings for the three intercell connections were documented as unsatisfactory. The inspection therefore confirmed that the classification of this surveillance as acceptable was incorrect and, as a result, it bypassed NNECO's administrative control procedures for system operability,¹ and procedural review and approval. However, on the basis of interviews and a review of the completed surveillance procedure, the NRC determined that the first-line supervisor documented the high resistance readings on the cover page of the surveillance, discussed the issue with the Electrical Engineering Department to determine if the high resistance readings affected operability of the battery and, on the basis of the discussion with Engineering,

¹ If the classification of the surveillance had been determined to be "unsatisfactory" ("acceptance criteria block" checked "no"), a determination of operability would be performed and the related Technical Specification LCO would be entered, if the gas turbine battery was inoperable.

determined that Engineering had previously reviewed the effect of the high resistance readings and had found the battery operable. Therefore, the first-line supervisor concluded that the battery was acceptable as is.² Further, the inspection confirmed that the Licensee's previous operability evaluation was acceptable and that the gas turbine battery was operable. As discussed below, the NRC took enforcement action regarding a number of procedural violations associated with the gas turbine battery surveillance. Therefore, based on the above, the NRC has concluded that the first-line supervisor did not willfully falsify documents.

C. Petitioner's Concern Regarding Failure to Enter Technical Specification LCO

The inspection determined that the classification of the resistance readings as "unsatisfactory" ("acceptance criteria block" checked "no") would have ensured that a determination of operability would have been performed by the Licensee and the related Technical Specification LCO would have been entered if appropriate. However, since the first-line supervisor documented the high resistance readings, discussed the readings with Engineering, and on the basis of the discussion, determined that the battery was acceptable, the Licensee did not willfully fail to enter the LCO in that the Licensee determined that the previous operability determination was valid and, therefore, that the surveillance procedure criteria had been met.

In response to the NRC IR results, the Millstone Unit 1 Director issued a memorandum to Millstone Unit 1 personnel to reinforce the expectation that if an acceptance criterion is not met, the "no" block must be checked. The Unit Director stated that he held managers and supervisors personally accountable for ensuring that their personnel understood the message in the memorandum. In addition, NNECO held several management team meetings to ensure a full appreciation of the type of performance characteristics that can lead to procedural violations and to reinforce the Licensee's expectation concerning the "acceptance criterion met" block. NNECO also revised the acceptance criterion within Procedure SP 779.5 for the three connections that have the intercell connection cables with higher resistance because of the cable length. In addition, the official plant record was corrected for the annual battery surveillance that was incorrectly marked as meeting its acceptance criterion. In a subsequent inspection report, IR 50-245/95-31, 50-336/95-31, 50-423/95-31 (IR 95-31), dated September 19, 1995, the NRC reviewed the Licensee's corrective actions

² Although the first-line supervisor was technically correct that the gas turbine battery was operable, the determination of battery operability did not follow the Licensee's administrative controls as discussed above.

in the above areas. The NRC Staff found the Licensee's corrective actions to be timely and thorough.

In summary, on the basis of the above information, the Staff found that the Petitioner's first-line supervisor did incorrectly mark the acceptance criterion met block "yes;" however, he annotated the high resistance readings on the cover page of the surveillance and marked the block "yes" based on his determination that Engineering had previously reviewed the issue and determined the battery to be operable. Further, the Staff found that since the Licensee determined that this was previously reviewed by Engineering and found acceptable, the Licensee erroneously did not follow its administrative control procedures for determining operability and entering of appropriate LCOs. Therefore, the NRC determined that (1) the Petitioner's first-line supervisor did not willfully falsify nuclear documents or deliberately violate NRC regulations or the Millstone Unit 1 operating license; (2) neither he, Northeast Utilities, nor the Millstone Unit 1 organization violated the provisions of section 50.5; (3) the requested removal of the first-line supervisor is not warranted based on these concerns; and (4) the Licensee's corrective actions were acceptable. As discussed below, the NRC took enforcement action regarding a number of procedural violations associated with the gas turbine battery surveillance.

D. Additional Concerns Regarding Inoperability of the Emergency Gas Turbine

The Petitioner provides a number of examples of what he alleges demonstrate inadequate procedural compliance by the Licensee regarding gas turbine battery surveillances which indicate that the gas turbine is inoperable due to battery problems.³ In IR 94-31, the NRC determined that during implementation of Procedure SP 779.5, there were a number of examples (including the examples the Petitioner provided) in which the Procedure SP 779.5 was not followed, nor was the job stopped and the procedure revised to correct the identified errors. For example, the procedure included a caution statement following step 6.19 that required the generation of a plant information report (PIR) and subsequent determination of operability if the battery acceptance criteria are not met. The PIR was not generated until this issue was questioned by the NRC. Step 6.17 of the procedure requires that if any resistance reading was greater than 65 micro-ohms, then the terminals and straps must be cleaned. The Licensee did not clean the terminal and strap connections. Step 6.22 requires that the readings taken during the surveillance be compared with previous battery surveillance

³The Petitioner asserted that these problems have not been handled by the NRC and NU, and that NU and the NRC are engaged in an apparent "coverup" of problems. As explained above, the "coverup" issue has been referred to the OIG.

readings to determine if there is any deterioration of the battery system. The Licensee did not perform this review and evaluate the battery for deterioration until the NRC raised the issue. The NRC determined that these examples in which the procedure steps were not implemented constituted a violation of Technical Specification 6.8.1 and Procedure SP 779.5 and issued a Notice of Violation to the Licensee (categorizing this as a Severity Level IV Violation, Violation 50-245/94-31-02). Further, the NRC noted in IR 94-31 that neither the recognition of the procedure errors during two prior implementations of this annual surveillance procedure (1992 and 1993),⁴ nor the biennial procedure review completed on December 8, 1993, resulted in revisions to preclude the problems encountered during the 1994 surveillance. As discussed above, in IR 95-31, the NRC reviewed the Licensee's corrective actions for this violation and found them acceptable.

In IR 94-31, the NRC concluded that the previous operability evaluation of the gas turbine battery was acceptable and, therefore, that the gas turbine battery was operable at that time due to the previous evaluation. The violation cited in the Notice of Violation included the issues the Petitioner raised, specifically that NNECO failed to perform an operability determination and subsequently did not enter the Technical Specification LCO for the gas turbine. While the NRC Staff did not take the actions the Petitioner requested, the Staff did take enforcement action based on its findings. Therefore, since the NRC found the Licensee's determination of operability acceptable and the NRC took enforcement action for the related violation described above, the NRC has concluded that additional enforcement action is not warranted.

E. Petitioner's Allegations Regarding Harassment and Intimidation

With regard to the Petitioner's assertion of harassment and intimidation, the Petitioner alleges that (1) on October 7, 1994, he was given a memorandum concerning absenteeism; (2) on October 27, 1994, he was unjustly chastised by his first-line supervisor and department manager about absenteeism; and (3) on December 14, 1994, he was given a memorandum that threatened him. The Petitioner further alleges that he believes these actions by his supervision illustrate that NU management harasses, intimidates, and retaliates against individuals who raise safety concerns with outside agencies.

As indicated in a letter to the Petitioner dated November 28, 1995, from the NRC Deputy Executive Director for Nuclear Reactor Regulation, Regional Operations and Research, the Petitioner has raised several complaints since 1993 with the NRC or the Department of Labor (DOL) concerning harassment,

⁴The NRC noted similar examples in which the procedure was not followed or corrected during the annual surveillance in 1992 and 1993.

intimidation, or discrimination by individuals at NU because the Petitioner raised safety concerns to NU or the NRC. As explained in the letter, the NRC conducted investigations into some of the harassment and intimidation allegations that the Petitioner had raised. The NRC did not substantiate that the Petitioner suffered discrimination for raising safety concerns. Further, of the complaints of harassment and intimidation that the Petitioner raised that were investigated by the DOL, none have been substantiated.

The Staff has, in addition, reviewed the Petitioner's remaining allegations of harassment and intimidation, including those in the petition, and has concluded that they do not present sufficient information warranting further investigatory effort. Accordingly, absent a finding of discrimination by the Secretary of Labor or an Administrative Law Judge on any pending complaints, or significant new evidence from the Petitioner that would support the allegations that NU has harassed, intimidated, or discriminated against him, the NRC Staff plans no further followup of the harassment and intimidation complaints. Based on the above, no further action is warranted.

III. CONCLUSION

On the basis of the above assessment, I have concluded that some of the Petitioner's concerns were substantiated and resulted in appropriate enforcement action. Other concerns were not substantiated. Therefore, no additional enforcement action is being taken in this matter.

The Petitioner's request for action pursuant to section 2.206 is denied. As provided in 10 C.F.R. § 2.206(c), a copy of this Decision will be filed with the Secretary of the Commission for the Commission's review. This Decision will constitute the final action of the Commission 25 days after issuance unless the Commission, on its own motion, institutes review of the Decision in that time.

FOR THE NUCLEAR
REGULATORY COMMISSION

Ashok C. Thadani, Acting Director
Office of Nuclear Reactor
Regulation

Dated at Rockville, Maryland,
this 31st day of October 1996.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

OFFICE OF NUCLEAR REACTOR REGULATION

Ashok C. Thadani, Acting Director

In the Matter of

Docket No. 50-245
(License No. DPR-21)

NORTHEAST NUCLEAR ENERGY
COMPANY
(Millstone Nuclear Power Station,
Unit 1)

October 31, 1996

The Acting Director of Nuclear Reactor Regulation has denied a petition by Anthony J. Ross that the NRC require Northeast Utilities to review all existing work orders for the past 10 or 12 years to ensure that Quality Assurance motor and connection work does not have certain deficiencies and take enforcement action against NU and its managers, based upon the Petitioner's assertions of intimidation and harassment and inadequate work control and procedure compliance. Following his review, the Acting Director has determined that none of the technical issues raised by the Petitioner reflect a lack of procedural compliance or warrant additional action by the Staff, and that the Petitioner's assertion of harassment and intimidation does not warrant any action.

Technical issue discussed: quality assurance.

DIRECTOR'S DECISION UNDER 10 C.F.R. § 2.206

I. INTRODUCTION

On December 30, 1994, Mr. Anthony J. Ross (Petitioner) filed a petition with the Executive Director for Operations of the Nuclear Regulatory Commission (NRC) pursuant to section 2.206 of Title 10 of the *Code of Federal Regulations* (10 C.F.R. § 2.206). In the petition, the Petitioner asserted that (1) inadequate

work control and procedure compliance exist at Millstone Unit 1, as evidenced by the use of standard commercial-grade lugs in a gas turbine fuel forwarding pump and motor that are quality assurance (QA)¹ subsystems of the emergency gas turbine generator and which had apparently been crimped using diagonal pliers; improper Raychem splices, cable bend radius, and connections in the connection boxes of major safety-related QA equipment; and non-QA lugs installed, and improperly performed crimping, in fire protection quality assurance (FPQA) emergency lights, and (2) he had been subjected to ridicule by the gas turbine system engineer for raising concerns regarding the lugs on the gas turbine fuel forwarding pump and motor and that the system engineer willfully violated 10 C.F.R. §§ 50.5 and 50.7.

The Petitioner requested that the NRC (1) require Northeast Utilities (NU) to review all existing work orders for the past 10 or 12 years, with NRC oversight, to ensure that QA motor and connection work does not have certain deficiencies; (2) assess a Severity Level I violation against NU and its managers for apparent violations of section 50.7 and a Severity Level III violation against the gas turbine system engineer at Millstone for his apparent violation of section 50.7 and NU's "Code of Conduct and Ethics"; and (3) institute sanctions against the system engineer and NU and its managers for engaging in deliberate misconduct in violation of section 50.5.

By letter dated February 23, 1995, the NRC informed the Petitioner that the petition had been referred to the Office of Nuclear Reactor Regulation pursuant to section 2.206 of the Commission's regulations. The NRC also informed the Petitioner that the Staff would take appropriate action within a reasonable time regarding the specific concerns raised in the petition. On the basis of a review of the issues raised by the Petitioner as discussed below, I have concluded that the actions sought by the Petitioner are not warranted.

II. DISCUSSION

A. Inadequate Work Control and Procedural Compliance Issues

The issues raised by the Petitioner regarding the improper crimping and use of commercial-grade lugs in the gas turbine fuel forwarding pump and motor, improper Raychem splices, cable bend radius, and connection issues, and improper crimping and use of non-QA lugs in emergency lighting have been addressed in correspondence between the NRC and NNECO, and have been the subject of evaluations by NNECO and an NRC inspection. Specifically, by

¹Quality Assurance comprises those quality assurance actions related to the physical characteristics of a material, structure, component, or system which provide a means to control the quality of the material, structure, component, or system to predetermined requirements.

letters dated December 5 and 28, 1994, and February 14, 1995, and during a phone conversation on December 15, 1994, the NRC raised these issues and requested NNECO to submit written responses. By letters dated March 6 and April 26, 1995, NNECO responded to these requests and submitted information regarding its evaluation of these issues. On May 15 through June 21, 1995, the NRC conducted a special safety inspection, which focused on these and other maintenance issues. The inspection findings are contained in Inspection Report (IR) 50-245/95-22, 50-336/95-22, 50-423/95-22 (IR 95-22), dated July 21, 1995. Finally, NNECO provided further information regarding these issues in its August 31, 1995 response to the petition. A broad summary of the resolution of these issues is set forth below.

1. Gas Turbine Fuel Forwarding Pump and Motor Issues

The Petitioner asserts that the Licensee inadequately controls work and procedural compliance at Millstone, as evidenced by the use of standard commercial-grade lugs (instead of QA lugs) in a gas turbine fuel forwarding pump and motor that are QA subsystems of the emergency gas turbine generator and which the Petitioner asserts had been crimped with diagonal pliers (instead of the proper crimping tool). In its response to the petition, dated August 31, 1995, NNECO stated that, when the supervisor examined the lugs in question, he concluded that although the lugs were somewhat discolored as a result of age, and may have had an indented crimp, they appeared to the supervisor to be the type of lug that had been installed in the 1971-1972 time frame, when no procedures were in place with respect to the type of lug required or the method of crimping. NNECO further stated that these lugs are considered acceptable where they have already been installed (i.e., meet original electrical standards); however, when maintenance is performed requiring relugging, the lugs are upgraded and installed in accordance with current procedures.

NNECO further stated that the fact that the lugs in question were commercial grade and may have been crimped with diagonal pliers is not indicative of a work control or procedural compliance problem. The lugs appeared to the NNECO supervisor to be the type of lug that had been installed at or near the time of initial plant startup in accordance with the appropriate electrical standards that existed at that time. Moreover, once the concern was raised about the proper type and crimping of the lugs by the Petitioner, NNECO took prompt action by initiating a work order to replace all the lugs.

The NRC Staff discussed the issue of defective lugs with the maintenance department manager and the worker who replaced the lugs during the special safety inspection. Neither individual could remember the work in detail but stated that to ensure reliability, the lugs were replaced.

Based on NNECO's conclusion that (1) the lugs in question had been installed in the 1971-1972 time frame when no procedures were in place with respect to the type of lug required or the method of crimping, (2) these lugs are considered acceptable where installed, and based on NNECO's prompt action to initiate a work order and replace all the lugs, the NRC concludes that this issue does not indicate an inadequate work control or procedural compliance problem.

2. Improper Raychem Splices, Cable Bend Radius, and Connection Issues

The Petitioner asserts that the Licensee is inadequately controlling work and procedural compliance at Millstone, as evidenced by improper Raychem splices, cable bend radius, and connections in the connection boxes of major safety-related QA equipment (low-pressure coolant injection (LPCI) and core spray (CS) pumps). In its letter dated April 26, 1995, NNECO informed the NRC that an operability determination had been completed on the issue of the Raychem splice installation, and whether Raychem splice bend radii on the LPCI and CS pumps were less than the recommended limits (five times the Raychem diameter). The operability determination concluded that the motor splices were operable and that an immediate inspection to verify bend radii was not warranted. In addition, NNECO stated that 50% of the Raychem splices on the LPCI and CS pump motors had been inspected at that time with no problems identified. In its followup letter dated August 31, 1995, NNECO stated that a visual inspection of all the LPCI and CS pump motors had been completed and none of the connections exceeded the minimum bend radius. Further, NNECO did not identify any discrepancies in the connection boxes for the LPCI and CS pump motors. NNECO's evaluations validated the determination that the splices are operable.²

As a result of its evaluation of NNECO's response and supporting documentation and its independent verification of two of the pump motors in question, the NRC found NNECO's response acceptable and that no further NRC review was needed. Therefore, the NRC Staff concludes that the Raychem splices, cable bend radius, and the connections in the connection boxes of major safety-related equipment (LPCI and CS motors) are acceptable.

² In addition, NNECO (1) performed a review of all the work orders for the current Raychem splice installation and verified that the procedure specified that a minimum bend radius of five times the Raychem diameter not be exceeded, (2) verified that the training the electricians receive on Raychem splices discusses the requirement of not exceeding five times the minimum bend radius, and (3) requested that Raychem determine what the consequences of exceeding the minimum bend radius would be. The results of the Raychem testing showed that even if one or more splices exceeded the minimum bend radius, a tighter bend radius was acceptable.

3. Emergency Lighting Issue

The Petitioner asserts that the Licensee does not adequately control work and procedure compliance at Millstone, as evidenced by non-QA lugs and improperly performed crimping in FPQA emergency lights. The NRC Staff requested NNECO to review the use of improper lugs for emergency lighting at Millstone Unit 1. Specifically, the NRC requested NNECO to review the concern that all four lugs on emergency light unit (ELU) 1-ELU-21 had Thomas and Betts lugs (non-QA) rather than the required QA AMP lugs, and all four lugs were not crimped properly. In addition, the NRC Staff asked NNECO to review the concern that one lug on the emergency light 1-ELU-29 was a Thomas and Betts lug and that three of the four lugs were not properly crimped.

NNECO responded that a review of the revision history for Procedure MP 790.2, "Emergency Light Inspection," determined that the procedure made no reference to a specific lug prior to April 1993. NNECO stated that because the safety classification of these ELUs is FPQA, the lugs utilized in the ELUs must be FPQA. NNECO noted that Thomas and Betts lugs are only stocked as FPQA.

NNECO stated further that an evaluation was performed to determine the consequences of Thomas and Betts lugs in lieu of AMP lugs and to determine if all lug crimps on 1-ELU-21 and -29 were adequate. Additionally, NNECO's evaluation verified the ability of 1-ELU-21 and -29 to perform their design function. NNECO has determined that the lug manufacturer is not a critical issue as long as the lug is compatible with the battery terminal and the wire used. In this case, the Thomas and Betts lug is similar to the AMP lug, and both lugs are compatible with the battery terminals and wire used. A compatibility study has been completed and documented in a Replacement Item Evaluation (RIE).

NNECO performed a review of previous ELU surveillances to determine whether a degraded condition had been observed for the battery terminal lugs in these ELUs; this review did not reveal any degraded conditions. The Millstone Unit 1 Engineering Department inspected the crimping of the battery terminations, and the eight crimps were found to be adequate. Although all battery termination lugs are insulated on these ELUs, one splice on 1-ELU-29 appeared to be crimped by a die for noninsulated lugs. However, this crimp did not affect operability of the ELU since a high-resistance connection was not present, and the insulation was not damaged. Satisfactory completion of a battery discharge test confirmed the adequacy of the crimps. Nonetheless, the lug that appeared to be crimped by a die for noninsulated lugs on 1-ELU-29 has been replaced.

During its special inspection, the NRC Staff reviewed the concern about emergency lighting lugs and NNECO's process for lug replacement. The NRC

Staff verified that specific lugs were not called for in earlier versions of the lug replacement procedure and, therefore, as long as the lug was compatible and classified as FPQA, it could be used. Since Thomas and Betts lugs are stocked as FPQA and are compatible, they could have been used in ELUs. In addition, since AMP lugs are stocked as non-QA, the plant staff would have had to fill out Form SF 486, "Upgrading FPQA Parts," to justify the upgrade of the lugs to FPQA standards.

The NRC Staff reviewed an example of a lug changeout with an AMP lug and verified that Form SF 486 was included in the package to properly document the upgrade.

The NRC Staff reviewed the RIE form that documented the acceptability of Thomas and Betts lugs as an alternative for AMP lugs. The RIE indicated that the Thomas and Betts lugs are acceptable as an alternative item and that they will not degrade or compromise the original design basis. The NRC Staff found the RIE to be properly documented and adequate. The NRC Staff reviewed procedure MP 790.2, which was revised on April 12, 1995, and now requires that AMP lugs be used or an equivalent as evaluated and indicated by an RIE. Since an RIE has been completed documenting Thomas and Betts lugs as an alternative, they are acceptable. The NRC Staff found the procedure adequate and also verified that the one questionable lug on 1-ELU-29 was replaced. The NRC Staff concluded that the lugs on 1-ELU-21 and -29 were adequately designed and qualified and that the ELUs were fully operable.

Based on NRC's findings that (1) the use of standard commercial-grade lugs in a gas turbine fuel forwarding pump and motor that are QA subsystems of the emergency gas turbine generator and which had apparently been crimped with diagonal pliers does not constitute an inadequate work control or procedural compliance problem; (2) the Raychem splices, cable bend radius, and the connections in the connection boxes of major safety-related equipment (LPCI and CS motors) are operable; and (3) the lugs on 1-ELU-21 and -29 were adequately designed and qualified and the ELUs were fully operable, the NRC Staff has determined that the Licensee adequately controls work and procedure compliance within these areas at Millstone. Therefore, the Petitioner's request to require NU to review all existing work orders for the past 10 or 12 years, with NRC oversight, to ensure that QA motor and connection work does not have certain deficiencies, is not warranted.

B. Harassment and Intimidation Issue

The Petitioner alleges that he was ridiculed by the gas turbine system engineer for raising safety concerns regarding the lugs on the gas turbine fuel forwarding pump and motor and that the system engineer willfully violated sections 50.5

and 50.7. In addition, the Petitioner alleges that NU and its managers violated sections 50.5 and 50.7 and NU's "Code of Conduct and Ethics."

As indicated in a letter to the Petitioner dated November 28, 1995, from the Deputy Executive Director for Nuclear Reactor Regulation, Regional Operations and Research, the Petitioner has raised several complaints since 1993 with the NRC or the Department of Labor (DOL) concerning harassment, intimidation, or discrimination by individuals at NU because the Petitioner raised safety concerns to NU or the NRC. As explained in the letter, the NRC conducted investigations into some of the harassment and intimidation allegations that the Petitioner had raised. The NRC did not substantiate that the Petitioner suffered discrimination for raising safety concerns. Further, of the complaints of harassment and intimidation that the Petitioner raised that were investigated by the DOL, none have been substantiated.

The Staff has, in addition, reviewed the Petitioner's remaining allegations of harassment and intimidation, including those in the petition, and has concluded that they do not present sufficient information warranting further investigatory effort. Accordingly, absent a finding of discrimination by the Secretary of Labor or an Administrative Law Judge on any pending complaints, or significant new evidence from the Petitioner that would support the allegations that NU has harassed, intimidated, or discriminated against him, the NRC Staff plans no further followup of the harassment and intimidation complaints. Based on the above, no further action is warranted.

III. CONCLUSION

The Licensee evaluated the technical issues and provided the results to the Staff for review. The Staff also conducted inspections to independently determine if the Licensee's conclusions and corrective actions were acceptable. As explained above, none of the technical issues reflect a lack of procedural compliance or warrant additional action by the Staff. Also, as explained above, the Petitioner's assertion of harassment and intimidation does not warrant any action.

On the basis of the above assessment, I have concluded that no issues have been raised regarding Millstone Unit 1 that would require initiation of enforcement action. Therefore, no enforcement action is being taken in this matter.

The Petitioner's request for action pursuant to section 2.206 is denied. As provided in 10 C.F.R. § 2.206(c), a copy of this Decision will be filed with the Secretary of the Commission for the Commission's review. This Decision will

constitute the final action of the Commission 25 days after issuance unless the Commission, on its own motion, institutes review of the Decision in that time.

**FOR THE NUCLEAR
REGULATORY COMMISSION**

**Ashok C. Thadani, Acting Director
Office of Nuclear Reactor
Regulation**

**Dated at Rockville, Maryland,
this 31st day of October 1996.**

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

COMMISSIONERS:

Shirley Ann Jackson, Chairman
Kenneth C. Rogers
Greta J. Dicus
Nils J. Diaz
Edward McGaffigan, Jr.

In the Matter of

Docket No. 55-21849-OT

EMERICK S. McDANIEL
(Denial of Application for
Reactor Operator License)

November 13, 1996

On September 11, 1996, Mr. Emerick S. McDaniel filed a Petition for Review of the Initial Decision in this case, LBP-96-17, 44 NRC 79 (1996), in which the Presiding Officer rejected Mr. McDaniel's challenge to the NRC Staff's rejection of his claim that he had passed his reactor operator examination. The Commission denies the Petition for Review because it fails to raise any substantial question justifying Commission review as provided under 10 C.F.R. § 2.786(b)(4), *incorporated into Subpart L in 10 C.F.R. § 2.1253.*

ORDER

On September 11, 1996, Mr. Emerick S. McDaniel filed a Petition for Review of the Presiding Officer's Initial Decision in this case, LBP-96-17, 44 NRC 79 (1996), in which the Presiding Officer rejected Mr. McDaniel's challenge to the NRC Staff's rejection of his claim that he had passed his written examination to become a reactor operator at the Vogtle Electric Generating Plant. The Presiding Officer ruled that Mr. McDaniel had correctly answered less than 80% of the questions and had therefore failed the exam.

We deny the Petition for Review because it fails to raise any substantial question justifying Commission review as provided under 10 C.F.R. § 2.786(b)(4), *incorporated into Subpart L in 10 C.F.R. § 2.1253*. We see no basis to question the Presiding Officer's factual finding that Mr. McDaniel had failed the written exam. *See generally Kenneth G. Pierce* (Shorewood, Illinois), CLI-95-6, 41 NRC 381 (1995).

Mr. McDaniel's Petition for Review is therefore DENIED.

For the Commission

WILLIAM M. HILL
Acting Secretary of the
Commission

Dated at Rockville, Maryland,
this 13th day of November 1996.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

COMMISSIONERS:

Shirley Ann Jackson, Chairman
Kenneth C. Rogers
Greta J. Dicus
Nils J. Diaz
Edward McGaffigan, Jr.

In the Matter of

Docket Nos. 70-7001
70-7002

U.S. ENRICHMENT CORPORATION
(Paducah, Kentucky, and Piketon, Ohio)

November 22, 1996

The Commission denies two motions for reconsideration of CLI-96-10, 44 NRC 114 (1996), which rejected two petitions for review of an Initial Director's Decision approving certificates of compliance for the United States Enrichment Corporation's gaseous diffusion plants in Piketon, Ohio, and Paducah, Kentucky. The Commission also denies two petitions for review of the initial Director's decision and rejects a third petition for review as late-filed.

RULES OF PRACTICE: PETITION FOR REVIEW UNDER PART 76

To be eligible to petition for review of a Director's Decision on the certification of a gaseous diffusion plant, an interested party must have either submitted written comments in response to a prior *Federal Register* notice or provided oral comments at an NRC meeting held on the application or compliance plan. 10 C.F.R. § 76.62(c).

RULES OF PRACTICE: PETITION FOR REVIEW UNDER PART 76

Individuals who wish to petition for review of an initial Director's decision must explain how their "interest may be affected." 10 C.F.R. § 76.62(c). For

guidance, petitioners may look to the Commission's adjudicatory decisions on standing. *See, e.g., Georgia Institute of Technology* (Georgia Tech Research Reactor, Atlanta, Georgia), CLI-95-12, 42 NRC 111, 115-17 (1995).

NEPA: ENVIRONMENTAL ASSESSMENT/ENVIRONMENTAL IMPACT STATEMENT

No environmental assessment or environmental impact statement is required for the issuance, amendment, modification, or renewal of a certificate of compliance of gaseous diffusion enrichment facilities pursuant to 10 C.F.R. Part 76. 10 C.F.R. § 51.22(c)(19). Although NRC regulations do not require a general review of the environmental impacts associated with the issuance of certificates of compliance, an environmental assessment of the impacts of compliance plan approval is required.

CERTIFICATION OF GASEOUS DIFFUSION PLANTS UNDER PART 76: ASSESSMENT OF ACCIDENTS

An analysis of potential accidents and consequences is required by 10 C.F.R. § 76.85 and should include plant operating history that is relevant to the potential impacts of accidents.

MEMORANDUM AND ORDER

I. INTRODUCTION

On September 19, 1996, the NRC published in the *Federal Register* (61 Fed. Reg. 49,360-63) notice of the certification decision of the Director, Office of Nuclear Material Safety and Safeguards (Director), for the U.S. Enrichment Corporation (USEC) to operate the two gaseous diffusion plants (GDPs), one located at Paducah, Kentucky (referred to hereafter as the Paducah plant), and the other at Piketon, Ohio (referred to hereafter as the Portsmouth plant). NRC also issued a Finding of No Significant Impact (FONSI) concerning NRC's approval of the compliance plans¹ prepared by the U.S. Department of Energy (DOE) and submitted by USEC.

¹The compliance plans set forth USEC's plan and schedule for achieving full compliance with NRC regulatory requirements.

USEC, or any person whose interest may be affected and who had submitted written comments in response to the prior *Federal Register* notice on the application or compliance plan under 10 C.F.R. § 76.37, or provided oral comments at an NRC meeting held on the application or compliance plan under 10 C.F.R. § 76.39, were eligible to file a petition to the Commission requesting review of the Director's decision within 15 days after publication of the Director's decision. 10 C.F.R. § 76.62(c).²

The NRC received five petitions for review of the Director's decision. A previous memorandum and order issued by the Commission in this proceeding, on October 18, 1996 (CLI-96-10, 44 NRC 114), rejected two of these five petitions for failure to meet the eligibility requirements of section 76.62(c). The two rejected Petitioners have petitioned for reconsideration. The Commission's previous memorandum and order also addressed certain threshold procedural matters raised in the remaining petitions, denying a request for an additional period for seeking review and submitting comment on the Director's decision, and denying a request for expansion of the right to seek the Commission's review of the Director's decision to any person.

This Memorandum and Order addresses the two petitions for reconsideration and the remaining issues raised in the petitions not previously rejected. For the reasons set forth below, these petitions are rejected in their entirety.

II. PETITIONS FOR RECONSIDERATION

The Commission has received two petitions for reconsideration of the Commission's memorandum and order served October 18, 1996:

1. By a pleading dated October 24, 1996, Diana Salisbury, of Sardinia, Ohio, requested that the Commission reconsider its Memorandum and Order of October 18, 1996, and review her petition dated October 3, 1996, and amendment dated October 4, 1996.
2. By a pleading entitled "Verified Complaint, Administrative Petition for Action," dated October 25, 1996, Neilly Buckalew, Director, Kwanitewk NATIVE Resource/Network, of Meriden, New Hampshire, requested that the Commission reconsider its Memorandum and Order of October 18, 1996, CLI-96-10, and review their October petition.

The Commission rejected both of these Petitioners' petitions for review of the Director's decision for failure to comply with the eligibility requirements in

² Notice of receipt of the application had appeared in the *Federal Register* (60 Fed. Reg. 49,026) on September 21, 1995, allowing for a 45-day public comment period on the application and noticing public meetings to solicit public input on the certification. A second notice appeared in the *Federal Register* (60 Fed. Reg. 57,253) on November 14, 1995, providing for a 45-day public comment period on the compliance plan. Public meetings were held on November 28, 1995, in Piketon, Ohio, and on December 5, 1995, in Paducah, Kentucky.

section 76.62(c). That provision requires prior participation in the certification proceeding by submission of either written comments or oral comments at a public meeting. The Commission provided a full opportunity for members of the public to submit timely written or oral comments during the proceeding. *See* note 2, *supra*. The Commission explicitly informed the public of the requirement to submit written or oral comments in order to be eligible to petition for review of the Director's decision in the *Federal Register* notices. *Id.*

Both Petitioners cite 5 U.S.C. § 553(e), a provision of the Administrative Procedure Act (APA), giving interested persons the right to petition for the issuance, amendment, or repeal of a rule. However, if Petitioners wish to exercise their right to petition for a change in the eligibility rule in section 76.62(c), they must do so in a petition for rulemaking under 10 C.F.R. § 2.802, stating their basis for requesting the rule change.

Additionally, the cited section of the APA is inapplicable to support Petitioners' right to petition for review of the Director's decision, which is in the nature of an adjudication, not a rule.

Petitioners do have the right to challenge the Commission decision dismissing their petitions for review of the Director's decision. However, Petitioners have presented no information that would indicate that the previous decision was in error and have presented no new information that would justify reconsideration.

Petitioners also state various arguments to support the assertions that they are persons "whose interest may be affected" (section 76.62(c)) and therefore are eligible to petition for review of the Director's decision. However, since Petitioners have not satisfied the prior participation requirement stated in the rule,³ we need not address these arguments.

Therefore, these petitions are denied.

III. PETITIONS FOR REVIEW

The three remaining petitions and related NRC actions to date are as follows:

1. By letter dated September 30, 1996, Vina K. Colley of McDermott, Ohio, who serves as President of P.R.E.S.S., Portsmouth-Piketon Residents for Environmental Safety and Security, petitioned for Commission review of the Director's decision. Her petition (hereafter referred to as the "Colley petition") was docketed at the NRC on October 4, 1996. Ms.

³ Petitioner Salisbury asserts that section 76.62(c) is grammatically constructed to create two separate categories of eligibility: "The corporation or any person whose interest may be affected" and "who had submitted comments in response to the *Federal Register* notice. . . ." However, it is evident by the placement of the comma after "Corporation," the lack of a comma after the clause "any person whose interest may be affected," and the use of the pronoun "who" rather than "any person who" in the clause about submission of comments, that Petitioner's interpretation is in error.

Colley had spoken at the NRC's public meeting in Piketon, Ohio, on November 28, 1995, regarding the application and compliance plan. On October 4, 1996, the Secretary of the Commission served a copy of the Colley petition on USEC and persons who had provided written comments on the application or compliance plan during the comment period or had provided oral comments at a meeting held on the application and compliance plan. The Secretary invited those served to file comments on Ms. Colley's petition by October 15, 1996. Comments were subsequently received from Ronald Lamb,⁴ dated October 14, 1996; from Jotilley Dortch,⁵ dated October 15, 1996; and from USEC, dated October 15, 1996.

2. By letter dated October 2, 1996, two individuals, Mark Donham and Kristi Hanson, of Brookport, Illinois, petitioned for review. Mr. Donham had spoken at the NRC's public meeting in Paducah, Kentucky, and Donham and Hanson had jointly submitted written comments during the comment period. The petition (hereafter referred to as the "Donham/Hanson petition") was docketed at the NRC on October 8, 1996. On October 9, 1996, the Secretary served the petition on the service list, and invited those served to comment on this petition by October 21, 1996. Comments were subsequently received from Jotilley Dortch (*see* note 5), dated October 15, 1996; from USEC, dated October 21, 1996; and from the U.S. Environmental Protection Agency (EPA), Region 5, dated October 22, 1996.⁶
3. By letter dated October 10, 1996, A.B. Puckett, member of the Coalition for Health Concern, of Kevil, Kentucky, petitioned for review. Mr. Puckett had spoken at the public meeting in Paducah, Kentucky.

IV. DISMISSAL OF LATE PETITION

The petition of A.B. Puckett was dated October 10, 1996, and postmarked October 14, 1996. Under section 76.62(c), the 15-day period for petitions for review of the Director's decision commenced with the publication of the *Federal Register* notice on September 19, 1996, and concluded on October 4, 1996. Therefore, Mr. Puckett's petition was untimely filed.

⁴The response of Ronald Lamb stated its support of the objections of the Colley petition without further elaboration.

⁵Although the letter filing of Jotilley Dortch purports to be a response to both the Colley petition and the petition filed by Mark Donham and Kristi Hanson, it does not address the issues raised in either petition, but instead raises new issues. Therefore, this correspondence will not be considered as a response to the petitions but will be forwarded to the Staff for appropriate response.

⁶The response of EPA, Region 5, commented on the Donham/Hanson petition's request for more time for public comment. This portion of that petition was considered and denied in CLI-96-10.

This Petitioner does not even refer to the untimely filing, let alone attempt to establish that there is good cause to accept the late filing. See 10 C.F.R. § 76.74(b) (“good cause” required to extend time deadlines in Part 76). There is no other indication in the petition itself of late information that would plausibly excuse the late filing. Furthermore, the petition, which deals with the impacts of uranium mining and milling and of dumping nuclear waste on Indian lands, raises no issues that are directly relevant to this proceeding.

We find that Petitioner has not established and we cannot otherwise conclude that there was good cause for the late filing. Therefore, the substantive matters in the petition of A.B. Puckett will be referred to the Staff for an appropriate response and will not be considered by the Commission as a petition for review of the Director’s decision.

V. STANDING OF PETITIONERS

Section 76.62(c) limits eligibility to petition for review of the Director’s decision to those persons “whose interest may be affected” and who also have previously participated in the proceeding by submitting written comments or oral comments at any meeting on the application or compliance plan. The phrase “whose interest may be affected” is also used in section 189a of the Atomic Energy Act concerning those who have a right to a hearing in certain proceedings.

Neither of the petitions before us directly addresses the “interested person” issue in sufficient detail. We note, however, that Petitioners did participate in the Piketon and Paducah public meetings and appear to live in the vicinity of the plants. In addition, this is the first time the Commission has entertained petitions under Part 76 and Petitioners, who are appearing *pro se*, may not have understood their obligation to explain their “interested person” status. Thus, we are unwilling to hold Petitioners to a formalistic pleading-type requirement and instead will assume that Petitioners are “interested persons.” We therefore will consider the merits of the Colley petition with regard to the Portsmouth plant and the Donham/Hanson petition with regard to the Paducah plant.

The Commission cautions, however, that in future Part 76 certification decisions, it will expect Petitioners more specifically to explain their “interested person” status. For guidance, Petitioners may look to the Commission’s adjudicatory decisions on standing. See, e.g., *Georgia Institute of Technology* (Georgia Tech Research Reactor, Atlanta, Georgia), CLI-95-12, 42 NRC 111, 115-17 (1995).

VI. ANALYSIS AND RESPONSE TO ISSUES RAISED IN THE COLLEY PETITION

The Colley petition enumerated six “comments, objections and petitions for action” which we will refer to and treat as Issues 1 through 6 using Ms. Colley’s nomenclature (*see* Colley Petition at 1). Issues 1, 2, and 3 dealt with threshold procedural matters — extending the 15-day time limit for filing a timely petition for Commission review of an initial Director’s decision, and expansion of the categories of persons eligible to file a petition for review of the Director’s decision — and those requests were denied in the previous Commission memorandum and order dated October 18, 1996 (CLI-96-10, *supra*). The remaining Issues 4, 5, and 6 are addressed here.

A. Colley Issue 4: Petition for NRC to Hold National Public Hearings

Petitioner asks that NRC hold public hearings nationally regarding the continued operation of the GDPs in Ohio and Kentucky. This request is made as an adjunct to Petitioner’s requests, previously denied, for extension of the time period for the filing of petitions and for expansion of the right to file petitions to any person. Petitioner supports her request with arguments that the continued operation of the GDPs will affect all U.S. taxpayers and that “it is *U.S. taxpayer dollars that have provided the capital for these plants to operate* for the last 40 years and will *continue to provide the necessary funds* to maintain operation of these plants. . . .”

Prior to issuing the certification decision, the Staff provided a broad opportunity for public comment by publishing *Federal Register* notices concerning the receipt of USEC’s applications and compliance plans, and holding public meetings in the vicinity of each site. *See* note 2, *supra*. From a health and safety perspective, it is the people who live in the vicinity of the facilities who may have an interest that might be affected. Accordingly, the NRC made special efforts to ensure that those people were informed.⁷ We find that adequate opportunity for public participation in this proceeding has been provided, and that no reason is apparent either from the record or from Petitioner’s arguments that additional hearings would produce any significant additional information. Therefore, the request for additional public hearings is denied.

⁷We note that the Staff used several additional means to publicize the certification process, obtain public comments, and coordinate with other interested agencies. These included: establishment of local public document rooms near each site, press releases, notices of technical meetings with USEC open to the public, paid advertisements in local newspapers, media interviews, individual letters seeking comments from interested parties, and meetings with labor union officials, local government officials, DOE, the EPA, and the Occupational Safety and Health Administration (OSHA).

B. Colley Issue 5: Objection to the Finding of No Significant Impact Regarding USEC's Compliance Plan

Petitioner's Issue 5 is supported by nine individual bases that Petitioner labels (a) through (i). We adopt the same labeling for convenience, and address each individual basis below.

We first address a fundamental premise raised by the Petitioner regarding the FONSI. Petitioner's argument apparently rests on the belief that the environmental assessment (EA) of the impacts of the proposed compliance plan approval should encompass all the impacts of ongoing operations, not just impacts associated with compliance plan approval. We note here that several of Petitioner's nine bases for this issue assert that there is an inadequate evaluation of the environmental impacts of ongoing or past operations, and none of the nine bases focus on any impact associated with compliance plan implementation.

As part of the same rulemaking that promulgated 10 C.F.R. Part 76, 10 C.F.R. Part 51 was modified to provide a categorical exclusion from the requirement for an environmental impact statement or EA for the "issuance, amendment, modification, or renewal of a certificate of compliance of gaseous diffusion enrichment facilities pursuant to 10 C.F.R. Part 76." 10 C.F.R. § 51.22(c)(19). This action was taken because the two GDPs had already been subject to environmental review pursuant to the National Environmental Policy Act of 1969 (NEPA) inasmuch as DOE had prepared an environmental impact statement for the Portsmouth plant, and an EA for the Paducah plant. After review of the DOE environmental analyses, and the current operations of the plants, the NRC concluded that there were no significant differences in current operations that would result in significantly different environmental impacts from those already evaluated by DOE. *See* Supplementary Information, 59 Fed. Reg. 48,944, 48,958, (Sept. 23, 1994). The NRC further concluded that since the Commission's certification requirements were intended to be at least as stringent as existing DOE requirements, certification issuance, modification, or amendment would not allow the GDPs to operate in such a way as to result in any adverse environmental effects greater than those that currently existed or would be expected absent NRC oversight, and would not have a significant effect on the human environment.

Therefore, no general review of environmental impacts associated with issuance of the certificates of compliance, as proposed by the Director's decision, is contemplated or required by NRC regulations. However, the categorical exclusion does not extend to approval of the compliance plans, and, therefore, an EA was performed by the Staff for that purpose.

The *Federal Register* notice publishing the Director's decision included an EA of the environmental impacts associated with the contemplated approval of the USEC compliance plans. Examples of specific topics related to the compliance plan, and included in the EA, are filter testing and air sampling.

On the basis of the EA, the Staff determined that there would be no significant impact associated with approval of the compliance plans and issued the FONSI.

Therefore, the Petitioner's basic premise is flawed in that it wrongly presupposes that the Staff was required to perform a broad environmental review of ongoing GDP operations, when in fact only an assessment of the impacts of compliance plan approval is required.

We now turn to Petitioner's individual bases:

1. Colley Issue 5(a): *The Notice (FONSI) Is Deficient in Not Reviewing or Accounting for the Impacts Resulting from Privatization of USEC*

Petitioner asserts that NRC must review and account for the "impacts, changes, and full ramifications on the operation of the two plants and environmental compliance . . . from the actual process of privatization." Petitioner also asserts that "[t]he effects of privatization on environmental compliance must be fully analyzed including the economic ability of USEC to fully comply with environmental standards over the next projected 50 years of operation."

Petitioner's broad allegations do not contain enough detail to state a meaningful objection.⁸ More importantly, as noted above, the EA or FONSI are required to consider only environmental impacts associated with approval of the compliance plans. Since the possibility of future privatization falls outside the scope of the compliance plan and this certification, the Petitioner's challenge is rejected on that basis.

2. Colley Issue 5(b): *Fugitive Uranium Deposits Pose Risks of Criticality and Should Be Cleaned Up Before Certification*

Petitioner is apparently referring to existing uranium deposits in plant equipment, and asserting that they could worsen with continued plant operation and pose a risk of a nuclear criticality. Petitioner refers to a National Academy of Sciences report, *Affordable Cleanup* (National Research Council, 1996), noting that cleanup began in 1991 but is not complete. Petitioner asks that certification be withheld until cleanup of the uranium deposits is completed, in order to protect worker safety and the public health.

It is recognized that uranium deposits can form in process equipment and piping in the GDPs. USEC is required to follow Technical Safety Requirements which provide for surveillance, detection, and safe management of uranium deposits. For example, Portsmouth Technical Safety Requirement 2.7.3.14

⁸ Insofar as the Petitioner's complaint may be read as a broad objection to privatization, Congress has spoken on this issue. In the USEC Privatization Act (Pub. L. No. 104-134), Congress directed USEC to implement a privatization plan to transfer the corporation to private ownership.

requires: (1) quarterly surveys for uranium deposits in the X-326 cascade facility, (2) measures to ensure criticality safety if identified deposits are above a certain size, and (3) actions to safely stabilize or remove deposits.

The cleanup that began in 1991 and is referred to in the National Research Council's report is the DOE high-enriched uranium suspension program. When it was determined that additional high-enriched uranium was no longer needed for defense purposes, a decision was made that the Portsmouth high-enrichment equipment could be retired from service. DOE has informed the NRC that significant deposits have been removed and the equipment has been retired in place.

Petitioner has offered no substantial basis for finding that the issue of uranium deposits has not been appropriately addressed by USEC and reviewed by the Staff. Therefore, we reject this issue as a basis for challenging the Director's decision.

3. *Colley Issue 5(c): Certification Should Be Withheld Until the Synergistic Impacts of Releases of Asbestos, Lead, Other Heavy Metals, and Uranium Are Analyzed*

Petitioner asserts that NRC has not reviewed the synergistic impacts of asbestos, lead, and other heavy metals, in addition to uranium, on workers or the public, and asks that certification be withheld until such impacts are fully documented and analyzed. (Petitioner also raises the issue of synergistic effects under Issue 5(f) below.)

The Energy Policy Act of 1992 required NRC to establish standards for the GDPs to protect the public health and safety from radiological hazards. The NRC Staff's review and the Director's decision are based on a determination that USEC's applications and compliance plans meet the standards NRC established for protection of public health and safety from radiological hazards associated with GDP operation. The basis for this determination is documented in the NRC Staff's Compliance Evaluation Reports (CERs).

The hazards from asbestos, lead, and heavy metals that Petitioner cites are regulated by OSHA and the EPA, and USEC must comply with OSHA and EPA regulations. Petitioner has not provided any information to indicate that these nonradiological substances are present in quantities that pose a health hazard, either by themselves or in combination with uranium, or that any such hazard falls under NRC jurisdiction over radiological hazards. Therefore, we reject Petitioner's request to withhold certification on account of synergistic impacts, and also reject this basis for finding the Staff's EA and FONSI defective.

4. Colley Issue 5(d): Aging of Buildings Poses Significant Risks to Public Health, Worker Safety, and the Environment, Including Major Water Bodies

Petitioner contends that the GDPs pose a significant contamination risk due to plant age, and that decontamination and decommissioning should commence immediately. However, Petitioner offers no information in support of her claim of significant risk. The report cited by Petitioner as supporting her position (*Affordable Cleanup*, National Research Council, 1996), addresses decommissioning issues but does not indicate that the operating plants pose a significant health risk.

Petitioner also alleges that there is a possibility of significant underground water contamination, and asserts that to allow the plants to operate in non-compliance will put major water bodies, including the Ohio River, at great risk. Petitioner provides no information in support of her argument and fails to demonstrate a relationship to the compliance plans or the Staff's EA or FONSI.

In its CER, the Staff determined that the Portsmouth effluent control program is in compliance with NRC requirements. Therefore, the Portsmouth compliance plan includes no requirement for new actions to control effluents. Petitioner does not challenge the Staff's findings in this regard.

For these reasons, we reject this basis for Petitioner's objection to the Staff's FONSI and the proposed Director's decision.

5. Colley Issue 5(e): Decommissioning and Decontamination Budget Cuts Pose Risks to Public Health, Worker Safety, and the Environment

Petitioner asserts that continued plant operation will increase onsite contamination, and that "recent D&D budget cuts" pose major risks. Petitioner concludes that the GDPs should not be allowed to continue to operate without secure financial resources for eventual cleanup.

Section 1403(d) of the Atomic Energy Act of 1954, as amended, provides that the responsibility for the decontamination and decommissioning costs that result from conditions existing before the transition date for the operations of USEC are the responsibility of DOE. Congress also created a specific fund and funding mechanism to pay these costs in section 1801 of the Act. Thus the bulk of the decommissioning costs are not the responsibility of USEC and have a mechanism for funding.

With regard to decommissioning costs that stem from USEC's operations, USEC has provided satisfactory financial assurance in compliance with 10 C.F.R. § 76.35(n) and this is discussed in the CERs, Chapter 14.

Therefore, we find that the Petitioner has not substantiated any basis for concern with this issue. This basis for Petitioner's objection to the Staff's EA and FONSI is rejected.

6. *Colley Issue 5(f): Serious Adverse Health Effects Have Occurred Offsite from Historical and Current Releases*

Petitioner alleges that serious offsite health effects may have occurred as a result of Portsmouth plant operations. Petitioner criticizes a study by the Agency for Toxic Substances and Disease Registry (ASTDR) as too narrow in scope, without providing any basis for that criticism. Petitioner refers to an unnamed report by "10 health planning agencies in the state of Ohio" and says the report found "*significant elevated cancer rates* in nine contiguous counties in southwest Ohio." Petitioner does not provide any specific information to link these alleged increased cancer rates with plant operations.

In its response to the Colley petition, USEC addressed this allegation by noting that, among other things, the Portsmouth plant is located in Pike County, and Pike County is not among those nine Ohio counties said by Petitioner to have higher cancer rates. USEC also notes that the ASTDR study on offsite health effects (which is criticized by Petitioner) concludes that "the Portsmouth Gaseous Diffusion Plant and its operations represent no apparent hazard to human health."

We find that the Petitioner has not provided a reasonable basis for her assertions. We also note that Petitioner fails to link these assertions regarding past occurrences with any aspect of the environmental impacts associated with approval of the compliance plans or the Staff's EA or FONSI, and we reject this issue as a basis for Petitioner's objection to the Staff's FONSI.

7. *Colley Issue 5(g): Inaccurate Assessment of Worker Deaths and Offsite Releases*

Petitioner asserts that a statement in the Staff's CER for the Paducah plant regarding incidents is untrue. The referenced statement is:

no incidents at any of the GDPs have caused death or serious injuries to any plant personnel from exposure to radioactive materials or radiation nor have there been any incidents that have resulted in off-site release of radiation or radioactive materials that could cause committed doses in excess of established limits.⁹

Petitioner asserts that an unnamed document released in 1961 by Mr. Leo Goodman states that twelve cancer deaths among Portsmouth plant workers were

⁹ Paducah CER at 8. The identical statement also appears in the Portsmouth CER.

linked with occupational exposure at the plant. Petitioner further alleges that a significant release of hexafluoride gas in the mid-1970s and numerous other incidents were hidden and denied by DOE. Petitioner then asserts that a thorough investigation of environmental releases and cumulative offsite impacts must be conducted before certification takes place.

USEC commented in its response that it was unable to locate a copy of the actual report released by Mr. Goodman, but contends that any confirmed causal relationship between occupational radiation exposure and cancer death resulting in twelve fatalities would be well known in the scientific literature and referenced in important treatises on the subject. USEC asserts that since this is not the case, even if there were twelve cancer fatalities, it has not been established that there is any cause-and-effect relationship between any worker radiation exposure and subsequent death by cancer.

USEC also points out that the mid-1970's incident that Petitioner refers to is documented in its application, in section 4.2 of the Portsmouth Safety Analysis Report. We note that the same incident, and others, are documented in section 1.5 of the Staff's CER for the Portsmouth plant.

We are satisfied that the issues of onsite and offsite releases have been adequately considered and analyzed in the CERs with respect to compliance with NRC standards. Petitioner has not demonstrated any basis for concluding that the potential impacts of releases have not been adequately assessed. Therefore, we reject this issue as a basis for any objection to the Director's decision or the Staff's EA and FONSI with respect to compliance plan approval.

8. *Colley Issue 5(h): Horizontal and Vertical Bedrock Fractures Are Not Well Understood and Pose Risk as a Migration Pathway*

Petitioner refers to a 1990 EPA document, "Environmental, Safety and Health Compliance Assessment of the Portsmouth Gaseous Diffusion Plant." We believe that the correct document is actually a 1990 DOE document by the same title. Petitioner quotes the report as saying that horizontal and vertical bedrock fractures beneath the plant may constitute a contamination migration pathway different from that determined by the monitoring well network, and that this potential pathway has not been completely assessed.

The finding in the 1990 document referred to by Petitioner actually relates to a groundwater quality assessment performed by DOE. DOE activities are not part of USEC's operations and are not subject to NRC jurisdiction. Petitioner does not allege that USEC is engaging in activities that could cause excessive groundwater contamination, and does not present any information to indicate that USEC is violating any NRC requirements related to groundwater contamination. Instead, Petitioner challenges the adequacy of DOE's ongoing program to

evaluate existing groundwater contamination from other DOE activities at the Portsmouth site.

We find that Petitioner has not provided a reasonable basis to object to the Director's decision or the Staff's EA or FONSI related to compliance plan approval.

9. Colley Issue 5(i): Connection to Lack of Disposal for High-Level Waste

Petitioner objects to the continued operation of the GDPs because of problems associated with eventual disposal of the plants' output, after use as nuclear fuel, in the form of high-level waste.

The activities at the GDPs do not directly produce high-level radioactive waste and therefore this issue is not appropriate for consideration here. The use of fuel in nuclear reactors produces high-level waste, but NRC's licensing process for nuclear power plants has taken this issue into consideration. NRC has evaluated the issue of the adequacy of storage and disposal options for high-level radioactive waste and concluded that it has reasonable assurance that disposal is technically feasible and that the waste can be managed and stored in a safe manner until such disposal is available. *Rulemaking on the Storage and Disposal of Nuclear Waste* (Waste Confidence Rulemaking), CLI-84-15, 20 NRC 288 (1984); 55 Fed. Reg. 38,474 (Sept. 18, 1990).

We find Petitioner's issue to be outside the scope of this proceeding and reject it.

C. Colley Issue 6: Objection to Acceptance of DOE Overseeing Nuclear Safety

Petitioner objects to "acceptance of DOE overseeing nuclear safety currently and during the transition period to slated full privatization of the USEC. . . ."

The Petitioner errs in her understanding that DOE will retain regulatory jurisdiction over the GDPs until they are privatized. In fact, NRC plans to assume regulatory jurisdiction on March 3, 1997, following completion of the initial certification process. This schedule allows for a safe and orderly transition of regulatory authority from DOE to NRC and is unrelated to any privatization that may occur. We note that DOE's current role is as determined by law, not by NRC, and that Petitioner's objection is beyond the scope of NRC authority and unrelated to the Director's decision on compliance with NRC standards. Therefore, this issue is rejected.

VII. ANALYSIS AND RESPONSE TO ISSUES RAISED IN THE DONHAM/HANSON PETITION

The Donham/Hanson petition presents four separate issues, the first three of which are addressed below. The fourth issue is Petitioners' request for additional time to file comments on the Director's decision, beyond the 15-day period allowed by section 76.62(c); this request was addressed and rejected in the Commission's previous memorandum and order dated October 18, 1996.

A. Donham/Hanson Issue 1: Analysis of Offsite Radiological Consequences Pursuant to 10 C.F.R. § 76.85 Is Inadequate

In Issue 1, Petitioners challenge the NRC Staff's response to a comment previously made in the Petitioners' letter dated December 22, 1995. In that letter, Petitioners stated that they believed that "the cumulative effects of all the past releases in combination with any current or recent releases represents the primary hazard from the operation of the facility," and that consideration of such existing contamination should be required in assessment of the consequences of accidents. In response to this comment, in the Paducah CER, Appendix A, at A-5, the Staff replied:

Cumulative effects from past operations are not part of an accident analysis. The primary hazard of this facility is the inadvertent release of UF₆; the pathway of concern is inhalation. Exposure due to accumulation in the environment would be very small.

Petitioners object to this response and assert that section 76.85, "Assessment of accidents," requires relevant past operating history to be included in accident assessments.

Petitioners request that the Commission remand the application and require the Staff to fully address the offsite effects of releases of radioactive materials, including past releases. In support of their request, Petitioners state that: (1) there have been significant, regular releases of radioactive material offsite for the entire history of the facility; (2) there is evidence that radioactive substances, particularly plutonium and uranium in deer, are beginning to accumulate in the food chain off site; and (3) radioactive materials are being released into the environment through groundwater contamination off site.

The Commission notes that Petitioners have not challenged the Staff's conclusion that current releases are within regulatory limits but seem to believe that impacts from past operations should be assessed by the NRC and that this assessment is required by section 76.85. The Petitioners have misinterpreted the intent of section 76.85.

An analysis of potential accidents and consequences is required by section 76.85, and the analysis should include plant operating history relevant to the assessment. The accident analysis is performed "to establish the basis for limiting conditions for operation of the plant with respect to the potential for releases of radioactive material." Past operating history must be considered to make sure a potential accident scenario is not overlooked in the analysis. Past accidents are described in the Paducah Safety Analysis Report in section 4.1 and in the Staff's CER in section 1.5. Petitioners do not challenge either the adequacy of information concerning past accidents, or the spectrum of accidents considered, either in USEC's application or the Staff's CER.

We find that Petitioners have provided no basis to contradict the Staff's view that any residual contamination from past releases that is present in the environment is at such low levels that it would not be relevant to the analysis of potential impacts of accidents. For the foregoing reasons, this issue is rejected.

B. Donham/Hanson Issue 2: The FONSI Is Inadequate

Petitioners challenge the FONSI that the Staff prepared and issued in support of approval of the compliance plans. The Petitioners assert that since the EA and FONSI were prepared and issued with no notice to the community and no opportunity for public comment, they do not meet the intent of NEPA. The Petitioners further assert that NEPA requires a hard look at the cumulative effects from past, present, and future actions, including all of the waste management activities in combination with the operation of the plant and the implementation of the compliance plan.

The Commission's regulations governing implementation of NEPA are provided in 10 C.F.R. Part 51. The NRC's regulations do not require prior notice or opportunity for public comment in connection with the issuance of an EA or a FONSI, and Petitioners do not claim otherwise. (We note that opportunity for public comment was provided on the compliance plans that are the subject of the EA and that the opportunity to petition for review constitutes another limited opportunity for input from the public.) Therefore, to the extent that Petitioners challenge issuance of the EA and FONSI, they challenge the adequacy of NRC's regulations for implementing NEPA. Such challenges cannot be entertained here.

Petitioners also challenge the EA and FONSI on the basis of inadequate scope, claiming that they should evaluate the cumulative effects of all past, present, and future actions, and all waste management activities, in combination with operation of the plant and implementation of the compliance plan. We disagree. As we discussed above in connection with Colley Issue 5, the Staff need only address the environmental impacts associated with compliance plan approval. A broad assessment, such as that claimed by Petitioners to be required, would be directly at odds with the categorical exclusion from environmental

review in 10 C.F.R. § 51.22(c)(19), which exempts from environmental review the issuance of certificates of compliance under Part 76. Because Petitioners' request is at odds with NRC regulations, and because Petitioners fail to take issue with any particular aspect of the Staff's EA and FONSI related to the impacts of compliance plan approval or implementation, we find that Petitioners have failed to substantiate a basis for review of the Director's decision.

C. Donham/Hanson Issue 3: Request for Public Input and/or Notification Regarding Implementation of Compliance Plan Items on Seismic Upgrading

The Petitioners request that the Commission establish a mechanism that would allow public input into the implementation of the seismic upgrading described in the compliance plan. This request does not challenge the Director's decision in any respect and is rejected as a basis for requesting review. Mechanisms for public involvement in the certification process and in NRC's regulatory oversight of the GDPs are provided for by the Commission's regulations, as appropriate. In accord with the Commission's Open Meeting Policy, any meetings with USEC to discuss compliance plan items will be noticed and open for the public to attend, except for those at which proprietary or classified information is discussed. Also, as stated in 10 C.F.R. §§ 76.37 and 76.45, opportunities for public comment will be provided for any certification renewal or significant amendment of the certificates.

For the foregoing reasons:

1. The petition for reconsideration dated October 24, 1996, from Diana Salisbury, of Sardinia, Ohio, is denied.¹⁰
2. The petition for reconsideration dated October 25, 1996, from Neilly Buckalew, Director, Kwanitewk NATIVE Resource/Network, of Meriden, New Hampshire, is denied.¹¹
3. The petition for review dated October 10, 1996, from A.B. Puckett, member, Coalition for Health Concern, of Keval, Kentucky, is rejected as untimely. However, the substantive matters in the petition are referred to the NRC Staff for review and appropriate response. The comments from Jotillye Dortch, dated October 15, 1996, are also referred to the Staff for review and appropriate response.

¹⁰ The substantive matters in Petitioner's petition for review of the Director's decision were previously referred to the Staff for appropriate response.

¹¹ See *supra* note 10.

4. The petition for review dated September 30, 1996, from Vina K. Colley, President of P.R.E.S.S., Portsmouth-Piketon Residents for Environmental Safety and Security, of McDermott, Ohio, is denied in its entirety.

5. The petition dated October 2, 1996, from Mark Donham and Kristi Hanson, of Brookport, Illinois, is denied in its entirety.

Commissioner Dicus did not participate in this matter.

It is so ORDERED.

For the Commission

JOHN C. HOYLE

Secretary of the Commission

Dated at Rockville, Maryland,
this 22d day of November 1996.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

**James P. Gleason, Chairman
Dr. Jerry R. Kline
G. Paul Bollwerk, III**

Thomas D. Murphy, Alternate Board Member

In the Matter of

**Docket No. 40-8027-EA
(ASLBP No. 94-684-01-EA)
(Source Material License
No. SUB-1010)**

**SEQUOYAH FUELS CORPORATION
and GENERAL ATOMICS
(Gore, Oklahoma Site Decontamination
and Decommissioning Funding)**

November 5, 1996

This decision approves a settlement agreement between the Nuclear Regulatory Commission Staff and General Atomics, thereby terminating this proceeding.

**LICENSING BOARDS: RESPONSIBILITIES (SETTLEMENT OF
CONTESTED PROCEEDING)**

**RULES OF PRACTICE: SETTLEMENT OF CONTESTED
PROCEEDING**

The licensing board's function in reviewing settlement agreements, as delineated in 10 C.F.R. § 2.203, calls for settlements to be approved by the board

and an adjudication of any issues that may be required in the public interest to dispose of the proceeding.

LICENSING BOARDS: RESPONSIBILITIES (SETTLEMENT OF CONTESTED PROCEEDING)

RULES OF PRACTICE: SETTLEMENT OF CONTESTED PROCEEDING

The rationale for providing due weight to the position of the Staff may be grounded on the merited understanding that, in the end, the Staff is responsible for maintaining protection for the health and safety of the public and, in the absence of evidence substantiating challenges to the exercise of that responsibility, the Staff's position should be upheld.

LICENSING BOARDS: RESPONSIBILITIES (SETTLEMENT OF CONTESTED PROCEEDING)

RULES OF PRACTICE: SETTLEMENT OF CONTESTED PROCEEDING

The issue is not whether the matter before the Board presents the best settlement that could have been obtained. The Board's obligation instead is merely to determine whether the agreement is "within the reaches of the public interest." *United States v. Gillette Co.*, 406 F. Supp. 713, 716 (1975).

MEMORANDUM AND ORDER
(Approval of Settlement Agreement and Dismissal of Case)

Pending Board approval in this proceeding is a Settlement Agreement (agreement) between the Nuclear Regulatory Staff (Staff) and General Atomics (GA).¹ Objections to the agreement have been filed by Native Americans for a Clean Environment and the Cherokee Nation (Intervenors) and the State of Oklahoma (State) with responses thereto by the Staff and GA.² The Board approves the agreement herein and terminates the proceeding.

¹ Staff and General Atomics' Joint Motion for Approval of Settlement Agreement (July 11, 1996).

² Intervenors' Opposition to Joint Motion (August 9, 1996); State's Response to Joint Motion (September 5, 1996); Staff Reply to Intervenors' Opposition and State's Response (October 11, 1996; General Atomics' Response to Intervenors' and State's Opposition (October 11, 1996).

BACKGROUND

This case involves an October 15, 1993 Order by the NRC to Sequoyah Fuels Corporation (SFC) and its parent corporation, GA, holding both organizations responsible for decommissioning funding of SFC's licensed facilities in Gore, Oklahoma. The agreement, appended hereto, proposes *inter alia*, to release GA from liability in exchange for a payment of either \$9 million or \$5.4 million, the amount to be determined by Internal Revenue rulings on tax status of the payments. The Staff, through a GA-created trust fund arrangement, is to approve the distribution of the funds, with GA having no control over the fund or the payments deposited therein. The Joint Motion for Approval of the Agreement requests suspension of all discovery activities in the proceeding pending any further reviews of this decision.³

The Board has previously approved a settlement agreement submitted by the Staff and SFC. That order and agreement, wherein SFC pledges its net assets and revenues to decommissioning of its facility and which culminated in a dismissal of SFC from the proceeding, is presently under review by the Commission.⁴

The Intervenors and State assert the agreement before us neither meets the financial assurance regulatory requirements for decommissioning nor demonstrates that the public interest objectives of the 1993 Order are met. In sum, the parties request additional information concerning the agreement and an adjudication of its terms. *See* State Response at 13 and Intervenors' Opposition at 31.

DISCUSSION

The pending agreement reads it is in full settlement of the NRC's 1993 Order to GA with both signatories affirming it represents a good faith, voluntary, and major effort to resolve their differences. In its basic arrangement, the following provisions are stipulated:

GA to establish trust fund with \$9 million contribution but obligated for only \$5.4 million pending IRS tax rulings

Payments from trust fund to be approved by NRC alone

GA to refrain from interference with SFC settlement

Two GA Officers to resign from SFC Board of Directors

³ In light of the decision herein, it is not necessary to act on this request.

⁴ Memorandum and Order (October 26, 1995), LBP-95-18, 42 NRC 150 (1995).

Staff to rescind October 1993 Order and refrain from other action against GA based on SFC affiliation

Staff to forego any claim against GA based on de facto licensee theory

If agreement not upheld, funds to be returned and status quo of controversy restored

The State's Response⁵

It is argued that those responsible for causing pollution or allowing contamination to occur at SFC's site must bear the costs of remediation, not the State or its citizens. The State views the settlement as falling short of the mandate of 10 C.F.R. § 40.36 which requires those responsible for the contamination to provide financial assurance of decommissioning costs. It contends the Board must protect the public interest by declining to accept the settlement agreement. State Response at 4-5.

The State opines further it will be precluded from litigating additional liability claims against GA if the settlement agreement is accepted due to an unexplained claim of federal preemption under law. Moreover, the State contends, provisions of the Atomic Energy Act (42 U.S.C. § 2021) require the Board to take into consideration the State's interest in its public interest determination under 10 C.F.R. § 2.203. The State suggests the settlement agreement does not meet the public interest threshold because the "NRC Staff have made a 180 degree turn in position, from vigorous pursuit of enforcement to reluctant compromise in the face of a well financed corporate defense." *Id.* at 5-6. It is the State's view that a public interest determination by the Board should not be based on the practical and individual concerns raised by the Staff and GA, but rather on an analysis of the adequacy of information pertaining to whether the agreements provide adequate financial assurance to meet the requirements of 10 C.F.R. § 40.36 and the risks if the agreement does not ensure completion of decommissioning.

In support of its position of prematurity for the Board to find the agreement in the public interest, the State alleges the following:

- (1) The settlement agreement between the NRC Staff and SFC, coupled with the present agreement allows the transfer of funds from SFC to GA which will not be available to pay for decommissioning costs;
- (2) There is no accurate prediction of the final cost of decommissioning at the SFC site;
- (3) SFC's ability to pay decommissioning costs is dependent upon its agreement with ConverDyn and there is little public knowledge of the

⁵ Due to the lengthy course of this proceeding — encompassing a 3-year period — the arguments of the State and Intervenor are set forth herein in detail.

terms of that agreement. Moreover, GA may be able to influence payments by ConverDyn to SFC;

- (4) The State, due to federal regulatory preemption, will have no recourse against GA if the settlement agreement is accepted;
- (5) GA has retained the ability to receive profits and taxpayer funds from other government contracts beyond the amount it is obligated to pay under the terms of the settlement agreement;
- (6) The NRC is in the best position to force GA to pay for decommissioning costs;
- (7) The public interest would best be served if the question of NRC jurisdiction over GA is litigated to its fullest extent;
- (8) In absolving GA of responsibility as a parent corporation, the Board is establishing a "chilling effect" upon any tribunal considering the future of the settlement agreement. *Id.* at 8-13.

The State requests the Board to order the Staff and GA to provide further information that will demonstrate that the settlement agreement meets the requirements of section 40.36; to determine whether additional discovery concerning financial information is needed; to allow "appropriate participation" by the State and Intervenors in the Board's public interest determination; to stay the effectiveness of the settlement agreement signed between the NRC Staff and SFC; to delay a final decision on both settlement agreements until a final decommissioning cost estimate is obtained; and if the GA agreement is accepted, to rescind and litigate the settlement agreement executed between the NRC Staff and SFC. *Id.* at 13-14.

The Intervenors' Response

Intervenors assert the Staff has traded its claim that GA must share the full cost of cleanup for the minor sum of \$9 million or less. This settlement deprives the public of reasonable assurance that the site cleanup will be completed in a safe and effective manner and, this they contend, will pose a threat to the Intervenors' health. Accordingly, the settlement agreement must be rejected because it lacks essential information on funding of decommissioning and fails to provide sufficient information to allow a positive public interest finding. Intervenors' Response at 1-2, 13-14.

It is claimed the Board is obligated to ensure that Intervenors have a meaningful opportunity to participate in the proceeding for resolution of the conflict and is required by presidential directive to consult with tribal governments prior to taking action that affects them. Insufficient funding of the cleanup, it alleges, would have an adverse impact on the Cherokee Nation's sovereign interests in protecting its citizens, property, and trust lands. *Id.* at 14-17. And, in order to ensure meaningful participation, there must be sufficient disclosure to allow

Intervenors to evaluate the proposed settlement. Intervenors claim they were deprived of essential information on the terms of the trust agreement, the degree of GA's continuing control of SFC, the costs of decommissioning, the adequacy of resources to pay for cleanup, and GA's decommissioning costs for its facilities in San Diego. *Id.* at 17-18.

Intervenors argue the agreement fails to provide assurance of adequate funds to complete decommissioning as contemplated in the Staff 1993 order. Instead of responsibility for any funding shortfall by SFC demanded by the October 1993 Order, GA can commit a single payment possibly yielding, after taxes, to as little as \$3.9 million for the cleanup effort. This settlement should be rejected, say Intervenors, because the potential cost of cleanup might be \$150 million more than cited in the order and the Staff has no independent knowledge of what the actual costs might be. The agreement is also assertedly defective because it says nothing about the expected contribution of SFC to the cleanup effort; it does not provide that GA supply funding in a timely manner in relation to the need for funds; and it has an undisclosed impact on an EPA-mandated cleanup effort since it provides for the retirement of two large loans being used to finance the EPA cleanup. It is contended that GA and the Staff must explain the impact of this measure on the EPA cleanup before a public interest finding can be made. *Id.* at 18-22.

Intervenors argue the settlement agreement fails to disclose the terms of the trust agreement; to resolve two tax liability issues related to obtaining an IRS opinion on whether the \$9 million trust fund is taxable; and to provide support for GA's claim that it would suffer financial ruin if a large adverse judgment were to be entered against it. *Id.* at 22-25.

Intervenors urge the Board not to approve the settlement agreement without first requiring full disclosure of the costs of cleanup of GA's San Diego facilities. They reject the Staff and GA assertion that these costs are outside the scope of this proceeding. According to Intervenors, if GA's liability for the San Diego facilities has had any impact on the amount of settlement for the SFC site, the accuracy and reliability of its assertions is relevant in this case and must be subject to evaluation by the Board and parties. *Id.* at 25-26.

The Intervenors urge the Board to reject the Staff's and GA's arguments concerning litigation risk because the prospects of winning any case are never certain. In this case, they argue, the Staff position was assertedly a strong one and it should not have been given up in exchange for an amount of money small in comparison to the cost of cleanup. It alleges the Staff did not secure a fair bargain for Intervenors or the public and any litigation expenses are minor in comparison with the cost of cleanup for the SFC site. *Id.* at 27-28.

Intervenors renew their questions over the SFC agreement concerning whether SFC will be required to pay a \$10.6 million debt; concerns over the degree of control that GA exercises over ConverDyn; uncertainty whether GA officials

could later be appointed to the SFC Board; and concerns whether GA could exercise control over SFC through its subsidiaries Sequoyah Holding Corporation and Sequoyah Fuels International. These issues, it contends, must be resolved before the settlement agreement can be approved. *Id.* at 29.

Intervenors state the settlement providing for the resignation of two GA officers from SFC's Board of Directors runs counter to SFC's license which is based on expectation of close GA involvement with management of its safety operations. It also precludes the Staff's claim that GA is a *de facto* licensee which may preclude future enforcement action against GA for matters such as quality assurance. This goes beyond the scope of the 1993 order and effectively amends SFC's license without notice in violation of the Atomic Energy Act and NRC regulations. *Id.* at 30.

The Staff and GA propound different responses to the issues raised by the objecting parties. They concur that the agreement represents a fair and reasonable compromise of their positions. The possibilities of not prevailing in protracted litigation, in their view, with time, expense, and other financial considerations involved, attest that the agreement is in the public interest.

The Staff Reply

The Staff counters Intervenors' allegations by arguing that reasonable people can differ on the terms of an agreement, but the Board is required, under the standards set forth in 10 C.F.R. § 2.203, to accord due weight to the Staff's position; that it has available information concerning GA's financial position which, under the Commission's regulations (10 C.F.R. § 2.790(a)(4)) it is unable to disclose publicly; that even the lower amount of funds from GA — \$5.4 million — justifies the agreement and the \$72 million projected from ConverDyn to SFC should not be ignored in reviewing the funds pledged by GA.⁶ Staff Reply at 4-15.

The Staff contends that disclosure of GA's financial information could threaten the company's competitive position and the agreement's funding. It is claimed that irrespective of the final cost of decommissioning, the agreement was in the public's interest and its provisions preclude GA from manipulating SFC's present or future assets and revenues. On the State's contention that continued litigation of GA's liability was "of significant interest," the Staff asserts that GA contributions were more in the public's interest than a lengthy and expensive adjudication. To the State's claim that the SFC agreement should be rescinded if the agreement under consideration is approved, the Staff avers the SFC agreement is beyond the jurisdiction of the Board. Staff Reply at 15-24.

⁶The Staff correctly characterizes as moot the Intervenors' argument against a provision authorizing GA to review NRC press releases on the agreement.

General Atomics' Response

In countering the Intervenor's and State's contentions together, GA argues that settlement of contested proceedings is encouraged by the Commission and the only consideration is whether the agreement is fair and reasonable. Citing NRC case law, decided prior to the regulation on settlement of enforcement orders, GA argues that a settlement agreement must be approved unless "patently arbitrary or contrary to law."⁷ Citing a number of considerations involved in the settlement discussions as constituting the agreement as "fair and reasonable," GA argues that the opposing parties seek discovery on matters beyond the Board's jurisdiction, such as decommissioning costs at GA's NRC-licensed facilities in San Diego. GA concludes no evidence had been submitted to rebut a "heavy presumption" that the agreement was fair and reasonable. GA Response at 7-31.

DECISION

The substance of the several positions iterated by Intervenor and the State is that the agreement negotiated by the Staff and GA is not in the public interest and a variety of matters related to it require adjudication prior to its approval by the Board. These include, *inter alia*, current cost estimates of SFC's decommissioning, GA's financial condition, information on GA's licensed San Diego facilities and the ConverDyn arrangement. The Board's function in reviewing settlement agreements, as delineated in 10 C.F.R. § 2.203, calls for settlements to be approved by the Board and an adjudication of any issues that may be required in the public interest to dispose of the proceeding. The Board is enjoined therein to provide "due weight to the position of the Staff." The settlement of contested proceedings has long been encouraged by the Commission. See 10 C.F.R. §§ 2.759, 2.1241. And guidance on the subject encourages licensing boards to hold settlement conferences. *Statement of Policy on Conduct of Licensing Proceedings*, CLI-81-8, 13 NRC 452, 456 (1981).

A review of NRC cases concerned with settlements discloses limited information on standards utilized in support of Board approval of such agreements. These decisions are accompanied generally by succinct references that on the basis of Board review, the agreements involved were found in the public interest. See, e.g., *Radiation Oncology Center at Marlton* (Marlton, New Jersey), LBP-96-4, 43 NRC 101, 102 (1996); *North American Inspection, Inc.* (P.O. Box 88, Laurys Station, Pennsylvania 18059), ALJ-86-2, 23 NRC 459, 460 (1986). It would appear that, in enforcement cases, the weight provided the Staff's position has uniformly resulted, without more, in Board acceptance of the agreements.

⁷ *In the Matter of New York Shipbuilding Corp.*, 1 AEC 842, 844 (1961).

The rationale for such judgments may be grounded on the merited understanding that, in the end, the Staff is responsible for maintaining protection for the health and safety of the public and in the absence of evidence substantiating challenges to the exercise of that responsibility, the Staff's position should be upheld. And the lack of such evidence appears to be the case here in considering approval of the agreement before us.

Nothing the Intervenor or State have propounded evidences a conclusion that, due to the terms of the agreement before us, the public's health and safety will not be protected. On the fundamental question of whether adequate funds will be available for decommissioning SFC's facility, GA in its response, submitted a Declaration of its Vice President-Administration conveying information that SFC is receiving revenue from ConverDyn and the latter firm is performing as expected under its agreement with SFC. Declaration, ¶¶ 9-11. The Staff, which the Declaration alleges has been receiving financial spreadsheets of ConverDyn's substantial performance to date, comments that the total projected revenues to SFC — approximately \$72 million — should not be overlooked in the consideration of approving the agreement. And, the agreement itself cites that "based upon SFC's actual experience to date, General Atomics and SFC believe that SFC's net assets and revenues, as defined in the Settlement Agreement between the NRC Staff and SFC, will provide adequate capital resources to allow SFC to conduct its ongoing standby operations and to complete environmental remediation and decommissioning."

It is the opinion here that, in addition to the foregoing assurances concerning the likely availability of decommissioning revenues, an approval of settlement of the enforcement order should also receive our affirmation after weighing the consideration given to other factors in the public interest.⁸ These factors concern the intensity of negotiations, the complexity of questions of law and fact in the proceeding placing its ultimate outcome in doubt, the value of an immediate recovery compared to the mere possibility of prevailing after protracted and expensive litigation, and the judgment of the parties concerning the fairness and the reasonableness of the settlement.⁹

Despite the concerns expressed by the Intervenor and State, the issue is not whether the matter before us presents the best settlement that could have been obtained. Our obligation instead is merely to determine whether the agreement is "within the reaches of the public interest." *United States v. Gillette Co.*, 406 F. Supp. 713, 716 (1975). Here, the Staff and GA negotiated the terms of this agreement over a period of 10 months, a fact that supports a recognition by the parties of the seriousness of resolving the litigative differences involved; both

⁸ See *Sequoyah Fuels Corp.* (Gore, Oklahoma Site), CLI-94-12, 40 NRC 64, 71 (1994).

⁹ A leading case in settlement proceedings where similar factors were delineated. *Gottlieb v. Wiles*, 11 F.3d 1004, 1014 (1993).

signatories, in the agreement and responding briefs, cite the complexity of the legal and factual issues between them and the heavy financial and manpower resources required if the proceeding continues; in comparing the value of GA payments under the agreement against the possibilities of ultimately prevailing in the litigation, the Staff recognizes the risk of not receiving any funds if either its unique legal theory of holding GA liable as a *de facto licensee* does not prevail or the Company's finances are depleted as a competitive business entity; and finally, both parties, in consideration of the total circumstances of the controversy, assent to the fairness and reasonableness of the agreement. From the terms of the agreement and the briefs submitted by the signing parties, it is clear that the interests of the public have not been neglected in the document before us. It requires our approval.

There is no necessity for this opinion to discuss extensively the arguments raised by the opposing parties: no basis exists for concluding that NRC's regulatory requirements for funding decommissioning will not be met; the trust fund called for in the agreement has been instituted and its provisions made public; any judicial review here of the Staff-SFC settlement agreement is now beyond this Board's jurisdiction; consideration of GA's license responsibilities at its facilities in San Diego, California, or anywhere else, does not bring the Staff review of such matters within our jurisdictional boundary; this Board has no jurisdiction to consider impacts that the agreement's provisions might have in regard to cleanup requirements of the Environmental Protection Agency; both the Intervenors and State have had their interests acknowledged by being allowed to participate in this proceeding and to express their concerns; and finally, although the current financial estimates of SFC's decommissioning costs, if different from those previously submitted to the Staff, may have some bearing on the Staff's determinations leading up to the agreement, they have no bearing on the Board's responsibility in approving the agreement itself. On its part, the Staff has acknowledged that these estimates may have increased and, nevertheless, the lowest figure mentioned in the agreement — \$5.4 million — would still justify its acceptance.¹⁰

¹⁰The dissent to this opinion by our colleague, like his similar dissent to the Board's approval of the Staff/SFC settlement agreement, requires additional information from the Staff to secure his concurrence herein. The majority declines to follow that course because it projects the Board's role as one of overseeing the Staff's function of assuring decommissioning funding of the Sequoyah facility. The information requested might be necessary at a trial on the merits. Here, the inquiry is inappropriate because it would, in our view, make us a participant in settlement negotiations.

The majority opinion recognizes that our role at a settlement stage is limited to a review that consideration has been provided to the public interest. The Board's approval of the agreement is not based on the merits of the 1993 Order but the merits of the agreement itself. The majority declines to intrude into the merits of the issues of the case because that would ignore the fact that a settlement is a compromise of the issues framed by the Order; it would invade an area of Staff responsibility; and would not give appropriate weight to the Staff's position as required by 10 C.F.R. § 2.203. It is apparent that the Staff is now willing to forego claims for total funding

(Continued)

In light of the foregoing, the settlement agreement is approved.
It is so ORDERED.

THE ATOMIC SAFETY AND
LICENSING BOARD

James P. Gleason, Chairman
ADMINISTRATIVE JUDGE

Jerry R. Kline
ADMINISTRATIVE JUDGE

Rockville, Maryland
November 5, 1996

Dissenting Statement by Bollwerk, J.

Previously, when the Sequoyah Fuels Corporation (SFC) and the NRC Staff sought Licensing Board approval of their proposed agreement to settle this litigation as between them, I declined to consent and filed a separate statement. In that statement, I delineated several matters about which I needed additional information before I could make the requisite "public interest" finding pursuant to 10 C.F.R. § 2.203. See LBP-95-18, 42 NRC 150, 156-59 (1995) (separate statement of Bollwerk, J.), *petition for review granted*, CLI-96-3, 43 NRC 16 (1996). Now, more than a year later, I find myself in the same position relative to the pending settlement agreement between General Atomics (GA) and the Staff. Below, I outline my central concerns about the GA/Staff agreement and the questions I would seek to have answered.

The Staff's October 1993 enforcement order was rooted in three premises:

- (1) The existing sources of revenue for cleanup of the SFC Gore, Oklahoma facility consist of (a) the ConverDyn agreement that, while estimated to result in revenues totaling no more than \$72 million, was "based on inherently speculative assumptions" such that it did not provide the requisite "reasonable assurance" of adequate decommissioning funding under 10 C.F.R. § 40.36; and (b) \$17 million from other sources.
- (2) Based on SFC estimates of the cost of its preferred decommissioning alternative (which had not been approved by the Staff), decommissioning costs would run at least \$86 million,

assurance based on its theory that GA is a *de facto licensee* in exchange for limited but guaranteed contributions from GA. No conclusions can or should be reached from that decision that decommissioning of SFC's facility has been abandoned or threatened. That matter is not before us and to suggest it might be is to provide little, if any, weight to the Staff's position in the settlement as we are directed by NRC's regulations to do.

but there was “uncertainty” over these preliminary projected costs such that the estimated total of \$89 million from the ConverDyn agreement and other sources was “unlikely to be sufficient” to cover the costs of decommissioning the SFC facility if the NRC imposed additional requirements.

(3) In light of SFC’s apparent inability to cover the total costs of decommissioning, to obtain the necessary “reasonable assurance” under section 40.36, it was necessary to make GA — as the parent corporation exercising “de facto” control over SFC’s day-to-day business — liable for any shortfall in decommissioning funds.

58 Fed. Reg. 55,087, 55,089, 55,091-92 (1993). In toto, the order was an apparent attempt by the Staff to ensure the “public interest” was protected by providing the requisite reasonable assurance that the *total* decommissioning costs for SFC’s Gore, Oklahoma facility would be covered by those entities purported to have regulatory responsibility for such costs.

As I understand the terms of the present settlement, the Staff now has forsworn its quest to make GA the general (and seemingly unlimited) guarantor of decommissioning funding for the SFC facility and has instead chosen to settle for a specific (but limited) contribution. The apparent theory behind this decision to compromise is that, with all the uncertainties, difficulties, and expense involved in this litigation and the financial problems of GA (about which the Board has no direct knowledge), the settlement the Staff and GA have arrived at is the “best bargain in the public interest.” NRC Staff’s Reply to Intervenors’ Opposition to Joint Motion for Approval of Settlement Agreement Between NRC Staff and General Atomics and to the State of Oklahoma’s Response to NRC Staff’s and General Atomics’ Joint Motion for Approval of Settlement Agreement (Oct. 11, 1996) at 9 [hereinafter Staff Reply].

Before I can accede to this formulation of what serves the “public interest,” at a minimum I need a fuller understanding about the implications of the settlement agreement’s terms on the “public interest” as the Staff framed it in its original enforcement order by its reliance on the need for “reasonable assurance” under 10 C.F.R. § 40.36. *See* LBP-95-18, 42 NRC at 159 n.6. I would, therefore, pose the following questions to the Staff as the proponent of that order and, under 10 C.F.R. § 2.203, the party whose “position” must be given “due weight”:

1. As was noted in the Staff’s 1993 enforcement order, it was estimated by SFC that decommissioning costs for its Gore, Oklahoma facility would total at least \$86 million. What is the Staff’s present best estimate of the total costs of decommissioning the facility?
2. As was also noted in the Staff’s 1993 enforcement order, it was estimated the ConverDyn agreement would result in revenues of no more than \$72 million available to pay decommissioning costs and there would be \$17 million from other sources to pay such costs. In light of developments since 1993, what is the Staff’s present best estimate of (a) the maximum revenue that will be generated for facility decommissioning work under the ConverDyn agreement; and (b) the amount that

would be available for such work from other sources (not including funds generated by the proposed GA/Staff settlement agreement)?

With the Staff's responses to these questions,¹ and any additional relevant information that GA or the Intervenor might provide when given a chance to comment on the Staff's answers, I believe the Board would have a much clearer understanding of whether, and to what degree, the proposed settlement agreement impacts on the "public interest" in seeing that there is "reasonable assurance" of adequate funding for facility decommissioning.²

In addition, borrowing from the medical profession and its well-established principle, as embodied in the Hippocratic Oath, that one should strive to "do no harm," to ensure the GA/Staff agreement contains nothing that would have an adverse impact on the "public interest," I would make a third inquiry:

3. If the total funds available for decommissioning under the SFC and GA settlement agreements with the Staff ultimately are insufficient to cover the total costs of decommissioning the Gore facility (a) what, if any, additional cleanup mechanisms are available to complete decommissioning (e.g., Superfund); and (b) if there are additional cleanup mechanisms, would anything in the provisions of the GA/Staff settlement agreement have an adverse impact on GA's liability, if any, under those cleanup mechanisms?

Finally, so that the record before the Board is clear, I would seek information on two other, albeit less central points:

4. Under paragraph two of the settlement agreement, GA was to request an IRS opinion regarding the tax status of the settlement trust fund "immediately" following execution of the agreement. *See* NRC Staff's and [GA's] Joint Motion for Approval of Settlement Agreement (July 11, 1996), attach. 1, at 6-7. To the best of the Staff's knowledge, what is the status of the GA request for an IRS determination and when is an IRS determination expected?
5. Under paragraph eight of the settlement agreement, if amounts borrowed by SFC from GA pursuant to certain "Lines of Credit" are not repaid by December 31, 1998, then GA is permitted to delay for 1 year payment to the trust fund of one-

¹ Although, as the majority observes, *see* 44 NRC at 257-58, in responding to the concerns of Intervenor Native Americans for a Clean Environment and the Cherokee Nation the Staff commented that the earlier projection of \$72 million in revenues from the ConverDyn agreement "should not be ignored," Staff Reply at 10, with the other representations about the validity of this projected revenue figure in the settlement agreement attributed to GA and SFC, *see* NRC Staff's and [GA's] Joint Motion for Approval of Settlement Agreement (July 11, 1996) attach. 1, at 4, I would seek the Staff's explicit views about the soundness of that estimate.

² The majority suggests that because the Board's role "is limited to a review that consideration has been provided to the public interest," seeking this information would result in an improper intrusion into the "merits" of the staff's enforcement order. 44 NRC at 258-59 n.10. I find my proposed inquiry wholly consistent with the Board's authority under 10 C.F.R. § 2.203 to make its own judgment, albeit while "according due weight to the position of the staff," about whether the agreement is in the public interest such that no further adjudication of the issues in the proceeding is warranted.

half of the amounts otherwise due no later than December 31, 1998. *See id.* attach 1, at 8. Because the "Lines of Credit" in question apparently relate to a separate Environmental Protection Agency administrative order, *see id.* attach. 1, at 3-4, why does their repayment have an impact on payments due under this settlement agreement between GA and the Staff?

With this information, I might well be in a substantially better position to determine, relative to the GA/Staff settlement accord, where the "public interest" lies. Without it, I am not prepared to approve their agreement.

ATTACHMENT

SETTLEMENT AGREEMENT

THIS AGREEMENT is made by and between the Staff of the United States Nuclear Regulatory Commission ("NRC Staff") and General Atomics (the "Company"), to wit:

WHEREAS, on October 15, 1993 the NRC Staff issued an Order to Sequoyah Fuels Corporation ("SFC") (58 Fed. Reg. 55087, October 15, 1993) (the "October 15 Order"), relating to the funding of the site decontamination and decommissioning of the facilities located in Gore, Oklahoma that are licensed under NRC License No. SUB-1010, Docket No. 40-8027 (the "SFC Facility"); and

WHEREAS, the NRC Staff also issued the October 15 Order against SFC's third-tier parent company, General Atomics, alleging *inter alia*, that General Atomics and SFC were jointly and severally responsible for: (1) Providing funding to continue remediation of existing contamination at the SFC Facility site, regardless of whether the facility continued to operate or not; (2) Providing financial assurance for decommissioning in accordance with the requirements of 10 C.F.R. § 40.36; and (3) Providing an updated detailed cost estimate for decommissioning and a plan for assuring the availability of adequate funds for completion of decommissioning, in accordance with the requirements of 10 C.F.R. 40.42(c)(2)(iii)(D); and

WHEREAS, the October 15 Order does not allege, and the NRC Staff has not asserted, either that General Atomics caused any contamination which may exist at the SFC Facility, or that General Atomics has otherwise engaged in any form of activity that is wrongful or dangerous to the public health and safety; and

WHEREAS, on November 2, 1993, General Atomics and SFC filed separate answers to the October 15 Order requesting that it be rescinded, or in the alternative, that a hearing be held on it; and

WHEREAS, an administrative enforcement proceeding is now being conducted before an Atomic Safety and Licensing Board (the "Board") in Docket No. 40-8027-EA ("Administrative Proceeding"), and General Atomics and the NRC Staff are parties in that proceeding; and

WHEREAS, General Atomics has consistently and specifically denied that the Nuclear Regulatory Commission ("Commission") has jurisdiction over it with regard to the matters set forth in the October 15, 1993 Order; and

WHEREAS, General Atomics commenced a civil action in the U.S. District court for the Southern District of California (the "California Civil Action") challenging the Commission's exercise of jurisdiction over it; and

WHEREAS, the California Civil Action was appealed to the United States Court of Appeals for the Ninth Circuit and that Court has ruled that the action is premature because of the absence of a Final Order by the NRC in the Administrative Proceeding; and

WHEREAS, on July 26, 1995, the Commission published a Final Rule, "Clarification of Decommissioning Funding Requirements" (60 Fed. Reg. 38,235, July 26, 1995) that if applied to SFC, would require that on the effective date of the rule, November 24, 1995, SFC provide financial assurance of decommissioning funding for the Sequoyah Facility using one of the methods provided for in 10 C.F.R. § 40.36(e); and

WHEREAS, General Atomics and SFC commenced separate civil actions in the United States Court of Appeals for the Ninth and Tenth Circuits challenging the lawfulness of the new final rule, and the civil actions are now consolidated in the Ninth Circuit; and

WHEREAS, on August 24, 1995, SFC and the NRC Staff filed a joint motion with the Board seeking the Board's approval of a Settlement Agreement by and between SFC and the NRC Staff which would, subject to the terms of that agreement, obligate SFC to devote all of its net assets and net revenues to the completion of the decommissioning of the SFC Facility in accordance with the requirements of the Commission, the U.S. Environmental Protection Agency ("EPA"), and any other state or federal agency with jurisdiction, until the NRC Staff determines that such decommissioning has been satisfactorily completed; and

WHEREAS, by its Memorandum and Order of October 26, 1995, the Board formally approved the proposed Settlement Agreement between the NRC Staff and SFC; and

WHEREAS, in connection with an August 3, 1993 Administrative Order on Consent ("RCRA Consent Order") issued by the EPA (U.S. EPA Docket No. VI-005-(h) 93-H) and agreed to by SFC for the environmental remediation of the SFC Facility, General Atomics voluntarily agreed to continue to make funds available to SFC as loans under certain Revolving Promissory Notes (in the amounts of \$2,500,000.00 and \$4,500,000.00 respectively) and for the purpose

of supporting SFC in its efforts to provide financial assurance regarding the availability of funds to implement the RCRA Consent Order; and

WHEREAS, based upon SFC's actual experience to date, General Atomics and SFC believe that SFC's net assets and net revenues, as defined in the Settlement Agreement between the NRC Staff and SFC, will provide adequate capital resources to allow SFC to conduct its ongoing standby operations and to complete environmental remediation and decommissioning; and

WHEREAS, the NRC Staff and General Atomics understand and acknowledge that many of the issues raised by the October 15 Order are complex and likely to require the continued expenditure of significant manpower and financial resources by each party if they are to be resolved through litigation; and

WHEREAS, the NRC Staff and General Atomics understand and acknowledge that it is in the public interest to avoid the dissipation of their financial resources and manpower in litigation, particularly since it is in the public interest that General Atomics retain the financial capability to meet certain other decommissioning obligations which are not disputed and which are not within the scope of the Administrative Proceeding or the jurisdiction of the Board; and

WHEREAS, General Atomics believes that the mere existence of the October 15 Order has adversely and significantly affected the credit rating of General Atomics and its ability to engage in its regular business activities, irrespective of the lawfulness or the merits of the Order; and

WHEREAS, the business of General Atomics has been dependent upon government contracts, especially U.S. Department of Energy contracts for the development of the Company's Gas Turbine-Modular Helium Reactor (GT-MHR) and for its nuclear fusion research program; and

WHEREAS, funding for continued development of the GT-MHR has now been terminated by Congress; and

WHEREAS, General Atomics believes that funding for the Company's fusion research program in FY 1996 was reduced by approximately thirty percent (30%) by Congress from the FY 1995 level; and

WHEREAS, General Atomics asserts that it has sustained significant financial impairment since the NRC Staff issued the October 15 Order; and

WHEREAS, the NRC Staff and General Atomics have engaged in negotiations seeking an amicable resolution of the issues raised by the October 15 Order because they recognize that the public interest will be served and that certain advantages and benefits may be obtained by each of them through settlement and compromise of the controverted matters now pending.

NOW, THEREFORE, in consideration of the mutual promises made herein, the NRC Staff and General Atomics agree as follows:

1. Within ninety (90) days of the execution of this Settlement Agreement, General Atomics shall establish a trust fund ("Fund") for the benefit of the NRC,

into which General Atomics shall deposit a total of \$9,000,000.00 in accordance with the schedule set forth in Annex "A," attached hereto. The governing trust fund agreement provided by General Atomics and approved by the NRC shall be structured, to the extent applicable, consistent with the model trust fund agreement set forth in NRC Regulatory Guide 3.66. The trust fund agreement shall provide that the trustee ("Trustee") shall make payments from the Fund as the NRC shall direct or in accordance with procedures approved by the NRC. *Provided, however,* that until such time as the Internal Revenue Service renders an opinion which is unqualified in any material respect (1) that all of the payments to the Fund by General Atomics are deductible when made for Federal income tax purposes, whether the Fund is deemed a "qualified settlement fund" as that term is used in the Internal Revenue Code, or otherwise constitutes a fund regarding which such payments by General Atomics are deductible when made under the Internal Revenue Code, and (2) that payments into the Fund are not taxable to SFC or General Atomics until such amounts are actually paid from the Fund to SFC if in fact so paid, General Atomics shall not be required to deposit into the Fund in excess of \$5,400,000.00, and shall make deposits totalling such amount in accordance with the schedule set forth in Annex "B," attached hereto.

2. General Atomics shall, immediately following the execution of this Settlement Agreement, seek the above-described opinion from the Internal Revenue Service regarding the trust fund established pursuant to Paragraph 1 of this Settlement Agreement. At such time as General Atomics receives the opinion, it shall promptly transmit a copy of it to NRC.

3. This Settlement Agreement constitutes full settlement of the NRC Staff's claims against General Atomics with respect to the October 15 order.

4. General Atomics shall have no control over the management of either the Fund or the funds deposited therein. Any principal and interest of the trust will be distributed pursuant to the terms of the trust instrument as established by General Atomics and approved by the NRC Staff.

5. General Atomics further agrees that the two officers of General Atomics who currently serve on SFC's Board of Directors will resign from that board no later than June 30, 1997.

6. General Atomics further agrees that subsequent to the execution of the Settlement Agreement and no later than ten (10) days after the establishment of the Fund, it will pay into the Fund the sum of \$600,000.00. Except as the terms of paragraph 1 above expressly provide to the contrary, no further payments shall be required of General Atomics until there is final agency action regarding the Settlement Agreement, unless there is no final agency action by December 15, 1997, in which circumstances General Atomics will pay an additional \$1,200,000.00 into the Fund within sixty (60) days following December 15, 1997.

7. General Atomics further agrees that in the event that the Settlement Agreement is finally approved by the Commission or an order approving it becomes final agency action and all appeals of such action have been exhausted without success by December 31, 1996, it will make payments into the Fund in the amounts and on the dates specified in either Annex "A" or Annex "B," whichever annex is most appropriate under the provisions of paragraph 1 above. If the Settlement Agreement is finally approved by the Commission, or an order approving it becomes final agency action, and all appeals of such action are exhausted without success after December 31, 1996, but before December 31, 1997, General Atomics agrees to make sufficient payments to the Fund to ensure that the payment schedule set forth in either Annex "A" or Annex "B," whichever is most appropriate under the provisions of paragraph 1 above, is made current no later than 120 days after final agency action.

8. It is the intent of the parties to this Settlement Agreement that as they are paid down by SFC, the Revolving Promissory Notes from SFC to General Atomics for amounts borrowed pursuant to the Lines of Credit extended by General Atomics, will be reduced to the sums still owed and extinguished as to excess borrowing capacity as the sums are paid by SFC to General Atomics. It is the further intent of the parties that the Promissory Notes will be fully extinguished no later than December 31, 1998. Notwithstanding anything in paragraphs 1-7 above or Annexes "A" or "B" to the contrary, in the event that all amounts borrowed by SFC pursuant to the Lines of Credit have not been repaid by December 31, 1998, General Atomics shall have the option of delaying until December 31, 1999, the payment to the Fund of one-half of the amounts otherwise due no later than December 31, 1998.

9. The parties hereto agree that in the event that (a) the Commission does not approve the Settlement Agreement, or (b) the Commission's final approval of the Settlement Agreement is reversed or otherwise set aside by a court of law, all funds which have been paid under this Settlement Agreement, together with all earnings thereon, shall be returned to General Atomics by the Trustee no later than sixty (60) days after a Commission or judicial decision disapproving the Settlement Agreement. All other matters shall likewise return to the status quo which existed prior to the execution of the Settlement Agreement.

10. General Atomics further agrees not to take any action that an independent observer would reasonably conclude will interfere with the ability of SFC to carry out the NRC-SFC Settlement Agreement which was approved by the Board on October 26, 1995.

11. General Atomics further agrees to cooperate fully with the NRC Staff in explaining the terms of this Settlement Agreement to the public, the Board, the Commission, and/or any court of competent jurisdiction. In this context, and because of the potential effect upon General Atomics' competitive position within the marketplace, the NRC Staff agrees that the office of Public Affairs of

the NRC ("OPA") has represented to the NRC Staff that before OPA issues any news release describing the terms of this settlement, it will confer with General Atomics to confirm the accuracy of any statements of fact which it proposes to include in the news release.

12. The NRC Staff and General Atomics agree that the obligations assumed by the Company in this Settlement Agreement represent a good faith, voluntary and major effort to settle the matters relating to the October 15 Order. As a consequence of this effort, the NRC Staff agrees to permanently rescind the October 15 Order insofar as it applies to General Atomics and accepts the terms of this Settlement Agreement in lieu of these provisions of the October 15 Order that are directed to General Atomics. Subject to the provisions of Paragraphs 13 and 14 below, the NRC Staff further agrees to forbear from taking any enforcement or other action against General Atomics or its current, former, or future officers, directors or employees (relating to their actions in their official capacities), (a) based upon any alleged requirement to provide funds for the decommissioning of the SFC Facility or to provide financial assurance for the decommissioning of the SFC Facility, whether such requirement arises under any current NRC regulations or under any future regulation that might alter, redefine or clarify the currently applicable requirements, or (b) based upon the facts alleged in the October 15 Order and/or those reasonably known by the NRC Staff that are related to the subject matter of the October 15 Order.

13. The NRC Staff further agrees that it will not assert against General Atomics in the future, and "*de facto* licensee" or other claims which are similar to those asserted in the October 15 Order, and which are based upon (a) the performance by General Atomics' personnel of any of the audit or other oversight responsibilities required by the license issued to SFC by the Commission, (b) the reasonable exercise by General Atomics' officers and management personnel of the business judgment referred to in paragraph 15 below, and (c) the nature of the degree of ownership by or of General Atomics of any of its parent, subsidiary or affiliated companies.

14. Notwithstanding any provisions in this Settlement Agreement to the contrary, nothing herein shall limit the NRC Staff's ability to take appropriate action to enforce General Atomics' compliance with this Settlement Agreement, or to take appropriate enforcement action based upon (a) future conduct by General Atomics which is materially different from that described in the October 15 Order, in paragraph 13 above, or which is reasonably known by the NRC Staff on the date this Settlement Agreement is entered into, (b) material information that is not currently available to or reasonably known by the NRC Staff, or (c) evidence that any representation in this Settlement Agreement is incomplete or inaccurate in a material respect. The NRC Staff and General Atomics acknowledge that the terms and provisions of this Settlement Agreement, once approved by the Board, shall be incorporated by reference into an order issued

by the Board, as the term "order" is used in subsections (b), (i) and (o) of Section 161 of the Atomic Energy Act of 1954, as amended (the "Act"), 42 U.S.C. § 2201, and shall be subject to enforcement pursuant to the Commission's regulations and Chapter 18 of the Act, 42 U.S.C. § 2271 *et seq.*

15. Nothing in this Settlement Agreement shall limit the right and obligation of the officers and management personnel of General Atomics to fully exercise their best judgment in the management of the Company.

16. The NRC Staff and General Atomics understand and acknowledge that this Settlement Agreement is the result of a compromise and shall not for any purpose be construed as an admission of the facts alleged or conclusions of law drawn in the October 15 Order, as an admission of the alleged joint and several responsibilities of General Atomics included in Section VII.A and other sections of the October 15 Order, or as an admission by General Atomics of any violation of 10 C.F.R. § 40.36, 10 C.F.R. § 40.42, or any statute, regulation, license condition, or other regulatory requirement.

17. The NRC Staff and General Atomics further agree that no inference adverse to either party shall be drawn based upon the parties having entered into this Settlement Agreement.

18. The NRC Staff and General Atomics further agree to file a joint motion requesting that the Board approve this Settlement Agreement, pursuant to the Commission's regulations in 10 C.F.R. § 2.203. Upon approval of this Settlement Agreement by the Board, without any substantive modification by the Board, the NRC Staff and General Atomics agree that they will not appeal the Board's approval or otherwise seek judicial review of such approval. If this Settlement Agreement is not approved by the Board, or if this Settlement Agreement is approved by the Board but is modified by the Board in a manner which either party believes to be a substantive modification, or any body or court to which the Board's approval is appealed reverses such approval or affirms the approval but modifies the Settlement Agreement in a manner which either party believes to be substantive, either the NRC Staff or General Atomics may void the Settlement Agreement by giving written notice to the other party within ninety (90) days of such action by the Board, body or court, unless such 90-day period is extended by written agreement of both parties. The NRC Staff and General Atomics agree that under such circumstances and upon request they will negotiate in good faith to resolve differences which are the result of such substantive modification.

19. This Settlement Agreement shall become effective upon execution, and is revocable only upon a failure of the Board to approve it or upon the action of the Commission, another agency of the U.S. Government, or any other body or court of law which has jurisdiction to review and approve or disapprove the Settlement Agreement and which disapproves it or any substantive part of it.

IN WITNESS WHEREOF, the NRC Staff and General Atomics have caused this Settlement Agreement to be executed by their duly authorized representatives on this 10th day of July, 1996.

FOR THE NUCLEAR
REGULATORY COMMISSION:

FOR GENERAL ATOMICS:

Hugh L. Thompson, Jr.
Deputy Executive Director for
Nuclear Materials Safety,
Safeguards and Operations
Support

John E. Jones
Senior Vice President

ANNEX "A"

DATE	AMOUNT TO BE PAID
No later than ten (10) days after the establishment of the Trust Fund	\$1,000,000.00
December 31, 1996	\$2,000,000.00
December 31, 1997	\$2,000,000.00
December 31, 1998	\$2,000,000.00
December 31, 1999	\$ 200,000.00
December 31, 2000	\$ 200,000.00
December 31, 2001	\$ 200,000.00
December 31, 2002	\$ 200,000.00
December 31, 2003	\$ 200,000.00
December 31, 2004	\$ 200,000.00
December 31, 2005	\$ 200,000.00
December 31, 2006	\$ 200,000.00
December 31, 2007	\$ 200,000.00
December 31, 2008	\$ 200,000.00
TOTAL	\$9,000,000.00

ANNEX "B"

DATE	AMOUNT TO BE PAID
No later than ten (10) days after the establishment of the Trust Fund	\$ 600,000.00
December 31, 1996	\$1,200,000.00
December 31, 1997	\$1,200,000.00
December 31, 1998	\$1,200,000.00
December 31, 1999	\$ 120,000.00
December 31, 2000	\$ 120,000.00
December 31, 2001	\$ 120,000.00
December 31, 2002	\$ 120,000.00
December 31, 2003	\$ 120,000.00
December 31, 2004	\$ 120,000.00
December 31, 2005	\$ 120,000.00
December 31, 2006	\$ 120,000.00
December 31, 2007	\$ 120,000.00
December 31, 2008	\$ 120,000.00
TOTAL	\$5,400,000.00

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

OFFICE OF NUCLEAR REACTOR REGULATION

Frank J. Miraglia, Jr., Acting Director

In the Matter of

ALL POWER REACTOR LICENSEES

November 6, 1996

The Acting Director of the Office of Nuclear Reactor Regulation denies in part and grants in part a petition dated April 13, 1994, submitted to the Nuclear Regulatory Commission (NRC) by Mr. Paul M. Blanch (Petitioner) requesting that the NRC take immediate action with regard to all power reactor licensees concerning the potential failure of the fuel in spent fuel pools for all reactors in the United States.

Petitioner requested that the NRC immediately issue an information notice or other appropriate notification forwarding all information in its possession to all power reactor licensees regarding the potential failure of fuel in spent fuel pools and reminding licensees of their responsibilities to perform timely operability determinations. This request was granted in part based on issuance by the NRC of generic communications to licensees on failure of spent fuel.

Petitioner also requested that the NRC direct each licensee to immediately perform an evaluation of the potential failure of spent fuel in spent fuel pools to determine compliance with its current licensing basis. This request was granted in part based on evaluations performed by the NRC Staff of both the design and operational aspects of spent fuel pool storage issues for all operating reactors.

Finally, Petitioner seemed to suggest that the exercise of enforcement discretion by issuance of a Notice of Enforcement Discretion (NOED) may be appropriate concerning spent fuel pool issues raised in the petition. Based upon the review of the information provided in the petition, the NRC Staff has not identified any circumstance warranting the issuance of a NOED.

FINAL DIRECTOR'S DECISION UNDER 10 C.F.R. § 2.206

I. INTRODUCTION

By a petition submitted pursuant to 10 C.F.R. § 2.206 on April 13, 1994, Mr. Paul M. Blanch (Petitioner) requested that the U.S. Nuclear Regulatory Commission (NRC) take immediate action with regard to all power reactor licensees, concerning the potential failure of the fuel in the spent fuel pools for all reactors in the United States. Specifically, the Petitioner requested that the NRC: (1) immediately issue an information notice or other appropriate notification forwarding all information in its possession to all power reactor licensees regarding the potential failure of fuel in spent fuel pools, and reminding licensees of their responsibilities to perform timely operability determinations in accordance with their technical specifications and NRC Generic Letter 91-18; (2) direct each licensee to immediately perform an evaluation of this potential deficiency to determine compliance with its current licensing basis; (3) deny all requests for license amendments for the expansion of spent fuel pool capacity until these safety concerns are fully resolved¹; and (4) after evaluation by each licensee, if the NRC determines that there is little or no risk to public health and safety, the NRC may issue a Notice of Enforcement Discretion which represents a determination by the NRC not to enforce an applicable technical specification or license condition.

As a basis for his requests, the Petitioner asserted that approximately 1 1/2 years before the petition was submitted, the NRC was informed of a potential substantial nuclear safety hazard at the Susquehanna Steam Electric Station (SSES) operated by Pennsylvania Power and Light Company (PP&L or Licensee) and that the NRC overlooked the need to inform utilities of this potential problem. The Petitioner claimed that this hazard involves a major design flaw such that, during a design-basis loss-of-coolant accident, the electrical power to the fuel pool cooling system would be turned off, resulting in loss of cooling for the spent fuel pool. Petitioner alleged that, as a result of the loss-of-coolant-accident, radiation levels in the reactor building would prohibit operators from entering the reactor building to restart the system. Petitioner claimed that, if cooling is not restored, the water in the spent fuel pool will boil, water will evaporate and, since the valves that must be opened to provide replacement water are located within the inaccessible reactor building, replacement water cannot be provided. Petitioner postulated that this would result in high onsite and offsite radiation

¹This request by Petitioner is not within the scope of the 2.206 process as it does not request enforcement action as is more fully discussed in my letter transmitting this Director's Decision to Petitioner. Accordingly, it will not be further addressed in this Director's Decision.

levels and a failure of the spent fuel in the pool and a consequent release of massive amounts of airborne radioactivity outside of primary and secondary containment. Petitioner alleged further that the residual heat removal system could not cool the fuel pool under accident conditions, and that if replacement water could be provided, temperature and humidity conditions inside the reactor building would cause the emergency systems to fail, resulting in additional fuel failure and failure of the primary and secondary containment.

In a letter of May 5, 1994, the Director of the Office of Nuclear Reactor Regulation acknowledged receipt of the petition and denied the Petitioner's requests for immediate relief. In the acknowledgment letter, he informed the Petitioner that the remaining requests were being evaluated under section 2.206 of the Commission's regulations and that action would be taken in a reasonable time.

The NRC Staff's review of the issues related to spent fuel storage pool safety raised in the April 13, 1994 petition is now complete. As explained below, the NRC Staff has taken actions that, in part, address Petitioner's requests. A discussion of these issues and the NRC response to the Petitioner's requests follows.

II. DISCUSSION

On November 27, 1992, a report was filed pursuant to 10 C.F.R. Part 21 by two contract engineers at SSES, which notified the Commission of potential design deficiencies in spent fuel pool decay heat removal systems and containment systems at the Susquehanna Steam Electric Station. The report noted that, under certain conditions, systems designed to remove decay heat from the spent fuel pool would be unable to perform their intended function and that, due to concurrent plant conditions, it would not be possible for operators to place backup systems in service or that backup systems would also otherwise be unable to perform their intended function. The report contended that, under such conditions, the spent fuel pool could reach boiling conditions and that the adverse environment created by a boiling pool would render systems designed to remove decay heat from the reactor core and systems designed to limit the release of fission products to the environment unable to perform their intended function. The ultimate consequence of this condition would be the failure of fuel in both the reactor vessel and the spent fuel pool and a substantial release of fission products to the environment that would cause significant harm to the public health and safety.

The NRC Staff determined initially that the issues appeared to be of low safety significance because of the low probability that the necessary sequence of events would take place. Specifically, the NRC Staff observed that a loss-of-coolant

accident followed by multiple failures of emergency core cooling systems would be necessary to achieve the adverse radiological conditions that would preclude operator actions to ensure continued adequate decay heat removal from the spent fuel pool. On this basis, the NRC Staff determined that immediate actions to ensure public health and safety were not warranted.

However, because of the complex nature of the issues raised in the Part 21 report, the NRC Staff undertook an extensive evaluation of the matter which continued from November 1992 to June 1995. The NRC Staff review process included information-gathering trips to the Licensee's engineering offices and to the SSES, public meetings with the Licensee, public meetings and written correspondence with the authors of the Part 21 report, and numerous written requests for information to the Licensee and corresponding responses. The Staff issued Information Notice 93-83, "Potential Loss of Spent Fuel Pool Cooling After a Loss-of-Coolant Accident," on October 7, 1993, which informed licensees of all operating reactors of the nature of the issues raised in the Part 21 report.

The NRC Staff reviewed and evaluated the plant design and expected operation of plant equipment with respect to the various event sequences described in the Part 21 report. The Staff also evaluated the response of plant equipment to a broader range of initiating events than was identified in the Part 21 report. For example, the Staff considered the safety significance of a loss of spent fuel pool decay heat removal capability resulting from loss of offsite power events, from seismic events, and from flooding events. The Staff considered the potential for such events to lead to spent fuel pool boiling sequences that could in turn jeopardize safety-related equipment needed to maintain reactor core cooling. The NRC Staff conducted both deterministic and probabilistic evaluations to fully understand the safety significance of the issues raised. In addition, the Staff evaluated the impact of certain modifications made by the Licensee during the course of the NRC Staff's review. Finally, the Staff examined issues associated with the design of the spent fuel pool cooling system to determine the extent to which the Licensee's design and operation met the applicable regulatory requirements.

The NRC Staff issued a draft safety evaluation addressing the issues raised in the Part 21 report regarding SSES for comment on October 25, 1994. After receiving comments from the Licensee, the authors of the Part 21 report and the Advisory Committee on Reactor Safeguards, the Staff issued a final safety evaluation regarding the issues raised in the Part 21 report for the SSES on June 19, 1995 (SSES SE).²

²Letter to R. Byram, PP&L, from J. Stolz, NRC, "Susquehanna Steam Electric Station, Units 1 and 2, Safety Evaluation Regarding Spent Fuel Pool Cooling Issues (TAC No. M85337), dated June 19, 1995.

In the SSES SE, the Staff documented the deterministic and probabilistic evaluations regarding the spent fuel pool issues raised in the Part 21 report and resulting conclusions. On the basis of the deterministic analysis of the plant as it was configured at the time the SSES SE was prepared, the NRC Staff concluded that systems used to cool the spent fuel storage pool are adequate to prevent unacceptable challenges to safety-related systems needed to protect the health and safety of the public during design-basis accidents.

On the basis of the probabilistic evaluation, the NRC Staff concluded that the specific scenario involving a large radionuclide release from the reactor vessel, which was described in the Part 21 report, is a sequence of very low probability. The NRC Staff's evaluation concluded that, even with consideration of the additional initiating events described above, "loss of spent fuel pool cooling events" represented events of low safety significance at the time the Part 21 report was submitted. However, the Staff also concluded that the plant modifications and procedural upgrades made during the course of the Staff's review, which included removal of the gates that separate the spent fuel storage pools from the common cask storage pit, installation of remote spent fuel pool temperature and level indication in the control room, and numerous procedural upgrades, provided a measurable improvement in plant safety and that these conclusions had potential generic implications. In summary, with regard to loss of spent fuel pool cooling events, the design of the SSES facility was adequate to protect public health and safety.

The Staff issued Information Notice 93-83, Supplement 1, "Potential Loss of Spent Fuel Pool Cooling After a Loss-of-Coolant Accident or a Loss of Offsite Power," to all power reactor licensees on August 24, 1995, in which the SSES SE was summarized. The information notice also described the Staff's plans to undertake an action plan to evaluate the generic concerns raised in the SSES SE and to address certain additional concerns arising from a special inspection at a permanently shutdown reactor facility.³ The generic action plan, entitled "Task Action Plan for Spent Fuel Storage Pool Safety" (Task Action Plan) was issued on October 13, 1994, and included the following actions: (1) a search for and analysis of information regarding spent fuel storage pool issues, (2) an assessment of the operation and design of spent fuel storage pools at selected reactor facilities, (3) an evaluation of the assessment findings for safety concerns,

³ On January 25, 1994, the licensee for Dresden Unit 1, a permanently shutdown facility, discovered approximately 55,000 gallons of water in the basement of the unheated Unit 1 containment. The water originated from a rupture of the service water system that occurred due to freeze damage. The licensee investigated further and found that, although the fuel transfer system was not damaged, there was a potential for a portion of the fuel transfer system inside containment to fail and result in a partial draindown of the spent fuel pool that contained 660 spent fuel assemblies. The NRC issued Bulletin 94-01, "Potential Fuel Pool Draindown Caused by Inadequate Maintenance Practices at Dresden Unit 1," on April 8, 1994, to all licensees with permanently shutdown reactors who had spent fuel stored in spent fuel pools. The NRC requested that such licensees take certain actions to ensure that spent fuel storage safety did not become degraded.

and (4) selection and execution of an appropriate course of action based on the safety significance of the findings.

As part of its review under the Task Action Plan, the Staff performed assessment visits to four operating reactors. The Staff also reviewed operating experience, as documented in Licensee Event Reports and other information sources, as well as in previous studies of spent fuel pool issues. Finally, the Staff gathered detailed design data for every operating reactor and analyzed these data to identify potential safety issues.

The NRC Staff completed its work under the Task Action Plan in July 1996. The Staff forwarded the results of its review to the Commission on July 26, 1996.⁴ In the report, the Staff concluded that existing spent fuel storage pool structures, systems, and components provide adequate protection for public health and safety. Protection is provided by several layers of defense involving accident prevention (e.g., quality controls on design, construction, and operation), accident mitigation (e.g., multiple cooling systems and multiple makeup water paths), radiation protection, and emergency preparedness. Design features addressing each of these areas for spent fuel storage for each operating reactor have been reviewed and approved by the Staff. In addition, the limited risk analyses available for spent fuel storage suggest that current design features and operational constraints cause issues related to spent fuel pool storage to be a small fraction of the overall risk associated with an operating light-water reactor.

Notwithstanding the findings resulting from the Task Action Plan, the NRC Staff reviewed each operating reactor's spent fuel pool design to identify strengths and weaknesses, and to identify potential areas for safety enhancements. The NRC Staff identified seven categories of design features that reduce the reliability of spent fuel pool decay heat removal, increase the potential for loss of spent fuel coolant inventory, or increase the potential for consequential loss of essential safety functions at an operating reactor. The NRC Staff determined that these design features existed at twenty-two sites.

As the Staff has concluded that present facility designs provide adequate protection of public health and safety, possible safety enhancements will be evaluated pursuant to 10 C.F.R. § 50.109(a)(3). The analyses for possible safety enhancement backfits will consider whether modifications to the plant design to address the plant-specific design features identified by the NRC Staff could provide a substantial increase in the overall protection of public health and safety and whether such modifications could be justified on a cost-benefit basis.

The NRC Staff also identified three additional categories of design features that may have the potential to reduce the reliability of spent fuel pool decay

⁴ Memorandum to the Commission, from J. Taylor, "Resolution of Spent Fuel Storage Pool Action Plan Issues," dated July 26, 1996.

heat removal, increase the potential for loss of spent fuel coolant inventory, or increase the potential for consequential loss of essential safety functions at an operating reactor. The NRC Staff preliminarily determined that these design features existed at eleven sites. However, the Staff has insufficient information at this time to determine whether backfits pursuant to section 50.109(a)(3) are warranted. For plants identified as having design features in these three categories, the NRC Staff will gather and evaluate additional information prior to determining whether to require any backfits.

In addition to the plant-specific analyses described above for twenty-two sites, which will address certain design features, the NRC Staff plans to address issues relating to the functional performance of spent fuel pool decay heat removal, as well as the operational aspects related to coolant inventory control and reactivity control, for *all* operating reactors. The Staff plans to expand the proposed, performance-based rule for shutdown operations at nuclear power plants (10 C.F.R. § 50.67) to encompass fuel storage pool operations to address these performance and operational considerations.

The NRC Staff has sent the July 26, 1996 report to all licensees. For those licensees whose plants have one or more of the design features that warrant an analysis of possible plant-specific safety enhancements, the Staff has provided an opportunity for licensees to comment on (1) the accuracy of the NRC Staff's understanding of the plant design, (2) the safety significance of the design concern, (3) the cost of potential modifications to address the design concern, or (4) the existing protection from the design concern provided by administrative controls or other means. In developing a schedule and plans for conducting the plant-specific regulatory analyses, the NRC Staff will consider comments received from licensees.

III. RESPONSE TO PETITIONER'S REQUESTS

A. Issuance of Generic Communications to Licensees on Failure of Spent Fuel

The NRC Staff has issued three information notices on matters related to adequate decay heat removal from the spent fuel pool. Information Notice 93-83, "Potential Loss of Spent Fuel Pool Cooling After a Loss-of-Coolant Accident," was issued on October 7, 1993, and described the concerns raised in the November 27, 1992, Part 21 report. Information Notice 93-83, Supplement 1, was issued on August 24, 1995, to inform licensees of the results of the NRC review of the concerns at SSES. Information Notice (IN) 95-54, "Decay Heat Management Practices During Refueling Outages," was issued on December 1, 1995. It described recent NRC assessments of events at certain plants regarding licensee control of refueling operations and the methods for removing decay heat

produced from the irradiated fuel stored in the spent fuel pool during refueling outages. In IN 95-54, the NRC Staff communicated to licensees that the plant-specific events described in IN 95-54 and the previous information notices illustrated the importance of assuring that (1) planned core offload evolutions, including refueling practices and irradiated decay heat removal, are consistent with the licensing basis, including the Final Safety Analysis Report, technical specifications, and license conditions; (2) changes are evaluated through the application of the provisions of section 50.59, as appropriate; and (3) all relevant procedures associated with core offloads have been appropriately reviewed.

As described in Section II, the NRC Staff also forwarded the July 26, 1996 report on spent fuel to all licensees. The NRC has determined that these generic communications to power reactor licensees are sufficient to provide licensees with information on spent fuel pool cooling issues.

Petitioner's request that the NRC issue an information notice or other appropriate notification forwarding all information in its possession to all power reactor licensees regarding the potential failure of fuel in spent fuel pools is granted to the extent that the NRC Staff has provided information on spent fuel storage safety issues by way of the generic communications and correspondence described above.

Petitioner's request that the NRC remind licensees of their responsibilities to perform timely operability determinations in accordance with their technical specifications is granted to the extent that the NRC has communicated to licensees the importance of conducting relevant spent fuel pool decay heat removal activities in accordance with technical specifications and other plant-specific applicable regulatory requirements in IN 95-54.

B. Licensee Evaluation of Compliance with the Licensing Basis

Petitioner requested that the Staff direct each licensee to immediately perform an evaluation of the potential failure of the fuel in the spent fuel pool to determine compliance with the current licensing basis. The NRC Staff examined the issue of the conformance of the existing plant design with the facility licensing basis in great detail for SSES.⁵ As documented in the SSES SE, the NRC Staff concluded that neither operation of spent fuel pool cooling during design-basis accident conditions nor mitigation of the effects of a loss of spent fuel pool cooling during normal and design-basis accident conditions could be considered part of the SSES licensing basis with the exception of mitigation

⁵ In the SSES spent fuel pool design review, the NRC Staff determined which regulations the Licensee was required to comply with. In addition, operational limitations were extracted from plant-specific licensing documents including the Final Safety Analysis Report, technical specifications, license amendments, and other docketed correspondence.

of loss of spent fuel pool cooling following a design-basis seismic event. In general, the NRC Staff's conclusion is based on the fact that, with respect to operation of the spent fuel pool cooling systems during normal and design-basis accident conditions, the SSES operating license safety evaluation report⁶ (SER) did not cite the applicable General Design Criteria (GDC) (GDC 44 and GDC 61 in its entirety) as the basis for finding the system acceptable. With respect to the mitigation of the effects of a loss of spent fuel pool cooling during normal and design-basis accident conditions, in the SSES SE, the Staff found no evidence that it expected secondary containment systems to accommodate the added heat and vapor loads that would follow a sustained loss of spent fuel pool cooling for any design-basis event with the specific exception of a design-basis seismic event.

The NRC Staff's finding that mitigation of a loss of spent fuel pool cooling following a design-basis seismic event was part of the licensing basis was based on specific statements in the SER that acceptance of a nonseismic spent fuel pool cooling system was an acceptable deviation from GDC 2, based, in part, on the existence of an adequate standby gas treatment system. At the time of the original licensing review, the Staff did not attempt to extend the licensing basis for loss of spent fuel pool cooling following a design-basis seismic event to any other design-basis events.

During its review of spent fuel pool concerns at SSES, the NRC Staff raised its concerns to the Licensee regarding the ability to mitigate a loss of spent fuel pool cooling following a seismic event. As discussed in the SSES SE, the Licensee took certain actions, including implementing routine operation of the adjacent spent fuel pools in a cross-connected manner, that adequately addressed NRC Staff concerns. In summary, with regard to the spent fuel pool issues raised by Petitioner, SSES design and operation conform to the facility licensing basis.

As part of the Task Action Plan, the Staff considered on a generic basis the history of regulatory requirements related to spent fuel pools as they were applied in plant licensing activities. The Staff observed that such regulatory requirements evolved since the first nuclear power plants were licensed and observed that specific regulatory guidance on the design of spent fuel pool cooling systems was not issued until 1975 when the Standard Review Plan was issued, after construction permits for most currently operating reactors were issued. Because the regulatory requirements were not constant during the era when the Staff was conducting licensing reviews for the current generation of operating reactors, the Staff observed that approved designs varied from plant to plant. However, the Staff did conclude, based on information available during the recent review of spent fuel pool system design, that all operating reactors had design features for

⁶U.S. Nuclear Regulatory Commission, "Safety Evaluation Report Related to the Operation of Susquehanna Steam Electric Station, Units 1 and 2," NUREG-0776, April 1981.

spent fuel storage (addressing accident prevention functions, accident mitigation functions, radiation protection functions, and emergency preparedness functions) that had been reviewed and approved by the Staff and that these facility designs were in compliance with the NRC requirements applied at the time of licensing.

Although the NRC Staff concluded that plants were in compliance with the NRC design requirements applied at the time of licensing, the NRC Staff also recently reviewed certain operating practices at all operating reactors to verify that the plants were being operated consistent with the plant design described in the licensing basis.⁷ Specifically, the Staff reviewed refueling outage practices with regard to offloading irradiated fuel into the spent fuel pool. The Staff concluded on the basis of the information collected and reviewed and the specific licensee actions taken and commitments made during the course of this review, core offload practices are currently consistent with the spent fuel pool decay heat removal licensing basis for all plants or will be prior to the next refueling outage. However, during the course of the review, the Staff determined that nine sites (fifteen units) needed to perform evaluations or make modifications, pursuant to section 50.59 or 10 C.F.R. § 50.90, to ensure that their reload practices adhered to their licensing basis. This is an indication that these plants may have previously performed full core offloads inconsistent with their licensing basis.

The Staff has documented the details of its findings in recent NRC inspection reports for each of the nine sites. The Staff will take regulatory action, as appropriate, to address these potential operational nonconformances.

Petitioner requested that evaluations be performed of Petitioner's concern regarding spent fuel pool cooling by licensees to determine compliance with their licensing basis. This request is granted to the extent that the NRC Staff has performed evaluations of both the design and operational aspects of spent fuel pool storage issues for all operating reactors to the extent described above.

C. Issuance of Notices of Enforcement Discretion

The Atomic Energy Act of 1954, as amended (the Act), and the Energy Reorganization Act of 1974, as amended, give NRC the authority to take enforcement actions necessary to ensure compliance with certain provisions of those acts and with NRC regulations, orders, and licenses. Licenses include specified license conditions and facility technical specifications that are part of the license. The NRC's enforcement policy is published in NUREG-1600, "General Statement of Policy and Procedures for NRC Enforcement Actions," July 1995 (Enforcement Policy).

⁷Memorandum to the Commission, from J. Taylor, dated May 21, 1996.

The Enforcement Policy recognizes that, on occasion, circumstances may arise concerning a licensee's compliance with a Technical Specification Limiting Condition for Operation or with some other license conditions that would involve an unnecessary plant transient or the performance of plant testing that is inappropriate for the specific plant conditions. For such occasions, the Enforcement Policy provides a process, referred to as a Notice of Enforcement Discretion (NOED), by which the NRC Staff, upon request from the licensee, may choose not to enforce compliance with the applicable technical specifications or license conditions in limited circumstances. A NOED will only be issued if the NRC Staff is satisfied that the action is consistent with public health and safety.

In Request 4, Petitioner seems to suggest that the exercise of enforcement discretion by issuance of a NOED may be appropriate concerning spent fuel pool issues raised in the petition. As discussed in Section III.B, with regard to potential failure of fuel in spent fuel pools, the NRC Staff has determined that spent fuel pools contain design features that were reviewed and approved by the Staff. In addition, these facility designs have been found to be in compliance with NRC requirements applied at the time of licensing. Based upon the review of the information provided in the petition, the NRC Staff has not identified any circumstances warranting the issuance of a NOED. If a situation is presented to the Staff involving a request for a NOED, such a request will be considered in accordance with the Enforcement Policy.

IV. CONCLUSION

Based on the NRC Staff's evaluation described above, the NRC Staff has issued generic communications responsive to Petitioner's Request 1. In addition, the NRC Staff has reviewed the aspect of compliance of NRC-licensed facilities in the area of spent fuel pool design responsive in part to Petitioner's Request 2. To this extent, the petition is granted. With regard to Petitioner's Request 4, the NRC Staff has concluded that there has been no need for issuance of NOEDs regarding potential failure of fuel in spent fuel pools.

A copy of this Final Director's Decision will be placed in the Commission's Public Document Room, the Gelman Building, 2120 L Street, NW, Washington, DC, and at the local public document room for all power reactor licensees.

A copy of this Final Director's Decision will also be filed with the Secretary of the Commission for review in accordance with 10 C.F.R. § 2.206(c) of the Commission's regulations. This Decision will become the final action of the

Commission 25 days after its issuance, unless the Commission, on its own motion, institutes review of the Decision within that time.

**FOR THE NUCLEAR
REGULATORY COMMISSION**

**Frank J. Miraglia, Jr., Acting
Director
Office of Nuclear Reactor
Regulation**

**Dated at Rockville, Maryland,
this 6th day of November 1996.**

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

OFFICE OF NUCLEAR REACTOR REGULATION

Frank J. Miraglia, Jr., Acting Director

In the Matter of

Docket Nos. 50-335
50-389
(License Nos. DPR-67
NPF-16)FLORIDA POWER AND LIGHT
COMPANY
(St. Lucie Nuclear Power Plant,
Units 1 and 2)

November 18, 1996

The Acting Director of the Office of Nuclear Reactor Regulation denies a petition dated June 12, 1996, filed with the Nuclear Regulatory Commission (NRC) pursuant to 10 C.F.R. § 2.206 by Thomas J. Saporito on behalf of himself and the National Litigation Consultants (Petitioners). The Petitioners requested the NRC (1) to issue a confirmatory order requiring that the Florida Power & Light Company (Licensee) not operate the St. Lucie Plant, Unit 1, above 50% of its power-level capacity, (2) to require the Licensee to specifically identify the "root cause" for the premature failure of the steam generator tubing, and (3) to require the Licensee to specifically state what corrective measures will be implemented to prevent recurrence of steam generator tube failures in all the steam generators in Unit 1 and Unit 2. The Petitioners' requests were based on assertions that (1) the Licensee's Unit 1 steam generator tubes have degraded to the extent that more than 2500 of the tubes have been plugged, (2) the Licensee has not identified the root cause for the premature failure of the steam generator tubing, (3) the Licensee will most likely experience similar tube ruptures on other generators at the station, and (4) the Licensee's "FSARs [Final Safety Analysis Reports] and the NRC's CFRs [*Code of Federal Regulations*] require that the integrity of the primary systems on Unit 1 and Unit 2 not be breached."

DIRECTOR'S DECISION UNDER 10 C.F.R. § 2.206

I. INTRODUCTION

On June 12, 1996, Mr. Thomas J. Saporito, Jr., on behalf of himself and the National Litigation Consultants (Petitioners), filed a petition with the U.S. Nuclear Regulatory Commission (NRC or Commission) pursuant to 10 C.F.R. § 2.206. The Petitioners requested the Commission (1) to issue a confirmatory order requiring that the Florida Power & Light Company (FP&L or Licensee) not operate St. Lucie Plant, Unit 1, above 50% of its power-level capacity, (2) to require the Licensee to specifically identify the "root cause" for the premature failure of the steam generator tubing, and (3) to require the Licensee to specifically state what corrective measures will be implemented to prevent recurrence of steam generator tube failures in all the steam generators in Unit 1 and Unit 2.

The Petitioners' requests are based on assertions that (1) the Licensee's Unit 1 steam generator tubes have degraded to the extent that more than 2500 of the tubes have been plugged, (2) the Licensee has not identified the root cause for the premature failure of the steam generator tubing, (3) the Licensee will most likely experience similar tube ruptures on other steam generators at the station, and (4) the Licensee's "FSARs [Final Safety Analysis Reports] and the NRC's CFRs [*Code of Federal Regulations*] require that the integrity of the primary systems on Unit 1 and Unit 2 not be breached."

The petition has been referred to my office pursuant to section 2.206 of the Commission's regulations. By letter dated July 8, 1996, an acknowledgment of receipt of the petition was sent to the Petitioners. In that letter, the Petitioners were informed that the NRC would take appropriate action within a reasonable time. I have completed my evaluation of the matters raised by the Petitioners and have determined that, for the reasons stated below, the petition is denied.

II. DISCUSSION

The NRC Staff's evaluation of the Petitioners' requests follows.

A. Issue a Confirmatory Order Requiring That the Licensee Not Operate Unit 1 Above 50% of Its Power-Level Capacity

In a meeting held at NRC Headquarters on July 3, 1996, the Licensee presented the inspection and repair history for the Unit 1 steam generator

tubes.¹ The Licensee has performed fifteen inspections since commercial operation began in December 1976. For the most recent inspection, completed in June 1996, the Licensee inspected the full length of all active tubes using a bobbin coil.² In addition, the Licensee used a motorized rotating pancake coil³ (MRPC) to inspect all expansion transition joints and drilled support intersections in the hot and cold legs, all free-span locations having bobbin coil indications,⁴ and free-span tube regions in the upper two support areas in the hot legs. The inspection was based on the Electric Power Research Institute (EPRI) report "PWR Steam Generator Examination Guidelines," dated November 1992. Defective tubes having circumferential indications, axial indications, or volumetric indications⁵ were plugged and removed from service.

Including tubes plugged during earlier outages, 2159 of 8519 tubes (25.3%) in the "A" steam generator and 1834 of 8519 tubes (21.5%) in the "B" steam generator have been plugged and removed from service. The Licensee performed an evaluation that showed that the plant could be safely operated at full power with the reduced reactor coolant flow resulting from the increased number of plugged tubes.⁶ The NRC reviewed the Licensee's evaluation and concluded that it was acceptable and that the units could be operated at full power. The Staff's evaluation is documented in a safety evaluation dated July 9, 1996.

In the meeting on July 3, 1996, the Licensee presented a preliminary run-time analysis for Unit 1, which was used to determine the length of steam generator operation before the need for further tube inspections to ensure adequate tube integrity. The Licensee stated that the preliminary results of its analysis support a tube inspection interval of 15 months for the current Unit 1 cycle that started in July 1996. The Licensee also stated that in situ pressure testing of the steam generator tubes during the spring 1996 outage indicated that the most severely degraded tubes had adequate structural integrity and satisfied the safety margins in NRC's Regulatory Guide 1.121, "Bases for Plugging Degraded PWR Steam Generator Tubes." On the basis of the results of the in situ pressure tests, the Staff concluded that adequate assurance of tube integrity existed to allow operation pending completion of the Licensee's run-time analysis. The NRC is

¹NRC Meeting Summary, Subject: "Steam Generator Inspection, Repair and Operating Issues — St. Lucie Unit 1," dated July 16, 1996.

²The bobbin coil is used for a general screening of tubes for indications of possible defects, while the motorized rotating pancake coil (MRPC) probe is used to further characterize bobbin coil indications. The MRPC is also used to inspect regions susceptible to circumferentially orientated degradation.

³See note 2.

⁴See note 2.

⁵Circumferential indications are crack-like indications orientated on the diameter of the tube. Axial indications are crack-like indications orientated on the long axis of the tube. Volumetric indications are areas of general reduction in tube-wall thickness with no specific orientation.

⁶FP&L Letter, "Thermal Margin and RCS Flow Limits," dated June 1, 1996.

currently reviewing the Licensee's analysis, which was submitted October 24, 1996.

The plant Technical Specifications for each of the units specify leakage limits for the reactor coolant pressure boundary, including steam generator tube leakage. If a tube leaks beyond the allowed limits, the unit must be shut down. The plant off-normal operating procedures for St. Lucie Units 1 and 2 also include criteria for shutdown based on EPRI TR-104788, "PWR Primary to Secondary Leak Guidelines," dated May 1995, which are more conservative than the limits in the plant Technical Specifications. Finally, if a tube fails, the plant's Emergency Operating Procedures contain the specific actions necessary for the operators to shut down and cool down the plant to mitigate the consequences of the event.

Thus, as required, the Licensee has implemented measures for both units to protect public health and safety in the unlikely event that tube integrity is compromised. These measures include a primary-to-secondary leakage monitoring program and emergency operating procedures. The leakage monitoring program provides early warning of tube leakage. The steam generator blowdown monitor and condenser air ejector monitor at each of the units continuously monitors the radioactivity level in the main steamline. A significant increase in the instrument readings, which would result from a relatively small tube leak, will cause an alarm to alert the operators to the change in radioactivity levels and potential tube leakage.

On the basis of the information submitted, the NRC Staff has concluded that the operation of the Unit 1 steam generators at full power poses no undue risk to public health and safety.

B. Require the Licensee to Specifically Identify the "Root Cause" for the Premature Failure of the Steam Generator Tubing

It is not clear how the Petitioners define "premature failure"; however, since there have not been any steam generator tube ruptures at St. Lucie Units 1 or 2, it is assumed the reference is to tube degradation. Many of the tubes in the Unit 1 steam generators have degraded as a result of corrosion and/or mechanical conditions. The root cause of tube degradation in steam generators is the interaction of water chemistry, thermal-hydraulic design, materials selection, fabrication methods, and operating conditions. The causes of tube degradation are well understood by the industry and are documented in the public record. The root causes for the St. Lucie steam generator tube degradations were presented to the NRC Staff in a meeting on August 27, 1986.⁷

⁷ NRC Meeting Summary, Subject: "Summary of August 27, 1986 Meeting with FP&L and NRC Staff Regarding Steam Generator Tube Degradation Mechanism," dated September 12, 1986.

The Licensee has identified to the NRC modes of degradation that have affected the steam generator tubes in both St. Lucie Units 1 and 2 in its response of June 23, 1995, to NRC Generic Letter 95-03, "Circumferential Cracking of Steam Generator Tubes," and in the meeting of July 3, 1996. The degradation modes identified include intergranular attack, stress-corrosion cracking and denting. Intergranular attack refers to localized attack at and adjacent to grain boundaries of tube material, with relatively little corrosion of the grains. Intergranular stress-corrosion cracking refers to cracking caused by the simultaneous presence of stress and a specific corrosive medium. Denting is the accumulation of corrosion products at the tube-to-tube support plate that causes plastic deformation of the tube. The Licensee has identified locations of these degradations in the tubes during the most recent steam generator inspection of St. Lucie Unit 1.⁸ They include egg crate and drilled tube support plates, free spans, expansion transition regions, and sludge pile areas. In every case, the root cause of tube degradation can be attributed to material selection, water chemistry, fabrication methods, or residual stresses at the affected location.

The Staff concludes that the Licensee understands and has identified the root cause of tube degradation at St. Lucie Units 1 and 2.

C. Require the Licensee to Specifically State What Corrective Measures Will Be Implemented to Prevent Recurrence of Steam Generator Tube Failures in All the Steam Generators in Unit 1 and Unit 2

As previously discussed, degradation of the steam generator tubing is caused by the interaction of water chemistry, thermal-hydraulic design, materials selection, fabrication methods, and operating conditions. The Licensee has applied corrective measures in order to reduce the rate of tube degradation. For example, the rate of tube degradation may be reduced through improvements in water chemistry. The Licensee follows industry guidelines⁹ on secondary water chemistry for both units, and these guidelines represent a significant improvement over the guidelines followed when Unit 1 began operating. The guidelines have stringent requirements and limitations on specific types and amounts of chemicals in the primary and secondary water to mitigate corrosion. Replacement steam generators having improved design, for example, better material selection and tube support configuration, have had much better operating experience than the earlier steam generators, such as those at St. Lucie. The Licensee plans to replace the Unit 1 steam generators in October 1997 with steam generators that incorporate these design improvements.

⁸ See note 1.

⁹ FP&L Letter, "Generic Letter 95-03 Response," dated June 23, 1995.

The NRC Staff focuses on ensuring adequate tube integrity by requiring Licensee compliance with applicable regulations and Technical Specification requirements. The Staff uses its field inspections, meetings with the Licensee, and licensing reviews to ensure that the Licensee satisfies the regulations¹⁰ and plant Technical Specifications as they apply to steam generator tube integrity and that appropriate inspection methods and repair criteria are used to address specific forms of degradation. Plant Technical Specifications define degraded and defective tubes, specify the scope of inspections and reporting requirements and set forth tube plugging criteria and limits for allowable leakage in the reactor coolant system. NRC regulations and plant Technical Specifications require that steam generator tube degradation be managed through a combination of inservice inspection, repair of tubes exceeding the plugging criteria in the plant Technical Specifications, primary-to-secondary leakage monitoring, and structural and run-time analyses to ensure that safety objectives are met. On the basis of the information provided by the Licensee in the meeting on July 3, 1996, and the Staff's onsite inspection, the Staff has concluded that the Licensee is in compliance with these requirements.

In summary, the Licensee's corrective measures to reduce the rate of steam generator tube degradation and continued compliance with NRC regulations and plant Technical Specification requirements provide reasonable assurance that steam generator tube integrity at St. Lucie Units 1 and 2 will be maintained.

III. CONCLUSION

On the basis of the fact that (1) the Licensee has performed adequate steam generator tube inspections that identified areas of degradation, (2) the Licensee has completed analyses and repairs of degraded tubes, (3) the Licensee's in situ pressure testing of degraded tubes indicated adequate structural integrity remains, (4) the Licensee is monitoring primary-to-secondary leakage on a continuing basis, and (5) the Licensee is complying with NRC regulations and plant Technical Specifications, I have concluded that a confirmatory order limiting St. Lucie Unit 1 to 50% of its power-level capacity is not warranted and that the Licensee has identified the root cause of tube degradation and implemented adequate corrective measures to provide reasonable assurance that steam generator tube integrity will be maintained at St. Lucie Units 1 and 2.

¹⁰The NRC regulations that require steam generator tube integrity be maintained include 10 C.F.R. Part 50, Appendix A, General Design Criteria for Nuclear Power Plants, Criterion 1 — Quality Standards and Records, Criterion 14 — Reactor Coolant Pressure Boundary, Criterion 30 — Quality of Reactor Coolant Pressure Boundary, Criterion 31 — Fracture Prevention of Reactor Coolant Pressure Boundary, and Criterion 32 — Inspection of Reactor Coolant Pressure Boundary; 10 C.F.R. Part 50, Appendix B, Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants; and 10 C.F.R. § 50.55a, which specifies codes and standards for nuclear power plants.

For the reasons previously discussed, no basis exists for taking any further action in response to the petition. As provided in 10 C.F.R. § 2.206(c), a copy of the Decision will be filed with the Secretary of the Commission for the Commission's review. This Decision will constitute the final action of the Commission 25 days after issuance unless the Commission, on its own motion, institutes a review of the Decision within that time.

FOR THE NUCLEAR
REGULATORY COMMISSION

Frank J. Miraglia, Jr., Acting
Director
Office of Nuclear Reactor
Regulation

Dated at Rockville, Maryland,
this 18th day of November 1996.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

OFFICE OF NUCLEAR REACTOR REGULATION

Frank J. Miraglia, Jr., Acting Director

In the Matter of

Docket No. 50-309

**MAINE YANKEE ATOMIC
POWER COMPANY**
(Maine Yankee Atomic Power Station)

November 20, 1996

The Acting Director of the Office of Nuclear Reactor Regulation (NRR) denies a petition filed with the Nuclear Regulatory Commission (NRC or Commission) by letter dated January 20, 1996, by Anne D. Burt on behalf of the Friends of the Coast — Opposing Nuclear Pollution (Petitioner), requesting that actions be taken regarding the Maine Yankee Atomic Power Station (Maine Yankee) operated by the Maine Yankee Atomic Power Company (the Licensee). The petition is denied based on the Acting Director's analysis of the technical issues, set forth in the Decision, which analysis showed no technical basis warranting granting the petition. Petitioner's requests for immediate action and for an informal hearing were denied by the Director, NRR, by letter dated May 13, 1996, for the reasons stated in that letter.

TECHNICAL ISSUES DISCUSSED

The following technical issues are discussed: Adequacy of containment design at or above originally authorized power level; Microfissuring of low-ferrite stainless steel weldments.

DIRECTOR'S DECISION UNDER 10 C.F.R. § 2.206

I. INTRODUCTION

By letter dated January 20, 1996, Ms. Anne D. Burt filed a petition with the U.S. Nuclear Regulatory Commission (NRC), pursuant to 10 C.F.R. § 2.206, on behalf of the Friends of the Coast — Opposing Nuclear Pollution (the Petitioner) requesting that actions be taken regarding the Maine Yankee Atomic Power Station (Maine Yankee), operated by the Maine Yankee Atomic Power Company (the Licensee). The petition requests that the Commission take expedited action to (1) suspend the operating license of Maine Yankee pending resolution of the petition; (2) examine and test by plug sampling — or other methods approved by the American Society of Mechanical Engineers — all large piping welds that may have been susceptible to microfissures at the time of construction; (3) reanalyze the Maine Yankee containment as one located in an area where seismic risk is not “low”; (4) reduce the licensed operating capacity of Maine Yankee to a level consistent with a flawed containment and/or flawed reactor coolant piping welds; (5) hold an informal public hearing in the area of the plant regarding the petition; and (6) place the Petitioner on service and mailing lists relevant to the group's interests in safety at Maine Yankee and intention to participate in all public forums opened by the NRC.

By letter dated May 13, 1996, the Director, Office of Nuclear Reactor Regulation (NRR), NRC, acknowledged the NRC's receipt of the petition, and, for the reasons stated in the letter, denied Petitioner's request for immediate action suspending the operating license or reducing the licensed operating capacity of Maine Yankee (Requests 1 and, in part, 4). In addition, for reasons stated in the May 13, 1996 letter, the Director denied the Petitioner's request for an informal hearing (Request 5). The Director also stated in the May 13, 1996 letter that the request that the NRC place Petitioner on service and mailing lists relevant to its interests in safety at Maine Yankee and its intention to participate in all public forums opened by the NRC (Request 6) was moot, as Petitioner's attorney had already been added to the Maine Yankee service list. In addition, the Petitioner was informed that NRC would review the petition in accordance with section 2.206 and issue a final decision within a reasonable time.

The remaining specific requests for NRC action in the petition dated January 20, 1996, i.e., Requests 2, 3, and 4 identified above, and the issues that Petitioner raised as their bases, are addressed in this Decision. For the reasons set forth below, Petitioner's remaining requests for action pursuant to section 2.206 are denied.

II. DISCUSSION

The NRC Staff has conducted a thorough evaluation of each of the two safety-related issues raised in the petition regarding the adequacy of the containment and reactor coolant welds. Each of the issues is addressed below.

A. Adequacy of Containment Design at or Above Originally Authorized Power Level

The Petitioner asserts that the containment is inadequate for operation at any power in excess of that authorized in the original license, and may be inadequate for the originally licensed power level because of insupportable original design acceptance criteria in that the Maine Yankee containment was designed and constructed without diagonal rods. The Petitioner states that

the Atomic Energy Commission staff recommended to the commission that a license amendment permitting this type of construction be allowed, ". . . for this plant and this plant only due to low seismic risk." Early in 1979 the MYAPS was shaken by an earthquake of 4.2 magnitude and epicentered less than ten miles from the plant site. The NRC then ordered the shutdown of five nuclear power stations including MYAPS until piping and piping supports could be seismically qualified"

The Petitioner also states that there is no public record, however, that NRC reevaluated what Petitioner asserts is a marginally acceptable containment design at Maine Yankee before it granted license amendments to operate at increased power.

The Maine Yankee containment is a reinforced concrete structure. The original NRC operating license review determined that the seismic and thermal-hydraulic design of Maine Yankee's containment structure is adequate. (The construction permit for Maine Yankee was issued on October 21, 1968, and the operating license was issued on September 15, 1972.) With its petition of January 20, 1996, the Petitioner enclosed an NRC letter of January 22, 1971, in which the Staff asked the Licensee to submit additional information related to seismic shear stress, given that there are no diagonal seismic shear reinforcements in the containment wall. Low seismicity of the site was not a factor in the Staff's acceptance of the Maine Yankee containment design without diagonal seismic reinforcement bars. As described below, acceptance by the Staff of the adequacy of the seismic design was based on the results of stress analyses.

The earthquake for which Maine Yankee was originally designed — termed a Safe Shutdown Earthquake (SSE) — is based on a Housner design response spectrum with a zero-period peak horizontal ground acceleration of 0.10g. The five-plant shutdown that was ordered on March 13, 1979, was triggered

by a finding of an error in a piping computer program, which led to the issuance of IE Bulletin No. 79-07, "Piping Stress Analysis of Safety-Related Piping" on April 14, 1979. The earthquakes that occurred near the plant site starting on April 18, 1979, at 02 hours and 34 minutes universal time, were not a factor in the five-plant shutdown that was ordered on March 13, 1979. As a consequence of the sequence of earthquakes that occurred near the plant in April 1979 and the occurrence of the January 9, 1982 magnitude 5¾ earthquake in New Brunswick, Canada, the Licensee undertook a seismic analysis program. This program included analyses and upgrading of certain plant components and a reevaluation of the seismic hazard. Thus, the results from the seismic analyses and upgrading program were instrumental in the Staff's conclusion that the existing seismic design for Maine Yankee remained adequate. However, following its review of the seismic hazard reevaluation, the NRC Staff determined that the appropriate characterization of the ground motion for any future analysis of the plant is a high-frequency peak ground acceleration of 0.18g anchoring the response spectrum obtained from NUREG/CR-0098, "Development of Criteria for Seismic Review of Selected Nuclear Power Plants," using the 50th percentile amplification factors.

Subsequently, in 1986, the Maine Yankee Plant underwent a seismic margin assessment program. The review-level earthquake used in the seismic margin assessment had a peak ground acceleration of 0.3g, which is much greater than the peak ground acceleration of the SSE. The seismic safety margin program included a review of the entire plant including analysis and upgrading of certain plant components, such as Main Control Board, Control Room Auxiliary Cabinets, Service Water Piping Support, and others. As a result of this reassessment, it was established that, with the upgrades implemented at the plant, the Maine Yankee Plant can be safely shut down during an earthquake with a peak ground acceleration of 0.27g.

In its report "Seismic Margin Review of the Maine Yankee Atomic Power Station" (NUREG/CR-4826, Vol. 2, dated March 1987), the NRC Staff also concluded that the overall seismic margin of the plant, including the containment, was well above the 0.18g value and, therefore, no upgrading of the seismic design was considered necessary. Further, in the Staff report "An Approach to the Quantification of Seismic Margins in Nuclear Power Plants" (NUREG/CR-4334, dated August 1985), it is also noted that prestressed and reinforced concrete containment structures have a large seismic margin above the SSE-level earthquake.

Additionally, numerous tests and studies conducted since the operating license review of the Maine Yankee Plant, specifically on shear stress in biaxially cracked reinforced concrete without diagonal reinforcement bars, have led to the acceptance of specified allowable shear stress by the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (Code), Section

III, Division 2, CC-3421.5, for reinforced-concrete containment structures. An analysis of the Maine Yankee containment structure was conducted in December 1984 by the Licensee and submitted on the Docket as an attachment to letter MN-85-27, dated February 5, 1985. The results of the study indicate that the controlling peak ground acceleration value is 0.39g for the ASME Code-allowable tangential shear stress caused by the SSE loading in combination with design-basis internal pressure and dead loads. This provides additional confidence on the ruggedness of the Maine Yankee containment.

Based on the above, with regard to the Petitioner's concern about the adequacy of the Maine Yankee containment structural design for earthquakes (seismic), the Staff concludes that the Maine Yankee containment is satisfactory and has adequate margin. The NRC Staff has determined that the design of the Maine Yankee containment structure without diagonal reinforcement bars is supported by analysis and poses no undue risk to public health and safety. Accordingly, Petitioner's requests for NRC action based on the seismic design of the containment are denied.

B. Microfissuring of Low-Ferrite Stainless Steel Weldments

The Petitioner asserts that the Maine Yankee emergency core cooling system (ECCS), reactor coolant piping, and other large piping have not been adequately analyzed for materials degradation to ensure integrity at power operation in excess of the originally licensed power level or under accident conditions. The Petitioner states further that the Atomic Energy Commission's concern with "microfissures" in reactor coolant system welds led to the appointment of a task force, and prompted studies and reports in 1971 (before heightened awareness of embrittlement phenomena) that concluded that the microfissures would not propagate or grow under foreseeable conditions. The Petitioner asserts that large pipe welds next to the reactor vessel have endured 23 years of corrosion, stress, vibration, and radiation, and may fail, initiating a loss-of-coolant accident, or may be subject to thermal shock failure initiated by use of the ECCS.

In a safety evaluation dated February 25, 1972, the NRC Staff concluded that the low-ferrite stainless steel weldments in large piping at Maine Yankee are acceptable because the microfissures of the type and density found in the low-ferrite stainless steel weldments of the Maine Yankee facility do not significantly impair the strength and capability of the welds, and that removal of the welds and rewelding could introduce other problems of greater safety significance than those resulting from the presence of microfissures. This evaluation was based on information provided by Battelle Columbus Laboratories, Stone and Webster Engineering Corporation, and Dr. Ernest F. Nippes of Rensselaer Polytechnic Institute. Furthermore, the Maine Yankee reactor vessel meets the requirements of 10 C.F.R. § 50.61, "Fracture Toughness Requirements for

Protection Against Pressurized Thermal Shock." In addition, the large-diameter pipe welds attached to, or next to, the reactor vessel do not receive sufficient radiation to cause embrittlement. Finally, Type 316 stainless steel weld material, in which the microfissures were discovered, is resistant to corrosion in a PWR coolant environment, and the vibratory loads are insufficient to be a concern for large-diameter piping.

In a letter to the Petitioner dated May 13, 1996, the Staff stated that in order to determine if there is any long-term safety significance of the microfissures, the Staff will review the inservice inspection results for the welds identified as being susceptible to microfissures. The Staff has now completed its review of the inservice inspection test results for welds susceptible to microfissures. The Staff's review confirmed that no unacceptable indications have been observed during inservice inspection. In addition, pressure tests have not identified any leakage. These tests indicate that 23 years of plant operation have not caused the microfissures to grow to a size detectable by inservice inspection or through-wall leakage. Plug sample testing was performed by Battelle, Columbus Laboratories, on the primary coolant system low-ferrite welds (Reference: Battelle's report dated September 17, 1971, which was transmitted by the Licensee to the NRC by letter dated September 21, 1971). As part of the inservice inspection program in accordance with 10 C.F.R. § 50.55a(g), the Licensee has been performing and continues to perform ASME Code inspections of large piping welds that may have been susceptible to microfissures at the time of construction. Additional plug sample testing would not yield any pertinent additional information and is not needed.

On the basis of the above analyses, inservice inspection, and pressure test results, microfissures are not considered a long-term safety-significant issue for Maine Yankee. Accordingly, the Petitioner's remaining requests for NRC action based on asserted microfissures in large piping welds is denied.

III. CONCLUSION

As explained above, and as requested by the Petitioner, the Staff examined the adequacy of containment design and susceptibility of welds to microfissures. For the reasons stated above, no basis exists for taking any further action in response to the petition. Accordingly, no action pursuant to section 2.206 is being taken in this matter.

A copy of this Director's Decision will be filed with the Secretary of the Commission for Commission review in accordance with 10 C.F.R. § 2.206(c) of the Commission's regulations. As provided by this regulation, this Director's Decision will constitute the final action of the Commission 25 days after

issuance, unless the Commission, on its own motion, institutes a review of the Decision within that time.

**FOR THE NUCLEAR
REGULATORY COMMISSION**

**Frank J. Miraglia, Jr., Acting
Director
Office of Nuclear Reactor
Regulation**

**Dated at Rockville, Maryland,
this 20th day of November 1996.**

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

OFFICE OF NUCLEAR REACTOR REGULATION

Frank J. Miraglia, Jr., Acting Director

In the Matter of

Docket Nos. 50-282
50-306
72-10

NORTHERN STATES POWER
COMPANY
(Prairie Island Nuclear Generating
Plant, Units 1 and 2)

November 27, 1996

The Acting Director of the Office of Nuclear Reactor Regulation denies a petition dated June 5, 1995, submitted to the Nuclear Regulatory Commission (NRC) by the Prairie Island Coalition Against Nuclear Storage (PICANS), now known as the Prairie Island Coalition, and the Nuclear Information and Resource Service (Petitioners) requesting that the NRC immediately suspend the operating licenses for Prairie Island Nuclear Generating Plant, Units 1 and 2, operated by the Northern States Power Company.

Petitioner presented four concerns. Prairie Island steam generators are suffering from tube degradation and may rupture unless proper testing is conducted and corrective actions are taken. The Prairie Island reactor vessel head penetrations have stress-corrosion cracks which, if not found and corrected, may result in a catastrophic accident involving the reactor control rods. Plans for unloading dry cask storage units in an emergency were not properly reviewed by the NRC and do not satisfy NRC requirements. Finally, the physical integrity of the Prairie Island crane requires physical testing and a safety analysis before future crane use following its handling of a heavy load for an extended period of time.

For the reasons explained in the Director's Decision, the Acting Director concludes that inadequate bases exist for granting Petitioners' request.

DIRECTOR'S DECISION UNDER 10 C.F.R. § 2.206

I. INTRODUCTION

On June 5, 1995, the Nuclear Information and Resource Service and the Prairie Island Coalition Against Nuclear Storage (PICANS), now known as the Prairie Island Coalition (Petitioners), filed a petition pursuant to section 2.206 of Title 10 of the *Code of Federal Regulations* (10 C.F.R. § 2.206) requesting that the Nuclear Regulatory Commission (NRC) immediately suspend the operating licenses for Prairie Island Nuclear Generating Plant, Units 1 and 2, operated by Northern States Power Company (NSP or Licensee).

II. BACKGROUND

As a basis for their request, Petitioners presented four concerns which are summarized as follows: (1) The Prairie Island steam generators are suffering from tube degradation and may rupture unless proper testing is conducted and corrective actions are taken; (2) the Prairie Island reactor vessel head penetrations (VHPs) have stress-corrosion cracks which, if not found and corrected, may result in a catastrophic accident involving the reactor control rods; (3) plans for loading and unloading of dry cask storage units in an emergency, which include storage of irradiated components in the fuel transfer canal, were not properly reviewed by NRC and do not satisfy NRC requirements; and (4) the physical integrity of the Prairie Island crane used to lift the dry cask for Prairie Island's spent fuel requires physical testing and a safety analysis before future crane use following its handling of a heavy load for an extended period of time.

By a letter dated June 19, 1995, the Director of the Office of Nuclear Reactor Regulation (NRR) denied the Petitioners' request for immediate suspension of Prairie Island Units 1 and 2 licenses. The Director stated that the NRC Staff's review of the petition did not identify any safety issues warranting immediate action at the Prairie Island Nuclear Generating Plant. The Director also stated that the NRC Staff would issue a Director's Decision addressing Petitioners' concerns within a reasonable time.

PICANS submitted a letter to the Chairman of the NRC dated June 21, 1995, which reiterated the concerns raised in the petition and requested an evening public hearing within the vicinity of the Prairie Island facility. In a July 12, 1995 response, the NRC Staff informed PICANS that an evening public hearing was not warranted at that time but that the request would again be considered at

the time of issuance of the Director's Decision.¹ PICANS was further informed that the concerns raised in the June 21, 1995 letter would be addressed in the Director's Decision.

On February 19, 1996, Petitioners filed an addendum to their petition raising further concerns regarding steam generator tube cracking and requested that Prairie Island Unit 1 not be allowed to return to operation until certain inspections of steam generator tubes were conducted. In a March 1, 1996 response, the Director of NRR denied Petitioners' request for action concluding that no safety issues warranting immediate action had been identified.

On March 13, 1996, Petitioners submitted another addendum to the petition raising additional concerns regarding steam generator tube cracking at Prairie Island and again requesting that the NRC require that Prairie Island Units 1 and 2 be placed in mid-cycle outages for the purpose of steam generator tube inspections. Petitioners further requested an informal public hearing if the NRC determined that such testing need not be conducted.

In an August 21, 1996 response, the Director of NRR concluded that the addendum did not raise any safety issues warranting immediate action and that an informal public hearing was not warranted at that time.

Petitioners' concerns are addressed below. In addressing these issues, I have considered the concerns expressed by the Petitioners in the letters of June 21, 1995, February 19, 1996, and March 13, 1996.

III. DISCUSSION

A. Steam Generator Tube Degradation

The steam generators used at pressurized water reactors (PWRs) are large heat exchangers that use the heat from the primary reactor coolant to make steam in the secondary side to drive turbine generators which generate electricity. The primary reactor coolant flows through tubes contained within the steam generator. As the coolant passes through the steam generator tubes, it heats the water (i.e., secondary coolant) on the outside of the tubes and converts it to steam which drives the turbine generators. Steam generator tubes made from mill-annealed alloy 600 have exhibited a wide variety of degradation mechanisms. Such material has been used in a number of steam generators at commercial nuclear facilities, including the steam generators at Prairie Island Units 1 and 2. These degradation mechanisms include mechanically induced (e.g., fretting wear, fatigue) and corrosion-induced (e.g., pitting, wastage, and cracking) degradation.

¹ For the reasons set out in the cover letter transmitting this Decision, the NRC Staff has again determined that an evening public hearing is not warranted.

Steam generator tubes constitute a significant portion of the reactor coolant pressure boundary. As a result, the structural and leakage integrity of the boundary is important in ensuring the safe operation of the plant. A loss of steam generator tube integrity has potential safety implications, as noted by the Petitioners, namely, (1) the loss of primary coolant which is needed to cool the reactor core and (2) the potential for leakage of radioactive fission products into the secondary system where their isolation from the environment cannot be ensured. As a result of the importance of this portion of the reactor coolant pressure boundary, NRC has regulations on maintaining the structural and leakage integrity of the steam generator tubes. The overall regulatory approach to ensuring that steam generators can be safely operated consists of the following:

- (1) Technical specification requirements to ensure that the likelihood of steam generator tube rupture events is minimized, including
 - (a) periodic inservice inspection of the tubing,
 - (b) plugging or repair of tubing found by inspection to be defective, and
 - (c) operational limits on primary-to-secondary leakage beyond which the plant must be shut down.
- (2) Analysis of the design-basis steam generator tube rupture event to demonstrate that the radiological consequences meet 10 C.F.R. Part 100 guidelines.
- (3) Emergency operating procedures for ensuring that steam generator tube rupture events can be successfully mitigated.

Steam generator tube degradation can be detected through inservice inspection of the steam generator tubes. These inspections are generally required by a plant's Technical Specifications which specify the frequency and scope of the examinations along with the tube repair criteria. In the 1970s, wastage (i.e., general tube wall thinning) and denting (mechanical deformation of the tube) were the dominant degradation mechanisms being observed. These degradation mechanisms were readily detectable with the bobbin coil inspection method and were effectively controlled or eliminated, in part, by improvements in water chemistry. Stress-corrosion cracking (SCC) emerged in the mid-1980s as the dominant degradation mechanism affecting the steam generator tubes. SCC can be oriented axially along the tube or circumferentially around the tube, or can consist of a combination of axial and circumferentially oriented cracks. SCC that has an axial orientation can be detected with a bobbin coil probe. The capabilities of the bobbin coil inspection method at detecting axially oriented cracks depend on such factors as the location of the cracking, interfering signals, and the data analysis procedures.

Circumferentially oriented SCC emerged as a significant problem affecting the industry in the late 1980s. The bobbin coil probe is generally insensitive

to such cracking (i.e., circumferential SCC); as a result, locations susceptible to circumferential SCC may need to be examined with techniques other than the bobbin coil. Historically, probes such as the motorized rotating pancake coil (MRPC) probe have been used to detect circumferential SCC at locations susceptible to such degradation. Recently, more advanced probes (e.g., Zetec Plus-Point probe which contains a plus-point coil) have been used.

Deficiencies have been identified in certain utility inspection programs for detecting SCC, particularly circumferentially oriented SCC. Potential deficiencies include using inappropriate probes for inspecting locations susceptible to circumferential cracking, not optimizing the test methods to minimize electrical noise and signal interference, and not being alert to plant-unique circumstances (e.g., dents, copper deposits) which may necessitate special test procedures found unnecessary at other similarly designed steam generators or not included as part of a generic technique qualification.

Even though deficiencies in eddy-current inspection programs have been identified, operating experience indicates that steam generator tube integrity can be maintained at a plant when appropriate eddy-current data acquisition (including probe selection) and data analysis procedures are used, when the data analysts have been properly trained, when the intervals between inspections are determined based on the inspection findings, and when the operating environment of the steam generator tubes is controlled (e.g., water chemistry control). Adequate tube integrity has historically been achieved at plants through inservice inspections that involved the use of bobbin and MRPC probes. In some instances, operating intervals were shortened between inspections to ensure tube integrity.

Nevertheless, inspection findings at the Maine Yankee Atomic Power Station in 1994 and 1995 raised concerns that large circumferential cracks could develop over the course of an operating interval or that a large number of circumferential cracks may be present if a facility was not using appropriate inspection techniques. As a result of these inspection findings, the NRC Staff issued Generic Letter (GL) 95-03, "Circumferential Cracking of Steam Generator Tubes," on April 28, 1995, which (1) requested affected licensees to evaluate recent experience (including the Maine Yankee experience) concerning the detection and sizing of circumferential cracks and the potential applicability of this experience to their plants; (2) on the basis of the results of this evaluation, including past inspections and the results thereof, and other relevant factors, requested affected licensees to develop a safety assessment justifying continued operation until the next scheduled steam generator tube inspections were performed at their plants; and (3) requested that licensees develop and submit their plans for the next steam generator tube inspection as they pertain to the detection of circumferential cracks.

Subsequent to the issuance of GL 95-03, the Petitioners made the following requests with respect to steam generator tubes at Prairie Island Units 1 and 2:
Request (a) —

That all steam generator tubes in Prairie Island Unit 2 be given a full length inspection utilizing the more comprehensive and proactive battery of tests employed at Maine Yankee during NSP's 1995 outage. Petitioners specifically demand that the Zetec Plus Point Probe and any state of the art, eddy current probe for corrosive cracking be employed at Prairie Island 2 during Outage 17 scheduled to end June 15, 1995.

Request (b) —

That if the Zetec Plus Point Probe and any state of the art probe are not employed during the mid-June 1995 outage, then reactor Unit 2 be taken immediately off-line until such time these specific Zetec Plus Point Probe and any state of the art, eddy current probe for corrosion cracking are completed.

Request (c) —

That Prairie Island Unit 1 immediately be placed into a mid-cycle outage to perform the NRC requested actions outlined in Generic Letter 95-03. In addition, all Unit 1 steam generator tubes be inspected through the use of the Zetec Plus Point Probe and any state of the art, eddy current probe for corrosion cracking.

NSP submitted its response to the generic letter for Prairie Island Units 1 and 2 by letter dated June 27, 1995. As discussed below, the information submitted provides no indication of an active circumferential crack mechanism at the Prairie Island units, nor does it suggest any significant concern regarding the potential for large, undetected circumferential cracks at these units.

The Prairie Island Unit 2 steam generators were last inspected in June 1995. This inspection included a 100%, full-length inspection with the bobbin probe. In addition, a 100% inspection was performed with a combined MRPC/Plus-Point probe from the hot-leg tube end to 3 inches above the tubesheet. Most row 1 and 2 U-bends were also inspected with the MRPC/Plus-Point coil. The bobbin probe is appropriate for performing the general-purpose, full-length inspection of the tubing because of its capability to detect flaw geometries exhibiting an axial component (e.g., corrosion thinning and wastage, mechanically induced wear, pitting, and axial cracks). The bobbin inspection was supplemented by inspections with a combined MRPC/Plus-Point probe to provide enhanced sensitivity to detecting cracks. These inspections encompassed the areas of axial crack activity with the bobbin coil probe and, in addition, the locations most vulnerable to circumferential cracking with the MRPC/Plus-Point coil.

NSP reports that the Prairie Island Unit 1 steam generators were last inspected in January 1996. This inspection included a 100% full-length inspection with

the bobbin probe, except for rows 1 and 2 U-bends. Rows 1 and 2 U-bends were examined with MRPC/Plus-Point. All hot-leg tubes were examined with rotating probe technology (including Plus-Point) from the tube end to 6 inches above the top of the tubesheet. All sleeves were examined full length with the Plus-Point rotating coil.

In addition, NSP's response to the generic letter addressed, in part, each of five locations at which circumferentially oriented degradation has historically occurred in Westinghouse steam generators. These locations are places where there is significant axial stress associated with variations in tube geometry and include (1) tube expansion transition areas, (2) dented top-of-tubesheet locations in partial roll-expanded tubes (described below), (3) dented tube-to-tube support plate intersections, (4) small-radius U-bends, and (5) sleeve joints. Significant axial stress would contribute to the development of circumferential cracking.

Regarding the first and second categories, the tubes at Prairie Island are roll expanded over only the lower portion of the tubesheet depth (i.e., partial roll expansion). NSP reports that the incidence of circumferential cracks at expansion transitions where the tubes have received a partial-depth expansion has been negligible industrywide. For Prairie Island Unit 1, the 100% MRPC/Plus-Point inspection in the tubesheet regions in January 1996 did not find any circumferential indications in the in-service tubes. Similarly, for Prairie Island Unit 2, the MRPC/Plus-Point inspections in the tubesheet regions did not identify circumferential indications.

With regard to the third category, circumferential SCC at dented tube support plate intersections has only been reported at a limited number of plants. In addition, dented regions have exhibited both axial and circumferential SCC with axial SCC typically being the more frequently observed degradation mechanism. Axial SCC at dented locations can be detected with the bobbin probe. Although NSP has not reported performing MRPC or Plus-Point examination at the support plates, it has examined 100% of these locations using a bobbin probe and has not reported any axial cracking. Not detecting any axial cracking gives confidence that widespread circumferential SCC is not occurring.

Regarding the fourth category, SCC in the small-radius (row 1 and some row 2) U-bends has been extensive in Westinghouse steam generators. This cracking has been predominantly axial, with only isolated instances of nonaxial cracks. NSP reports that the small-radius U-bends are routinely inspected with the MRPC. In January 1996, the Licensee inspected 100% of rows 1 and 2 U-bends on Prairie Island Unit 1 with the MRPC/Plus-Point and found no indications. The June 1995 inspections at Prairie Island Unit 2 with the MRPC/Plus-Point probe looked at the majority of small-radius U-bends and found one axial and no circumferential indications.

Regarding the fifth category, during the January 1996 inspection in Unit 1, all in-service and new sleeves were examined full length with Plus-Point.

Indications were found in the upper sleeve weld region of sixty-one ABB Combustion Engineering welded tubesheet sleeves. These indications were characterized as single or multiple circumferential indications or volumetric indications. All of these sleeved tubes with circumferential indications were removed from service by sample removal and/or plugging. The volumetric indications were evaluated and indications located within the pressure boundary were plugged. No sleeves are installed in Unit 2. Sleeves were installed in Unit 1 to address forms of tube degradation (e.g., axial cracking and intergranular attack) other than circumferential cracking.

In response to the large number of indications identified in the upper sleeve welds of ABB Combustion Engineering welded tubesheet sleeves during the January 1996 Unit 1 outage, the NRC Staff held discussions and meetings with the Licensee to determine the root cause of the indications. NSP pulled five sleeve/tube samples during the outage to perform metallurgical analysis on and determine the root cause of the indications. Four of the removed tubes contained circumferential indications and one contained a volumetric indication. NSP started up Unit 1 on March 3, 1996, and committed to perform a mid-cycle outage to perform additional inspections unless the results of the metallurgical analyses from the pulled sleeves indicated that additional inspections would not be warranted.

ABB Combustion Engineering performed the metallurgical examinations, with third-party review by the Electric Power Research Institute. The results showed that the sleeve weld indications were not service induced. Instead, they were original fabrication flaws that were the result of faulty cleaning of tube surfaces prior to welding. The examinations of the tube samples revealed that the sizes of the flaws were such that the structural integrity of the welds was not compromised. None of the flaws showed any indication of having propagated in service. Since the indications were not service induced, the NRC Staff agreed that a mid-cycle outage to perform further inspections was not necessary.

ABB Combustion Engineering is currently revising its topical report on sleeving to incorporate improved cleaning techniques prior to installation of sleeves, in order to prevent such flaws in the future. NSP plans to submit an amendment to the NRC for review to adopt the revised ABB Combustion Engineering topical report prior to installation of CE sleeves.

After GL 95-03 was issued, additional information from inspections performed at Maine Yankee and the destructive examination of several tubes removed from Maine Yankee became available. This additional information appears in NRC Information Notice 95-40, "Supplemental Information Pertaining to Generic Letter 95-03, 'Circumferential Cracking of Steam Generator Tubes.'" This information led to the conclusion that the tubes with the largest indications at Maine Yankee continued to exhibit adequate structural integrity at the time they were found. This was attributable, in part, to the crack morphology as

discussed in the Information Notice. As a result, adequate tube structural integrity was ensured for the operating interval between inspections, even though the MRPC probe, rather than the Plus-Point probe, was used during the earlier inspections.

As mentioned above, the safe operation of the steam generators is ensured by performing inspections and repairing defective tubes, limiting the operational leakage through the steam generators, analyzing a design-basis steam generator tube rupture event to demonstrate acceptable radiological consequences, and having appropriate emergency operating procedures in place. As discussed above, the Staff believes that the inspection probes used during the May 1994 and June 1995 outages at Prairie Island Units 1 and 2, respectively, were adequate to provide reasonable assurance of tube integrity. In addition, NRC requires an operational leak rate limit to provide reasonable assurance that, should a leak occur during service, it will be detected and the plant will be shut down in a timely manner before rupture occurs and with no undue risk to public health or safety.

Therefore, on the basis of (1) the fact that appropriate steam generator tube inspections have been performed, (2) monitoring of primary-to-secondary leakage is being conducted, and (3) the fact that appropriate emergency operating procedures are in place, the NRC Staff has concluded that the Petitioners' request for the shutdown of Prairie Island Units 1 and 2 until full-length tube inspections are completed using the Zetec Plus-Point probe and any state-of-the-art eddy-current probe should be denied.

B. Vessel Head Penetration (VHP) Cracking

The Petitioners contend that the VHPs at Prairie Island Units 1 and 2 are likely to have stress-corrosion cracks which, if not found and corrected, may result in a catastrophic accident involving reactor control rods. The Petitioners also contend that VHPs in PWRs in France, Belgium, Switzerland, and Sweden are cracking and that French data indicate that the cracking mechanism will not necessarily produce a detectable leak prior to a break that would initiate a serious accident. The Petitioners further contend that failure of a VHP could cause the ejection of a control-rod drive mechanism (CRDM), resulting in a loss of control of the reactor and/or a serious leak that could not be isolated and thereby could induce a loss-of-coolant accident. The Petitioners request immediate, full inspection of all VHPs in Units 1 and 2 for cracking using state-of-the-art eddy-current testing. The Petitioners also request that NRC immediately suspend the operating licenses of both units until the VHPs are inspected.

This same issue has been the subject of a recent Director's decision under 10 C.F.R. § 2.206 issued by the Director of NRR. *See All Pressurized Water Reactors*, DD-95-2, 41 NRC 55 (1995). There, the NRC Staff concluded, after

reviewing the information referred to by that Petitioner, that the likelihood of the formation of circumferential cracks is small, the likelihood of forming small axial cracks is higher, and that leaks would develop before catastrophic failure of a VHP would occur. This would result in the deposition of boric acid crystals on the vessel head and surrounding area that would be detected during surveillance walkdowns. The Petitioners contend that this conclusion is not supportable as French data indicate that the cracking mechanism will not necessarily produce a detectable leak prior to a break that would initiate a serious accident.

The NRC Staff's review of the French data does not support the Petitioners' contention that a crack would not be detected due to leakage prior to catastrophic failure. Topical reports submitted to and reviewed by the NRC Staff indicate that cracks in the CRDM VHPs would need to grow well above the reactor vessel head before reaching a critical size that would lead to the catastrophic failure of a CRDM VHP. The portion of the crack above the head would leak well before the critical size is reached.

The circumferential crack at the French reactor was very small relative to the size flaw that would jeopardize structural integrity. Furthermore, the circumferential crack initiated from the exterior of the VHP which is more susceptible to circumferential cracking. This situation occurred after a small axial throughwall crack leaked. Thus, it is expected that leakage would be detected long before significant circumferential cracking could occur. Of the numerous VHP inspections in Europe, Japan, and the United States, no additional cases of circumferential cracking have been observed. The members of the Westinghouse, Babcock & Wilcox, and Combustion Engineering Owners Groups through Nuclear Energy Institute submitted acceptance criteria for both axial and circumferential cracking to the NRC for review and approval. The acceptance criteria were partially accepted by the NRC Staff. The criteria for axial cracking were accepted as proposed. The criteria for circumferential cracking were rejected. Any circumferential cracks found must be reported to the NRC Staff for disposition. If VHP cracking violated the above acceptance criteria, the NRC Staff would review the Licensee's plan for monitoring or repair of the crack.

Finally, a foreign reactor developed extensive circumferential cracking in VHPs as a result of two major demineralizer resin ingress events in the early 1980s. The NRC Staff issued a request for additional information to NSP on September 25, 1995, to determine if any similar resin ingress events had occurred at Prairie Island. The Licensee responded to the NRC Staff on October 24, 1995, that there have been no resin ingress events at Prairie Island.

The NRC Staff has closely monitored VHP cracking experience in the U.S. and abroad and has reviewed extensive evaluations of VHP cracking. The evaluations and operating experience indicate that it is highly unlikely that significant circumferential cracks could develop and that there is significant

margin between the flaw sizes that would result in detectable leakage and the flaw sizes that would jeopardize structural integrity. Thus, the Staff has concluded that VHP cracking is not a safety concern at this time. To ensure that VHP cracking continues to be properly monitored and controlled, the NRC is in the process of preparing a Generic Letter requesting addressees to describe their program for ensuring the timely inspection of PWR CRDM VHPs and other VHPs. This letter was issued for public comment on August 1, 1996.

Accordingly, the requests made by the Petitioners for the shutdown of the Prairie Island units and inspection of the VHPs with enhanced inspection techniques is denied. As explained above, the NRC Staff has concluded that no substantial health and safety issues have been raised by the Petitioners.

C. Unloading of Dry Cask Storage Units

Spent fuel discharged from a reactor core is stored on site in a spent fuel pool prior to transfer to the U.S. Department of Energy (DOE) for final deposition. Typically, one-third of a reactor core is discharged every refueling outage (approximately every 18 months in the case of each of the Prairie Island units). The Licensee concluded several years ago that it would reach maximum capacity in its spent fuel pool in 1994, prior to availability of a DOE repository for storage of spent fuel. To support the need for continued storage of spent fuel at the reactor site, the Licensee applied to NRC for a license to store spent fuel in an onsite independent spent fuel storage installation (ISFSI). NRC issued Materials License No. SNM-2506 to NSP on October 19, 1993, for receipt and storage of spent fuel at the ISFSI on the site of the Prairie Island Nuclear Generating Plant. Materials License No. SNM-2506 allows NSP to use the TN-40-type casks for storage at its ISFSI. The TN-40, a metal cask system, is designed to store forty PWR spent fuel assemblies in each cask. Dimensions of the cask (with protective cover) are 202 inches high with an outside diameter of 103.5 inches. A loaded TN-40 storage cask weighs 109.3 metric tons.

On April 28, 1995, a public meeting was held in Red Wing, Minnesota, to present NRC inspection findings related to dry cask storage activities at the Prairie Island plant. Questions were raised by members of the public as to how the Licensee would unload the spent fuel in a dry storage cask, if it became necessary, i.e., would there be enough empty fuel racks in the spent fuel pool to accommodate unloading of the cask.

In a letter to the NRC dated May 3, 1995, the Licensee submitted a plan for unloading the TN-40 cask in response to the questions raised at the April 28, 1995 meeting. In that letter, the Licensee stated that some of the fuel racks in the spent fuel pool contain nonfuel-bearing components, which could be relocated to a temporary location in the fuel transfer canal. Alternatively, it may be possible for the components to be stored temporarily in the TN-40

cask, should it become necessary to unload a cask. In the latter case, even though the TN-40 cask being returned to the spent fuel pool may no longer be qualified to hold spent fuel, it quite possibly could still safely hold irradiated nonfuel-bearing components.

The Petitioners raised issues concerning compliance with 10 C.F.R. § 50.59 and the need to make changes to Technical Specifications in order to use the fuel transfer canal for nonfuel-bearing components under the Licensee's plan. Petitioners also stated that section 50.59 requires a safety analysis and amendment to the operating license with a public hearing whenever a change occurs in Technical Specifications for spent fuel pool and reactor transfer canal use. Petitioners further stated that a safety analysis is essential when a Technical Specification change occurs.

The need for a change to the Technical Specifications and the process to be followed under section 50.59 are two separate, but related, issues. With regard to the Prairie Island Technical Specifications, the plan proposed by the Licensee in its letter of May 3, 1995, for dealing with the need to unload a cask, would not involve a change to Technical Specifications because Technical Specifications do not address use of the fuel transfer canal nor do they address movement of nonfuel-bearing components within the spent fuel pool. Prairie Island's Technical Specification 3.8 specifies operating limitations associated with fuel-handling operations and core alterations only. Further, the fuel transfer canal is not classified as a reactor safety system. The fuel transfer canal provides no protection for the reactor, nor does it mitigate the consequences of a postulated accident to the reactor. The fuel transfer canal is a component of the fuel storage and fuel handling systems, which is considered a plant auxiliary system rather than a reactor safety system. As use of the fuel transfer canal in the Licensee's plan does not involve a change to the Technical Specifications, an amendment for this reason would not be required and the opportunity to request a public hearing with regard to a Technical Specification change would, therefore, not arise.

With regard to section 50.59 of Title 10 of the *Code of Federal Regulations*, that provision allows a Licensee to make changes to its facility and procedures as described in the Final Safety Analysis Report (FSAR) without prior approval from NRC, provided a change in Technical Specifications is not involved (which, as described above, is met in this instance) and an unreviewed safety question does not exist. Before moving the nonfuel-bearing components to temporary storage racks in its fuel transfer canal, NSP would need to determine if this use of the transfer canal changes the facility or procedures as described in the FSAR. If NSP determines that a change has been made to the facility or procedures as described in the FSAR, then a safety evaluation pursuant to section 50.59 is required to be performed by the Licensee. If a Technical Specification change were needed (not the case as discussed above), or an unreviewed safety question

existed, NRC review and approval would be required. Otherwise, the Licensee could make the modifications without prior NRC approval. Licensees submit a list of modifications that were performed under section 50.59 without NRC approval to NRC annually.

The Licensee did not fail to comply with the requirements of section 50.59 by presenting a plan for retrieval of fuel from a cask, which included an option to place nonfuel-bearing components in the fuel transfer canal. At the time a cask unloading is deemed necessary, the Licensee can evaluate the specific modifications needed to implement the plan and determine whether section 50.59 is applicable.

When applying for the license, NSP performed an accident analysis, in its Safety Analysis Report, as required by NRC regulations.² In its Safety Evaluation Report dated July 1993, the NRC Staff reviewed the Licensee's accident analysis and determined that "Dose equivalent consequences, from a single cask, to any individual, from direct and indirect radiation and gaseous activity release after postulated accident events, are less than the 50 mSv (5 rem) limit established in 10 CFR 72.106(b)." Additionally, in its Environmental Assessment, dated July 28, 1992, the NRC Staff assessed the accident dose at the Prairie Island site boundary as: "a small fraction . . . of the criteria specified . . . ," and found that: "These doses are also much less than the Protective Action Guides established by the Environmental Protection Agency (EPA) for individuals exposed to radiation as a result of accidents" Because it has been shown that the dose equivalent from a single cask to any individual from postulated accident events is not in excess of the levels required for taking protective actions to protect public health, the NRC Staff considers that a time-urgent unloading of the TN-40 cask is not a likely event.

Even if such an unlikely accident occurred and the Licensee determines that corrective actions may need to be taken to maintain safe storage conditions, options are available. This may include returning the cask to the auxiliary building and/or the spent fuel pool for repairs. Once the cask is in the spent fuel pool, it does not necessarily have to be unloaded to maintain safe storage conditions. In addition, the Licensee may have other options available to cover this unlikely contingency, including temporary storage of spent fuel in a spare storage cask or use of an existing certified transportation cask. The Licensee would have time to consider these and other available options in such an unlikely event.

²The Licensee analyzed accidents classified as Design Events III and IV, as described in ANSI/ANS 57.9, "Design Criteria for an Independent Spent Fuel Storage Installation (Dry Storage Type)." Design Event III consists of that set of infrequent events that could reasonably be expected to occur during the lifetime of the ISFSI. Design Event IV consists of the events that are postulated because their consequences may result in the maximum potential impact on the immediate environs. Included among the scenarios considered under Design Event IV was a loss of confinement barrier leading to an immediate release of radioactivity.

Petitioners also raise an issue concerning the necessity to offload both the entire reactor core and a TN-40 cask simultaneously. NRC has no requirement for licensees to maintain the spent fuel capacity to offload the entire core at once. Prairie Island normally offloads only one-third of the core during refueling outages. If NSP determines the need to offload the entire core during a refueling outage, NSP can install temporary fuel racks in the cask laydown area in the spent fuel pool. Therefore, a cask could not be unloaded for the short time that temporary racks are installed in the cask laydown area. The Staff does not view this as a problem for two reasons. First, the probability that a cask would require unloading at the same time a full-core offload is in process is extremely small. Second, in the event it became necessary to unload a cask, fuel could be placed back into the reactor vessel and the temporary fuel storage racks could be removed. As discussed above, time-urgent unloading of a TN-40 cask is extremely unlikely. The cask could then be unloaded after the cask laydown area was cleared of the temporary fuel storage racks.

In addition to ensuring that a TN-40 cask could be unloaded if necessary, the Licensee's plan also provides assurance with regard to spent fuel retrievability. Subpart F of 10 C.F.R. Part 72 provides general design criteria for ISFSIs and monitored retrievable storage installations. Section 72.122 sets overall requirements and 10 C.F.R. § 72.122(l) provides for retrievability of the fuel and states: "Storage systems must be designed to allow ready retrieval of spent fuel or high-level radioactive waste for further processing or disposal." The NRC Staff concluded in a May 5, 1995 letter to the Licensee that the ability to unload a TN-40 cask if necessary in accordance with the Licensee's plan would satisfy this fuel retrievability provision.

Finally, Petitioners state that the wrong NRC department reviewed and approved NSP's plan for retrievability of irradiated fuel. The Office of Nuclear Material Safety and Safeguards (NMSS) is responsible for licensing and regulating all issues under Part 72, including issues related to the design requirements for ISFSIs. Therefore, NMSS is the correct NRC office to review whether the Licensee's plan met section 72.122(l). As discussed above, the Licensee's plan does not involve a Technical Specification change. Accordingly, NRR review of such a change would not be required. If, upon implementing its plan, the Licensee determined that a safety evaluation pursuant to section 50.59 was required, NRR review and approval would be required only if an unreviewed safety question existed.

With regard to the requests made by the Petitioners, there is no basis for suspending NSP's operating licenses for the Prairie Island units until a safety analysis is completed, reviewed, and approved by NRC, and until NSP's licenses are amended and public hearings have been held. If NSP plans to implement a specific plan to utilize the fuel-transfer canal which changes the facility or procedures as described in the FSAR, then an evaluation pursuant to section

50.59 would be required at that time, which would not require prior NRC approval unless an unreviewed safety question exists or a change to Technical Specifications is required.

D. Auxiliary Building Crane

Petitioners contend that a recent incident at Prairie Island on May 13, 1995, involving the crane used to lift the dry cask for Prairie Island's ISFSI, requires physical testing and safety analysis before future crane use. The incident resulted in the crane holding the 123.75-ton cask above the surface of the reactor pool for 16 hours. The Petitioners assert that the incident could have caused metal fatigue within the crane's structure and the cables attached to the crane. Also, Petitioner Prairie Island Coalition asserts in its June 21, 1995 letter to the Chairman of the NRC that the crane, its cable, and its cable mechanisms were not designed to withstand holding nearly a maximum load for 16 hours.

The Prairie Island auxiliary building crane was upgraded in 1992 in accordance with the provisions of Topical Report EDR-1(P), "Ederer Nuclear Safety-Related Extra Safety and Monitoring (X-SAM) Cranes." The crane is designed and tested in accordance with the NRC Staff's guidance as outlined in NUREG-0554, "Single-Failure-Proof Cranes for Nuclear Power Plants," and NUREG-0612, "Control of Heavy Loads at Nuclear Power Plants."

The Staff evaluated the design of the auxiliary building crane and the lifting device for the cask as part of its review of the dry cask ISFSI. This crane system is designed so that a single failure will not result in the loss of the capability of the system to safely retain the load (this design is known as single-failure proof). The crane is designed to handle a rated load of 125 tons and is capable of raising, lowering, and transporting occasional loads, for testing purposes, of 25% higher than the rated load without damage or distortion to any crane part. All parts of the crane that are subjected to dynamic strains, such as gears, shafts, drums, blocks, and other integral parts, have a safety factor of five (i.e., they are designed to lift five times the design-rated load). The hook has a design safety factor of ten and was subjected to a 200% overload test followed by magnetic particle inspection prior to initial operation. Protection against wire rope wear and fatigue damage are ensured by scheduled inspection and maintenance. The special lifting device used for cask movement is designed to support six times the weight of the fully loaded cask and was subjected to a 300% overload test by the manufacturer. The lifting device undergoes dimensional testing, visual inspection, and nondestructive testing every 12 months (plus or minus 25%).

A single-failure-proof crane, such as the crane at Prairie Island, that has become immobilized by failure of components while holding a load, is able to hold the load or set the load down while adjustments or repairs are made. Safety features and emergency devices permit manual operation to accomplish

this task. Two separate magnetic brakes are provided as well as an emergency drum band brake. Each magnetic brake provides a braking force of at least 150% of rated load. The emergency drum brake ensures that the load can be safely lowered even if power is lost to the crane. Because of the large design margins and the ability to withstand a failure of any single component, the NRC Staff does not postulate a load drop from a single-failure-proof crane.

After the incident on May 13, 1995, the Licensee temporarily removed the crane from service for testing. The Licensee and the crane vendor performed testing on the crane to analyze the event and ensure that the crane was operable. The Licensee's analysis of the May 13, 1995 incident found the problem to be an improperly calibrated load cell (a load cell is a device that measures the load being lifted by the crane and provides input to an overload-sensing device). It was determined that the actual load was less than what was being sensed by the overload-sensing device. The function of the overload-sensing device is to stop the operation of the crane when the load reaches a predetermined value. This prevents loading the crane beyond its rated load by maintaining loads within the design working limit, thereby maintaining safety and the physical integrity of the crane system.

Since the design-rated load of the crane was not exceeded during the incident, there is no reason to assume that the crane cannot continue to operate safely. Even if the rated load had been exceeded, an analysis would be needed to determine how much the rated load was exceeded and if that amount is significant. When cranes are built, manufacturers conduct proof tests at a load above rated load. The proof test for this crane was 25% higher than the 125-ton design-rated load for the main hoist (i.e., the proof test was 156.25 tons).

With regard to the Petitioners' comment about metal fatigue, metal fatigue is a condition that results from cyclic stress. Cyclic stress is produced by repeated loading and unloading. The crane is designed to handle all loading and unloading cycles during the life of the plant, including construction and operating periods. A single static (constant) load such as the load in question, does not produce the cyclic stress that causes metal fatigue. The Petitioners' contention that it was never contemplated that the Prairie Island polar crane hold a load of 123.75 tons inches above the surface of the reactor pool for 16 hours is incorrect. The contemplated failure mechanism of a single-failure proof crane is to hold the load safely at any location until the load can be safely moved. Because of the large design margins, the length of time that a design-rated load (or a load less than design rated) is on the hook of a single-failure-proof crane is inconsequential.

With regard to cable and cable mechanisms (also known as the reeving system and lifting devices), the crane is provided with a balanced dual reeving system with each wire rope capable of supporting the maximum critical load (if a load being held by a crane can be a direct or indirect cause of release of radioactivity,

the load is called a critical load). The hydraulic load-equalizing system allows transfer of the load to the remaining rope, without overstressing it, in the event of a failure of one rope. Protection against wire rope wear and fatigue damage are ensured by scheduled inspection and maintenance.

In conclusion, NRC agrees with the Licensee in its determination that the cause of the incident was an incorrectly calibrated load cell. This cause was documented in NRC Inspection Report 95-006, issued June 27, 1995. NRC has determined that the Licensee met the design and testing requirements established in industry standards for the control of heavy loads such as a dry storage cask, that the overload-sensing device worked as designed, and that no safety issue was involved in the Licensee's use of the auxiliary building crane and associated cask handling equipment to move the cask. Therefore, the Petitioners' requests for suspension of NSP's licenses for the Prairie Island units until physical testing and safety analyses can be performed on the crane are denied.

IV. CONCLUSION

Petitioners requested an immediate suspension of NSP's licenses for Prairie Island Units 1 and 2 until corrective actions of potentially hazardous conditions would be taken by NSP and NRC with regard to issues identified in the petition. The institution of a proceeding in response to a request for action under section 2.206 is appropriate only when substantial health and safety issues have been raised. *See Consolidated Edison Co. of New York* (Indian Point, Units 1, 2, and 3), CLI-75-8, 2 NRC 173, 176 (1975), and *Washington Public Power Supply System* (WPPSS Nuclear Project No. 2), DD-84-7, 19 NRC 899, 923 (1984). I have applied this standard to determine if any action is warranted in response to the matters raised by the Petitioners. Each of the claims by the Petitioners has been reviewed. The available information is sufficient to conclude that no substantial safety issue has been raised regarding the operation of Prairie Island Units 1 and 2. Therefore, I conclude that, for the reasons discussed above, no adequate basis exists for granting Petitioners' requests for immediate suspension of NSP's licenses for Prairie Island Units 1 and 2.

A copy of this Decision will be filed with the Secretary of the Commission for the Commission to review in accordance with 10 C.F.R. § 2.206(c).

As provided by this regulation, this Decision will constitute the final action of the Commission 25 days after issuance, unless the Commission, on its own motion, institutes a review of the Decision within that time.

**FOR THE NUCLEAR
REGULATORY COMMISSION**

**Frank J. Miraglia, Jr., Acting
Director
Office of Nuclear Reactor
Regulation**

**Dated at Rockville, Maryland,
this 27th day of November 1996.**

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

COMMISSIONERS:

Shirley Ann Jackson, Chairman
Kenneth C. Rogers
Greta J. Dicus
Nils J. Diaz
Edward McGaffigan, Jr.

In the Matter of

Docket No. 50-440-OLA-3

**CLEVELAND ELECTRIC ILLUMINATING
COMPANY, et al.**

**(Perry Nuclear Power Plant,
Unit 1)**

December 6, 1996

The Commission reviews an Atomic Safety and Licensing Board decision that concluded that any change to the Perry Nuclear Power Plant's withdrawal schedule for reactor vessel material specimens must be treated as a license amendment, and granted the Intervenor's motion for summary disposition. LBP-95-17, 42 NRC 137 (1995). The Commission reverses and vacates the Licensing Board's decision. The Commission finds that not all agency approvals granted to licensees constitute license amendments.

**REGULATIONS: INTERPRETATION (10 C.F.R. PART 50,
APPENDIX H, § II.B.3)**

Section II.B.3 of 10 C.F.R. Part 50, Appendix H, requires licensees to seek prior NRC Staff approval for all material specimen withdrawal schedule changes.

OPERATING LICENSE: AMENDMENTS

In evaluating whether an NRC authorization represents a license amendment within the meaning of section 189a of the Atomic Energy Act, courts repeatedly

have considered whether the NRC approval granted the licensee any greater operating authority or otherwise altered the original terms of a license.

OPERATING LICENSE: AMENDMENTS

Where an NRC approval does not permit the licensee to operate in any greater capacity than originally prescribed and all relevant regulations and license terms remain applicable, the authorization does not amend the license.

OPERATING LICENSE: AMENDMENTS

Any changes to the material specimen withdrawal schedule that conform to the ASTM standard referenced in Appendix H will not exceed the operating authority already granted under the licensee's license and therefore will not represent a license amendment. That the NRC Staff may wish to verify in advance that a proposed withdrawal schedule revision conforms to the required technical standard does not make the Staff approval a license amendment.

MEMORANDUM AND ORDER

I. INTRODUCTION

In this Decision we review the Atomic Safety and Licensing Board's Memorandum and Order, LBP-95-17, 42 NRC 137 (1995). The order granted a motion for summary disposition submitted by Intervenors the Ohio Citizens for Responsible Energy (OCRE) and Ms. Susan L. Hiatt. In granting the motion, the Board concluded that any change to the Perry Nuclear Power Plant's withdrawal schedule for reactor vessel material specimens must be treated as a license amendment. Cleveland Electric Illuminating Company (the Licensee) petitioned for review of the Licensing Board's decision. We granted review in CLI-96-4, 43 NRC 51 (1996). Cleveland Electric and the Nuclear Regulatory Commission Staff (Staff) urge the Commission to reverse LBP-95-17. The Intervenors support the decision. We reverse and vacate LBP-95-17.

II. BACKGROUND

This proceeding stems from Cleveland Electric's request for a license amendment. The amendment, issued by the NRC Staff on December 18, 1992, transferred the withdrawal schedule for reactor vessel material specimens from the

Perry plant's technical specifications to the facility's updated safety analysis report (USAR).¹

The Material Specimen Withdrawal Schedule

At issue in this proceeding is what is commonly referred to as either the material specimen or surveillance capsule withdrawal schedule. The withdrawal schedule is one component of the NRC's program to monitor and ensure the structural integrity of reactor pressure vessels. Long-term exposure to neutron radiation and elevated temperatures in a reactor vessel affects vessel materials. Over time, the ductility of ferritic materials decreases, thereby decreasing the vessel materials' "fracture toughness," or resistance to fracture.

Appendix H to 10 C.F.R. Part 50 sets forth a surveillance program to monitor the fracture toughness of beltline materials in light-water reactor vessels. Appendix H directs licensees to attach a particular number of surveillance "capsules" to specified areas within the reactor vessel, typically near the inside vessel wall at the beltline. Each capsule contains a number of material specimens that remain exposed to radiation during plant operation. Under the Appendix H surveillance program, licensees must periodically withdraw capsules from the reactor vessel. Capsule removal permits the material specimens to be tested for changes in ductility and fracture toughness — effects of the neutron irradiation and elevated temperatures in a given reactor pressure vessel.

How frequently a capsule must be removed for testing and evaluation is determined by a standard of the American Society for Testing and Materials (ASTM), which Appendix H incorporates by reference and directs licensees to apply. *See* 10 C.F.R. Part 50, Appendix H, § III.B.1, referencing ASTM E 185-82, "Standard Practice for Conducting Surveillance Tests for Light-Water Cooled Nuclear Power Reactor Vessels." The ASTM standard provides licensees with the criteria for determining both the minimum number of surveillance capsules that need to be installed within the reactor vessel at the start of the plant's life, and when in the plant's life — measured in effective full-power years — a capsule should be withdrawn for evaluation.

Cleveland Electric's request to remove the withdrawal schedule from the technical specifications was prompted by NRC Generic Letter 91-01. Issued by the NRC Staff in January 1991, the letter advised licensees that the material specimen withdrawal schedule need not be retained in plant technical specifications. Similar generic letters encouraging licensees to remove other line-item provisions from plant technical specifications have been and continue to be issued as part of the Staff's policy to improve standard technical specifications by prun-

¹ *See* 58 Fed. Reg. 5438 (Jan. 21, 1993). The license amendment also revised the Perry plant's reactor vessel pressure/temperature limits, but the Intervenor did not challenge this portion of the amendment.

ing technical specifications of items not deemed “of controlling importance to safety.” See “Final Policy Statement on Technical Specifications Improvements for Nuclear Power Reactors,” 58 Fed. Reg. 39,132, 39,136 (July 22, 1993), *as amended*, 60 Fed. Reg. 36,953 (July 19, 1995).

Section 182a of the Atomic Energy Act (AEA) requires technical specifications to be incorporated in every license to operate a production or utilization facility. The AEA further requires the technical specifications to include information on the amount, kind, and source of special nuclear material, the place of use, and the specific characteristics of the facility. 42 U.S.C. § 2232. What other information should be included in technical specifications — to ensure public health and safety — is left for the Commission to determine, and prescribe by rule or regulation.

The NRC rule outlining the required contents of technical specifications is 10 C.F.R. § 50.36, promulgated in 1968.² Largely due to section 50.36’s “lack of well-defined criteria,” however, the number of items included in technical specifications mushroomed after the rule was issued, and essentially came to include all “Commission requirements governing the operation of nuclear power reactors.”³ Because technical specifications are part of an operating license, any change to the technical specifications requires a license amendment. Consequently, as the number of items in standard technical specifications grew, so did the number of license amendment applications, as licensees sought to alter line-item provisions that had been inserted in plant technical specifications.

By the early 1980s, the NRC Staff concluded that the burgeoning number of items commonly included in standard technical specifications was both diverting Staff and licensee attention from the most significant safety requirements and unnecessarily burdening agency and industry resources with a severalfold increase in license amendment applications. To remedy this trend, the Staff initiated a Technical Specifications Improvement Project.⁴ The project resulted in a policy to limit technical specifications to those items deemed most important to safety.⁵

As part of the new policy to streamline and improve technical specifications, the NRC Staff over the past several years has been identifying which items can be removed — without safety consequences — from the standard technical specifications. Items so identified can be transferred to the licensee’s updated safety analysis report or some other licensee-controlled document. In late 1990, the Staff concluded that the material specimen withdrawal schedule could be

² 33 Fed. Reg. 18,610 (Dec. 17, 1968).

³ “Final Policy Statement on Technical Specifications Improvements for Nuclear Power Reactors,” 58 Fed. Reg. 39,132, 39,133 (July 22, 1993).

⁴ *Id.*

⁵ *Id.*, 58 Fed. Reg. at 39,135. See also 60 Fed. Reg. 36,953, 36,957-58 (1995).

moved from the standard technical specifications to the licensee's updated safety analysis report. Generic Letter 91-01 encouraged this transfer.

Responding to the generic letter, Cleveland Electric requested the challenged license amendment. The amendment deleted the actual withdrawal schedule from the Perry technical specifications. Instead of containing the actual schedule for material specimen removal, the technical specifications now provide as follows: "The reactor vessel material surveillance specimens shall be removed and examined to determine changes in reactor pressure vessel material properties as required by 10 C.F.R. 50, Appendix H."

The Intervenor's Argument

Intervenors OCRE and Ms. Hiatt petitioned for a hearing on the Perry license amendment. OCRE describes itself as a nonprofit corporation dedicated to research and advocacy on nuclear reactor safety. Several OCRE members reside within 15 miles of the Perry facility. Ms. Hiatt is an officer of OCRE, and resides approximately 13 miles from the plant. The Intervenor's asserted interests in this proceeding include "the preservation of their lives, their physical health, their livelihoods, the value of their property," and their legal right to participate meaningfully in Perry plant issues that could affect these interests.⁶ In March 1992, the Licensing Board denied the Intervenor's request for a hearing, ruling they lacked standing to intervene.⁷ The Commission reversed the ruling on standing,⁸ and remanded the case to the Licensing Board, which ultimately admitted one contention.

The Intervenor's sole contention raised one legal argument: that removal of the withdrawal schedule from the plant technical specifications violates section 189a of the Atomic Energy Act, 42 U.S.C. § 2239(a). Section 189a requires the Commission to provide notice and an opportunity for a hearing to any member of the public whose interest might be affected by a proceeding to grant, revoke, renew, or amend an operating license. The Intervenor's basic claim is that section 189a entitles them to notice of, and an opportunity for a hearing on, any change to the Perry material specimen withdrawal schedule. Any schedule change, they claim, would be a *de facto* license amendment.

Prior to this license amendment proceeding, the Perry plant withdrawal schedule was included in the technical specifications. Because technical specifications are an integral part of an operating license, changes to technical specifications require a license amendment. Accordingly, before the withdrawal schedule was removed from the Perry technical specifications, any change to the schedule

⁶ Petition for Leave to Intervene and Request for a Hearing (Aug. 26, 1991) ("Intervenors' Petition") at 4.

⁷ LBP-92-4, 35 NRC 114 (1992).

⁸ CLI-93-21, 38 NRC 87 (1993).

would have required a license amendment. Now, after the amendment, the withdrawal schedule no longer is included as a line-item in the license. The withdrawal schedule has been transferred to the USAR, a licensee-controlled document that can be modified without a license amendment, so long as the modifications do not involve a change to the technical specifications or an un-reviewed safety question. See 10 C.F.R. § 50.59. Possible future changes to the Perry withdrawal schedule, therefore, will not necessarily require a license amendment. The Intervenor claim that even though the withdrawal schedule has been removed from the technical specifications, any changes to the schedule would still represent *de facto* license amendments, whether the Commission chooses to label them as such or not.

In characterizing all possible withdrawal schedule changes as license amendments, the Intervenor do not argue that it was improper to remove the schedule from the license. Indeed, they conceded before the Licensing Board that there is no legal requirement that the withdrawal schedule remain in the technical specifications. They stress, instead, that any future changes to the Perry plant withdrawal schedule will be *de facto* license amendments because Appendix H § II.B.3 requires prior NRC approval for any revision to the withdrawal schedule.⁹

This Staff “approval,” argue the Intervenor, constitutes a material licensing action, requiring a formal license amendment. In the Intervenor’s view, “a licensee action for which NRC approval is required prior to implementation . . . is a license amendment, even if it is not explicitly designated as such.”¹⁰ Because prior agency approval for a schedule change was, and continues to be, required by regulation, the only effect of removing the withdrawal schedule from the technical specifications, claim the Intervenor, was to exclude the public from schedule changes.¹¹ In short, the Intervenor claim that *any* action requiring prior NRC approval is a *de facto* license amendment, warranting section 189a hearing rights.

The Licensing Board’s Decision

Cleveland Electric and the NRC Staff argued two main points before the Board. One, they claimed that the Intervenor misinterpreted section II.B.3 of

⁹ Appendix H to Part 50 was revised in January 1996, and supersedes in full the former Appendix H. Section II.B.3, an often-cited provision in this proceeding, is now found under 10 C.F.R. Part 50, Appendix H § III.B.3. The language of the rule remains the same. Because the parties in this proceeding repeatedly refer to the older provision, we chose for clarity to do so as well. For the convenience of readers, the 1996 *Code of Federal Regulations* provides the text of both the new and the superseded Appendix H.

¹⁰ Intervenor’s Brief in Support of Commission Affirmation of LBP-95-17 (May 29, 1996) (“Intervenor’s Brief”) at 2.

¹¹ Intervenor’s Petition at 6.

Appendix H, which in their view does not require prior Staff approval for every withdrawal schedule change. Two, they argued that even if prior Staff approval of all schedule changes is required, such changes will not always be material licensing actions, and therefore will not always require a license amendment.

In LBP-95-17, the Licensing Board concurred in full with the Intervenor. Although the Board let stand the license amendment removing the withdrawal schedule from the technical specifications, the Board ordered the NRC to treat future proposed withdrawal schedule changes as license amendments, to be accompanied by notice and hearing rights under section 189a of the AEA. 42 NRC at 149. Because the Intervenor did not challenge removal of the withdrawal schedule from the technical specifications, the Board did not address whether any law or regulation requires the schedule to be retained in the terms of the license. Instead, the Board focused upon “whether a change in the withdrawal schedule is a material license issuance decision.” *Id.* at 142.

The Board first flatly rejected the Staff’s argument that section II.B.3 does not require prior Staff approval for every change to a withdrawal schedule. Having found that all changes do require prior approval, the Board went on to conclude that such changes, *a priori*, require license amendments. In the Board’s view, the “linchpin” of the Intervenor’s argument was their claim that the Commission’s regulations require prior approval of any change to the withdrawal schedule. *Id.* at 143. If the Intervenor were correct in their interpretation of section II.B.3, concluded the Board, “then their summary disposition motion must be granted and the Applicants’ cross-motion must be denied.” *Id.* Without elaboration, the Board in effect agreed with the Intervenor’s claim that if prior approval is required for a change, that change is the equivalent of a license amendment. *See id.* at 148-49.

For the reasons detailed below, we first conclude, as the Board did, that the Intervenor’s interpretation of Appendix H is correct: Section II.B.3 in Appendix H requires Staff approval of withdrawal schedules, original or revised. But contrary to the Board’s reasoning, we nevertheless find that not all changes to a material specimen withdrawal schedule — even if some form of Staff approval is involved — are material licensing actions requiring a license amendment.

III. ANALYSIS

Appendix H to Part 50, § II.B.3

We begin by looking at section II.B.3. Because the Intervenor has equated need for prior Staff approval with license amendments, we first examine whether section II.B.3 in Appendix H even requires licensees to seek prior Staff approval for all withdrawal schedule changes. We find that it does.

The disputed section II.B.3 reads as follows:

A proposed withdrawal schedule must be submitted with a technical justification as specified in § 50.4. The proposed schedule must be approved prior to implementation.

The Staff submits that, “[w]hile the regulation explicitly requires Commission prior approval of a ‘proposed schedule,’ it nowhere addresses the question of whether Commission approval of proposed *changes* to an already approved schedule is required.”¹² According to the Staff, the Licensing Board went “beyond the plain words of the regulation” to conclude that “a ‘proposed schedule’ includes not just a proposed schedule but also any proposed *changes* to an approved schedule, regardless of whether those changes are insignificant.”¹³ Unfortunately, the Staff does not provide the Commission with a clear and consistent explanation of what exactly are the “previously” or “already” approved schedules to which the Staff repeatedly refers, and which, presumably, *did* require prior Staff approval.¹⁴

The Licensing Board and the Intervenors interpreted the Staff’s argument to be that section II.B.3 explicitly requires prior approval of a licensee’s *initial* withdrawal schedule, but not of all possible changes to an already approved schedule. On this view, any later revisions would only require prior Staff approval if they do not conform to the ASTM standard for withdrawal schedules, incorporated by reference in Appendix H. Relying upon the Staff’s arguments, the Licensee similarly stresses that Appendix H “does not specify whether it is only the initial schedule that must be approved or whether changes to that [initial] schedule must also receive prior approval.”¹⁵

Like the Licensing Board, we find that the plain language of section II.B.3 requires licensees to submit any “proposed schedule” to the Staff. Appendix H makes no distinction between requirements for original and revised schedules. Nor can we infer any reason for such a distinction. First, the very nature of a withdrawal schedule is such that modifications may need to be made. If, for example, results from testing the first material specimens prove inconsistent with expectations, the withdrawal schedule may need to be revised. Appendix H thus provides for, and indeed may mandate, possible schedule revisions. It stands to reason, then, that if there were different requirements for implementing original and revised schedules, Appendix H would make this clear. Secondly,

¹² NRC Staff’s Brief in Support of Commission Reversal of LBP-95-17 (“Staff Brief”) (Apr. 26, 1996) at 7.

¹³ NRC Staff’s Answer to Licensee’s Petition for Commission Review (Nov. 30, 1995) at 5 n.5.

¹⁴ See also, e.g., NRC Staff Response to Intervenors’ Motion for Summary Disposition (Mar. 7, 1994), attached Affidavit at 3 (Appendix H “does not explicitly address the requirements for changes to a previously approved schedule”).

¹⁵ Licensees’ Brief on Review of Licensing Board Decision LBP-95-17 (“Licensee’s Brief”) (April 26, 1996) at 24.

where both initial and revised schedules must satisfy the same ASTM industry standard and, where prior approval of "initial" schedules is of interest *at all*, we cannot discern why there would be no interest in also checking, also "approving," revised schedules, to ensure that they too meet the required standard.

We also reject the Staff's claim that licensees need not submit a revised schedule for the Staff's review as long as the schedule conforms to the ASTM standard. The plain language of section II.B.3 does not intimate any exceptions to the required Staff review of "proposed schedules." Such a significant exception — likely to encompass most schedule revisions — surely would have been noted conspicuously in the rule, or at least somewhere in Appendix H. The Staff relies upon Appendix H's "legislative history," but that history is inconclusive. Indeed, the most recent regulatory history tends to suggest that all proposed schedules will receive Staff approval.¹⁶

In short, the language and history of the rule are unresponsive of the Staff's interpretation. We also need not look far to find many instances when the Staff itself has stated that prior approval of all schedule changes is required. For example, the *Federal Register* notice for the very license amendment that brought about this proceeding states plainly that "the relocation of the surveillance capsule withdrawal schedule from the TS to the USAR in accordance with GL 91-01, is a purely administrative change; NRC prior approval is still necessary for any change to the schedule itself."¹⁷

Looking again to Staff statements about the Perry license amendment, the Safety Evaluation provides the following: "The movement of the specimen withdrawal table from the TS to the USAR is only an administrative change. The withdrawal schedule is not impacted and must receive NRC approval before it can be changed."¹⁸ The Safety Evaluation further notes that licensees shall include in the USAR the "NRC-approved revisions" to the withdrawal schedule.¹⁹ These statements do not allude to any category of withdrawal schedules exempt from Staff review.

In addition, the *Federal Register* notices of several other similar license amendments involving removal of the withdrawal schedule from technical spec-

¹⁶ For instance, a provision in the proposed rule requiring that the Commission be given 30 days advance notice of a capsule withdrawal was dropped from the final rule after a commenter suggested it was unnecessary because section II.B.3 already required withdrawal schedules to be submitted for approval. See Final Rule, "Fracture Toughness Requirements for Light-Water Nuclear Power Reactors," 48 Fed. Reg. 24,008 (1983). In addition, a reporting requirement that test results be submitted to the Commission within 90 days of capsule withdrawal also was dropped from the final rule and changed to 1 year, "because capsule withdrawal schedules must be approved by the Director, Office of Nuclear Reactor Regulation, as provided in paragraph II.B.3 of Appendix H." See *id.*, 48 Fed. Reg. at 24,008. In short, references to section II.B.3 in the rule's Statement of Considerations add to the impression that the prior approval requirement is general and unqualified.

¹⁷ 56 Fed. Reg. 33,961, 33,962 (July 24, 1991) (emphasis added).

¹⁸ Letter from James Hall, NRC, Office of Nuclear Reactor Regulation, to Michael Lyster, Vice President, Cleveland Electric (Dec. 18, 1992), attached Safety Evaluation by NRR, at 6.

¹⁹ Safety Evaluation at 4 (emphasis added).

ifications also expressed — without qualifications — the need for prior Staff approval of schedule changes. *See, e.g.*, 59 Fed. Reg. 2859, 2867 (Jan. 19, 1994) (Re: Waterford Steam Electric Station, Unit 3: “Updates to the schedule will still be required to be submitted to the NRC prior to implementation per Section II.B.3 of Appendix H to 10 C.F.R. Part 50 The schedule will continue to receive NRC review and approval prior to implementation of updates to the schedule”); 56 Fed. Reg. 29,267 (June 26, 1991) (Re: Calvert Cliffs Nuclear Power Plant, Units 1 & 2: “changes to this schedule are controlled by the requirements of Appendix H . . . which require NRC approval and are maintained in the Updated Safety Analysis Report”).

Of particular note, Cleveland Electric’s letter requesting the Perry license amendment explicitly relates the understanding that Appendix H, § II.B.3 “requires prior approval of *any* changes to the subject schedule.”²⁰ More significantly, the letter advises that a companion letter of the same date is being submitted to the NRC requesting approval — pursuant to Appendix H — of a revised material specimen withdrawal schedule.²¹ The technical justification provided for the proposed revised schedule was that it was “consistent with” the applicable ASTM standard for withdrawal schedules.²² Apparently, Cleveland Electric was not proposing a schedule that conflicted with the ASTM standard. But under the Staff’s interpretation of Appendix H, the Licensee *never* would have needed to request approval for the revised schedule because that schedule conformed to the required standard.

The Staff’s Safety Evaluation of the Perry license amendment acknowledges that “[i]n a separate letter dated March 15, 1991, the licensee requested staff approval of a revised surveillance capsule withdrawal schedule, as required by 10 CFR Part 50, Appendix H.”²³ The Staff goes on to “approve” this revised schedule, and directs Cleveland Electric to include the new schedule in the next Perry USAR.²⁴ Although the Staff approved the new schedule at the same time that it granted the Perry license amendment, the license amendment did not involve revising the withdrawal schedule. The license amendment notice never referred to a proposed revised schedule. Moreover, the Safety Evaluation explicitly declared that the Perry withdrawal schedule was “not impacted” by the license amendment. Review, then, appears to have been conducted just as the correspondence indicates — pursuant to the requirement set forth in section II.B.3.

²⁰ Letter from Michael Lyster, Centerior Energy, to NRC, Re: Technical Specification Change Request, Attachment 2 at 1 (Mar. 15, 1991) (emphasis added).
²¹ *Id.* at 1.
²² Letter from Michael Lyster, Centerior Energy, to NRC, Re: Approval Request (Mar. 15, 1991) at 1.
²³ Safety Evaluation by NRR at 1.
²⁴ *Id.* at 5.

Despite these many indications that the Staff's practice has been to review schedule revisions, the Staff argues that the Board erroneously rejected the Staff's "historical interpretation and application of the rule." Staff Brief at 8. The Staff nevertheless concedes that contradictory statements have been made and that the correct interpretation of the rule is "subject to question."²⁵

In its brief before the Commission, the Staff for the first time suggests what the Commission believes is the correct interpretation of, and reasoning behind, section II.B.3. The Staff notes that if Appendix H incorporates the self-implementing ASTM standard, then any withdrawal schedule that conforms to the ASTM standard is "*ipso facto* already approved for implementation." Staff Brief at 12. Why then, asks the Staff, would the Commission still require approval of all schedules? In response, the Staff suggests an alternative to its earlier reading of the rule: "Commission approval of all schedule changes is required — but only to verify that the changes are consistent with the ASTM standard." *Id.*

The Commission agrees with this alternative reading of the rule. We believe that the rule, correctly understood, provides the Staff with the opportunity to verify in advance that a proposed schedule — original or revised — indeed conforms to the applicable ASTM standard for material specimen withdrawal schedules. The Staff in fact has stated that it "reviewed proposed schedules and modifications to determine if they were consistent with the withdrawal schedules set forth" in the applicable ASTM standard.²⁶ In short, section II.B.3 as promulgated in 1983 requires an approval or check by the Staff to ensure that the proper ASTM standard is used correctly. The plain language of the rule, and even indications of past Staff practice, supports this conclusion.

The Staff is certainly free to change rule interpretations if appropriate. But the Staff may not adopt an interpretation unsupported by the language and history of the rule. The various interpretive glosses proposed by the Staff — about initial versus revised schedules and other distinctions not found in the rule — do not explain away section II.B.3's unqualified prior approval requirement. We cannot find in the current rule's text or its history any allusion to a separate category of withdrawal schedules excluded from the prior approval requirement. We therefore agree with the Licensing Board that the Staff's currently espoused

²⁵ NRC Staff's Answer to Licensee's Petition for Commission Review (Nov. 30, 1995) at 6 n.9.

²⁶ NRC Staff Response to Intervenors' Motion for Summary Disposition (Mar. 7, 1994), attached Affidavit at 4. See also NRC Staff's Reply Brief (June 18, 1996) at 6 n.8 ("To be sure, the Staff might review such changes in advance, to verify that they are in fact consistent with the ASTM standards incorporated by reference in Appendix H").

interpretation of section II.B.3 cannot be squared with the plain language of the rule.²⁷

Licensing Authority and Appendix H Approvals

As amended, section 189a of the Atomic Energy Act requires the Commission to afford interested parties notice of, and an opportunity for a hearing on, the “granting, suspending, revoking, or amending” of any license or construction permit. 42 U.S.C. § 2239(a). Having found that section II.B.3 requires licensees to submit all proposed schedules for the Staff’s approval, the question before us then becomes: Are the Staff approvals referenced in Appendix H *de facto* license amendments, as the Intervenor’s claim? Contrary to the assumption made by the Licensing Board, we do not find that all such approvals are *de facto* license amendments.

We begin by looking at the legislative history of the AEA. That history, unfortunately, does not clarify what constitutes a license amendment within the meaning of section 189a. But it does make clear that Congress wished to provide hearing rights for only “*certain* classes of agency action,” not all.²⁸ As initially proposed, the AEA did not contain any hearing rights provision.²⁹ A later draft proposed a hearing opportunity to parties “materially interested in any ‘agency action.’”³⁰ But this provision was found “too broad, broader than it was intended to be,”³¹ and led to section 189a’s very specific list of Commission actions warranting hearing rights. If a form of Commission action does not fall within the limited categories enumerated in section 189a, the Commission need not grant a hearing.³²

In evaluating whether challenged NRC authorizations effected license amendments within the meaning of section 189a, courts repeatedly have considered the same key factors: did the challenged approval grant the licensee any “greater operating authority,”³³ or otherwise “alter the original terms of a license”?³⁴ If so, hearing rights likely were implicated. For example, in *Citizens Awareness*

²⁷ The Staff informed the Licensing Board that it was considering amending Appendix H to specify “the circumstances under which the changes to a previously approved withdrawal schedule can be made.” NRC Staff Response to Intervenor’s Motion for Summary Disposition (Mar. 7, 1994), attached Affidavit at 9. The Staff has yet to propose an amendment to the rule.

²⁸ *San Luis Obispo Mothers for Peace v. NRC*, 751 F.2d 1287, 1313 (D.C. Cir. 1984) (*SLO*) (referencing remarks of Sen. Hickenlooper, 100 Cong. Rec. 10,171 (1954), *reh’g en banc on other grounds*, 789 F.2d 26, *cert. denied*, 479 U.S. 923 (1986)).

²⁹ See H.R. 8862, 83d Cong., 2d Sess. § 189 (1954), *reprinted in* 1 Atomic Energy Comm’n Legislative History of the Atomic Energy Act of 1954 (“Legislative History”) at 105, 167-68 (1955).

³⁰ H.R. 9757, 83d Cong., 2d Sess. § 181 (1954), *reprinted in* 1 Legislative History at 541, 625.

³¹ 100 Cong. Rec. 10,171 (1954) (Sen. Pastore’s remark), *reprinted in* 3 Legislative History at 3175.

³² *SLO*, 751 F.2d at 1315.

³³ *In re Three Mile Island Alert*, 771 F.2d 720, 729 (3d Cir. 1985), *cert. denied*, 475 U.S. 1082 (1986).

³⁴ *SLO*, 751 F.2d at 1314.

Network, Inc. v. NRC, 59 F.3d 284, 295 (1st Cir. 1995) (*CAN*), the decision upon which the Intervenor most rely, the court found that the challenged NRC approval “undeniably supplement[ed]” the original license. The agency had permitted the licensee to dismantle major structural components, an activity that the court found unauthorized by the original license and agency rules. Similarly, in another case, where the NRC Staff extended the duration of a low-power license, a reviewing court viewed the Staff approval to be a license amendment changing a term of the license, and therefore triggering an opportunity for a hearing under section 189a.³⁵

The Intervenor correctly claim that “[i]t is the determination that an action is a license amendment, not the significance of the amendment, that triggers Section 189a hearing rights.” Intervenor’s Brief at 7. They also accurately have distilled the existing case law on NRC license amendments to conclude that any agency action permitting a licensee to go beyond “existing license authority” is a license amendment within the meaning of the Atomic Energy Act. *Id.* But nowhere do we find support for the Intervenor’s sweeping premise that any “action for which NRC approval is required prior to implementation already is a license amendment.” *Id.* at 2. This generalization suggests — erroneously — that any time the NRC Staff grants prior approval, the Staff is permitting actions that will exceed existing licensing authority.

Applicable case law includes several examples of NRC approvals that did not trigger section 189a hearing rights. *See, e.g., Massachusetts v. NRC*, 878 F.2d 1516 (1st Cir. 1989) (NRC authorization of plant restart, which followed Staff’s review of forty-seven ordered modifications, was not a license amendment); *In re Three Mile Island Alert, Inc.*, 771 F.2d 720, 729-30 (3d Cir. 1985) (decision lifting license suspension and authorizing restart under stipulated conditions was not a license amendment), *cert. denied*, 475 U.S. 1082 (1986); *SLO*, 751 F.2d at 1314 (lifting a license suspension “does nothing to alter the original terms of a license” and is not a license amendment). Where the NRC approval does not permit the licensee to operate “in any greater capacity” than originally prescribed and all relevant safety regulations and license terms remain applicable, the NRC approval does not “amend” the license. *See Kelley v. Selin*, 42 F.3d 1501, 1515 (6th Cir.), *cert. denied*, 115 S. Ct. 2611 (1995); *Massachusetts v. NRC*, 878 F.2d at 1521-22. Only those actions falling “beyond the ambit of the prescriptive authority granted under the license” necessitate a license amendment. *CAN*, 59 F.3d at 295.

Here, any changes to the material specimen withdrawal schedule that conform to the ASTM standard referenced in Appendix H will not alter the Perry license, and will not permit the Licensee to operate in any greater capacity than the

³⁵ *SLO*, 751 F.2d at 1314-15.

original license prescribes. To so conclude, we look to the actual terms of the Perry operating license. There we find that the technical specifications direct Cleveland Electric to conduct all testing and surveillance of material specimens according to Appendix H. Appendix H, in turn, requires all withdrawal schedules to meet an applicable ASTM standard.

This means in effect that the Perry license specifies an NRC-approved methodology — the ASTM standard — to be used in developing either an initial or a revised schedule. The ASTM standard establishes specific technical criteria for determining where in the reactor vessel to place surveillance capsules, how many capsules should be used, and how often capsules should be removed for testing. By effectively incorporating the ASTM standard, the Perry license provides delineated parameters for Cleveland Electric to use in calculating an appropriate withdrawal schedule.

As long as its withdrawal schedule meets the applicable ASTM standard, Cleveland Electric is not exceeding operating authority already granted in its Perry operating license. The ASTM standard anticipates that during the course of a nuclear power plant's life the withdrawal schedule may need to be revised; the standard allows and provides for such changes. The terms of the Perry license thus already provide for — already authorize — some possible schedule changes. Any revised schedule that conforms to the ASTM standard can be said to be "encompassed within delineated categories of authorized conduct." *CAN*, 59 F.3d at 294.

The Perry operating license no longer contains the actual current material specimen withdrawal schedule. A mere adjustment in the schedule, then, does not necessarily alter or violate the "terms of the license," which require only that the licensee meet 10 C.F.R. 50, Appendix H, no more and no less. It is true that before the withdrawal schedule was removed from the Perry technical specifications, *any* change to the schedule would have required a license amendment. But there is no statutory or regulatory requirement that every operational detail listed in the USAR be subject to a technical specification.³⁶ Moreover, the Intervenors explicitly did not contest the transfer of the schedule to the Perry USAR.

That the Staff may wish to verify in advance that a proposed revision conforms to the required technical standard does not make Staff approval a license amendment. By merely ensuring that required technical standards are met, the Staff's approval does not alter the terms of the license, and does not grant the Licensee greater operating authority. Such a review indeed *enforces* license requirements. As an enforcement policy matter, the Staff may wish to police some licensee-initiated changes *before* they go into effect. To insist — as

³⁶ See *Portland General Electric Co. (Trojan Nuclear Plant)*, ALAB-531, 9 NRC 263, 273 (1979).

the Intervenor do — that the NRC Staff may never require prior approval for any change or activity without effecting some sort of major licensing action, would frustrate the agency's ability to monitor licensees and enforce regulations.³⁷ As we already have noted, not every change that occurs at a nuclear power plant, even if significant, represents a license amendment. See, e.g., *SLO*, 751 F.2d at 1314. Again, the key consideration should be: Did the agency action "supplement" the existing operating authority prescribed in the license? See *CAN*, 59 F.3d at 295; see also *P & R Temmer v. FCC*, 743 F.2d 918, 928 (D.C. Cir. 1984) (because FCC "merely required the broadcaster to operate within the terms of its authorization, its actions could not be regarded as a license modification").

The Intervenor state that they merely seek "to participate in the regulatory process."³⁸ They have not been denied that opportunity. Appendix H was promulgated under appropriate notice-and-comment rulemaking procedures. The Intervenor had the opportunity to raise concerns about the adequacy and appropriateness of the ASTM standard, and about any other item in Appendix H. In addition, line items cannot be removed from the technical specifications without a license amendment, which offers another opportunity for public participation. If the Intervenor believed that the nature and significance of the material specimen withdrawal schedule was such that it needed to remain in the Perry technical specifications — as a specific term of the Perry license — the Intervenor could have raised that argument in this proceeding. They instead concurred with the NRC Staff that there is no statutory or regulatory requirement that the withdrawal schedule remain in the Perry license.

There may be other opportunities to challenge changes in the withdrawal schedule. As the NRC Staff states in its brief, "where a proposed change to a withdrawal schedule does not conform" to the required ASTM standard, "prior Commission approval and a license amendment,"³⁹ with its attendant notice and

³⁷ "[M]embers of the public cannot be allowed to litigate before the Commission any and all issues that occur to them without demolishing the regulatory process." *Bellotti v. NRC*, 725 F.2d 1380, 1382 (D.C. Cir. 1983). See also *American Cylinder Manufacturers Committee v. Department of Transportation*, 578 F.2d 24, 27-28 (2d Cir. 1978) (*American Cylinder*) (Department of Transportation "approvals," certifying whether cylinder manufacturers met safety specifications, "reflect merely a method for policing [lawfully adopted] regulations"). The Administrative Procedure Act's broad definition of "license" under 5 U.S.C. §§ 551(8),(9), does not encompass reviews that serve merely to confirm compliance with existing license requirements. See *American Cylinder*, 578 F.2d at 27.

³⁸ Intervenor's Answer to NRC Staff Response to Intervenor's Motion for Summary Disposition and Licensees' Cross Motion for Summary Disposition (Apr. 5, 1994) at 5.

³⁹ The Commission notes that a change to the withdrawal schedule that does not conform to the ASTM standard referenced in Appendix H presumably would conflict with the Perry technical specification requirement that the "reactor vessel material surveillance specimens shall be removed and examined . . . as required by 10 C.F.R. 50, Appendix H." Such a change to the FSAR that conflicts with the technical specifications would require a license amendment pursuant to 10 C.F.R. § 50.59(c)(2), regardless of whether an unreviewed safety question is involved.

opportunity for hearing, [would] be required.” Staff Brief at 20.⁴⁰ In addition, the Intervenor may have the opportunity to raise enforcement concerns about the Perry withdrawal schedule through the 10 C.F.R. § 2.206 petition process.

As a final matter, we note that the Staff approval Appendix H calls for is not the type of determination that lends itself readily to an adjudicatory hearing. Under Appendix H, the Staff evaluates a proposed withdrawal schedule in terms of objective, technical, preestablished criteria. Such assessments fall well within the NRC Staff’s technical expertise and its regulatory oversight role. *See, e.g., Union of Concerned Scientists v. NRC*, 735 F.2d 1437, 1451 (D.C. Cir. 1984) (assessing results of licensee’s preoperational testing, to ensure results meet objective “acceptance criteria,” “falls squarely within the NRC Staff’s technical expertise”), *cert. denied*, 469 U.S. 1132 (1985). Confirming compliance with a self-implementing, detailed, industry standard does not call into play the various common reasons for requiring an adjudicatory hearing under Subpart G of 10 C.F.R. Part 2, such as the need to weigh various parties’ observations or the utility of cross-examination.

IV. CONCLUSION AND ORDER

For the reasons stated in this Decision, the Commission hereby *reverses* and *vacates* the Atomic Safety and Licensing Board order LBP-95-17.

It is so ORDERED.

For the Commission

JOHN C. HOYLE
Secretary of the Commission

Dated at Rockville, Maryland,
this 6th day of December 1996.

⁴⁰ *See also* Staff Affidavit at 8, attached to NRC Staff Response to Intervenor’s Motion for Summary Disposition (“Staff Response”) (Mar. 7, 1994); NRC Staff’s Reply Brief at 3-4; Staff Brief at 16, 17 n.28; Staff Response at 27, 28-29.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

**Thomas S. Moore, Chairman
Richard F. Cole
Frederick J. Shon**

In the Matter of

**Docket No. 70-3070-ML
(ASLBP No. 91-641-02-ML)
(Special Nuclear Material License)**

**LOUISIANA ENERGY SERVICES, L.P.
(Claiborne Enrichment Center)**

December 3, 1996

In this Partial Initial Decision in the combined construction permit–operating license proceeding for the Claiborne Enrichment Center, the Licensing Board resolves in favor of the Intervenor environmental contentions J4 and K concerning the adequacy of the NRC Staff’s treatment in the final environmental impact statement of the need for the facility and the no-action alternative and contention Q concerning the Applicant’s financial qualifications to construct the proposed facility.

RULES OF PRACTICE: BURDEN OF PROOF

The NRC, not the Applicant, has the burden of complying with NEPA. *Duke Power Co.* (Catawba Nuclear Station, Units 1 and 2), CLI-83-19, 17 NRC 1041, 1049 (1983). But the label of a contention as an environmental or NEPA contention does not automatically allocate the burden of proof. Rather, it is the subject matter of the contention that determines upon whom the burden technically falls.

NEPA: CONSIDERATION OF ALTERNATIVES

The study and description of alternatives is the “linchpin” of the environmental impact statement process. *Monroe County Conservation Council, Inc. v. Volpe*, 472 F.2d 693, 697-98 (2d Cir. 1972).

NEPA: ENVIRONMENTAL IMPACT STATEMENT

NEPA’s requirement of a “detailed statement” serves a number of purposes. First, it requires the agency to compile a reviewable environmental record demonstrating the agency has made a good faith effort to consider the environmental values NEPA seeks to safeguard and taken a hard look at the environmental consequences of its action. Second, the detailed statement serves as an environmental full disclosure law providing agency decisionmakers, as well as the President, the Congress, the Council on Environmental Quality, and the public the environmental cost-benefit information that Congress thought they should have about each qualifying federal action. Third, “the requirement of a detailed statement helps insure the integrity of the process of decision by precluding stubborn problems or serious criticism from being swept under the rug.” *Silva v. Lynn*, 482 F.2d 1282, 1285 (1st Cir. 1973).

NEPA: PROCEDURES

Although the action-forcing procedures of NEPA “are almost certain to affect the agency’s substantive decision, it is now well settled that NEPA itself does not mandate particular results, but simply prescribes the necessary process.” *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 350 (1989).

REGULATIONS: INTERPRETATION (10 C.F.R. § 51.45(c))

It is clear that 10 C.F.R. § 51.45(c) requires the Applicant to include in its Environmental Report (ER) a cost-benefit analysis of the proposed facility. In the words of the regulation, that analysis must “consider[] and balance[]” the various environmental effects or costs of the proposal against the various “environmental, economic, technical and other benefits” of the project. The “need” for the facility is simply a catchword for the principal or primary benefit of the proposed facility that goes on the benefit side of the cost-benefit ledger. A cost-benefit analysis cannot be performed consistent with the Commission’s regulations and section 102(2) of NEPA without weighing the benefits or need for the project on one side of the equation with the costs or environmental effects of the project on the other side.

REGULATIONS: INTERPRETATION (10 C.F.R. PART 51, APPENDIX A)

The Commission's regulations specifically direct that the Staff's final environmental impact statement address the need for the proposed facility. *See* 10 C.F.R. Part 51, Appendix A; 10 C.F.R. §§ 51.70(b), 51.90.

NEPA: NEED FOR FACILITY

Labeling the regulatory requirement as the "need" for the proposed facility is merely a shorthand expression to describe the principal beneficial factor that is to be weighed against the various costs of the proposal in striking the cost-benefit balance required by NEPA and the Commission's implementing regulations.

NEPA: NEED FOR FACILITY

Whatever the principal benefit provided by the proposed facility, it must be addressed in the final environmental impact statement as the need for the facility and, "to the fullest extent practicable," the benefit must be quantified.

NEPA: NEED FOR FACILITY

Because the need for the proposed facility is definitionally the primary benefit against which the various costs of the project are weighed in the cost-benefit analyses and NEPA does not dictate any substantive outcome for the cost-benefit balancing process, the principal benefit of the project does not have to arise to any minimum level or meet any other prescribed standard.

REGULATIONS: INTERPRETATION (10 C.F.R. § 51.45(b))

Because NEPA and the Commission's implementing regulations require the Staff to address the no-action alternative in the final environmental impact statement, and the Commission's regulations, in turn, require the Applicant to discuss in the ER the alternatives to the proposed action that will help the Staff to develop and explore the alternatives that must be discussed under section 102(2)(E) of NEPA, section 51.45(b) necessarily requires the Applicant to address the no-action alternative in its environmental report.

NEPA: CONSIDERATION OF ALTERNATIVES

The adequacy of the Staff's treatment of the no-action alternative in the final environmental impact statement must be judged by the rule of reason. *Citizens Against Burlington, Inc. v. Busey*, 938 F.2d 190, 195 (D.C. Cir. 1991).

FINANCIAL QUALIFICATIONS: MATERIALS LICENSE

Pursuant to the general interpretational rule that statutory or regulatory provisions that relate to the same subject matter should be construed in *pari materia* (*see* 2B Sutherland Stat. Const. §§ 51.01, 51.03 (5th ed. 1992)), 10 C.F.R. § 50.33(f), as the other agency regulatory provision dealing with financial qualifications, is the likely source for obtaining insight about how to interpret the general language of the Note following 10 C.F.R. § 70.22(a)(8).

FINANCIAL QUALIFICATIONS: MATERIALS LICENSE

The history of the Commission's Part 50 and Part 70 financial qualifications requirements fully supports a parallel construction of those regulations in terms of the showing necessary to establish that an applicant "appears to be financially qualified" under 10 C.F.R. § 70.23(a)(5).

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PARTIAL INITIAL DECISION
(Resolving Contentions J.4, K, and Q)

This Partial Initial Decision contains our findings of fact and conclusions of law on contentions J.4, K, and Q filed by the Intervenor, Citizens Against Nuclear Trash ("CANT"), in this combined construction permit–operating license proceeding. The Applicant, Louisiana Energy Services, L.P. ("LES"), seeks a 30-year materials license to possess and use byproduct, source, and special nuclear material in order to enrich uranium using a gas centrifuge process at the Claiborne Enrichment Center ("CEC") it intends to build in Claiborne Parish, Louisiana.

The CEC is to be constructed on a 442-acre site located some 5 miles northeast of the town of Homer, Louisiana, immediately between, and adjacent to, the two unincorporated, African-American communities of Center Springs and Forest Grove. The design capacity of the CEC is 1.5 million separative works units ("SWUs") per year and, as originally proposed, the Applicant stated its intent to build the facility in three phases over 6 years, with each phase consisting of identical 0.5 million SWU per year units. At full production, the CEC will process approximately 4700 metric tons of UF₆ annually, generating 870 metric tons of enriched uranium and 3800 metric tons of depleted uranium tails.

Direct capital costs of the CEC are estimated to be \$855 million in 1990 dollars exclusive of escalation, capitalized interest, contingency, or replacement centrifuges. Decontamination and decommissioning are estimated to take 7

years. Decommissioning is estimated to cost \$518 million in 1996 dollars of which 94% is the cost for disposition of tails. In 1990 dollars, decommissioning is estimated to cost \$409 million. The total investment, in 1990 dollars, including direct construction, interest escalation, capitalized interest, contingency, replacement centrifuges, decontamination, and decommissioning is estimated at \$1.6 billion.

Because the CEC is the first private, nongovernment enrichment facility seeking a license in the United States, this licensing proceeding presents a number of questions of first impression. In Part I, we address environmental contentions J.4 and K. These contentions are founded upon the National Environmental Policy Act of 1969, 42 U.S.C. § 4321 et seq. ("NEPA"), and deal with the question whether the Applicant's Environmental Report ("ER") and the Staff's Final Environmental Impact Statement ("FEIS") adequately address the "need for the facility" and the "no-action alternative." In Part II, we resolve nonenvironmental contention Q that challenges the Applicant's financial qualifications to construct and operate the CEC.

I. NEPA NEED FOR FACILITY AND NO-ACTION ALTERNATIVE

A. Contentions J.4 and K

Under the heading "Inadequate Assessment of Costs Under NEPA," the Intervenor asserts in contention J.4 that:

The Environmental Report does not adequately describe or weigh the environmental, social, and economic impacts and costs of operating the CEC. Moreover, the benefit-cost analysis fails to demonstrate that there is a need for the facility. *See, e.g., Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), ALAB-422, 6 NRC 33, 90 (1977) (in a power production licensing case, "need for power" is "a shorthand expression for the 'benefit' side of the cost-benefit balance which NEPA mandates"). On the whole, the costs of the project far outweigh the benefits of the proposed action.

BASIS: NEPA requires the NRC to fully assess the impacts of the proposed licensing action, and to weigh its costs and benefits. LES' Environmental Report contains a brief "benefit-cost analysis" that is improperly slanted in favor of the benefits of the project, and contains little discussion of the potentially significant impacts and their environmental and social costs. ER § 8.0. The discussion is inadequate with respect to the following issues:

. . . .
4. Section 1.2 of the ER, which purports to discuss the need for the CEC, provides no such information. It briefly outlines the suppliers of enriched uranium to the United States in 1988, and provides an unexplained table of world enriched uranium needs from 1990 and 2010, but gives no current or projected information on uranium supply. This is not surprising, since it is commonly known that existing U.S. enrichment capacity is more than adequate to meet projected domestic needs through 2010. *See, e.g., GAO/RCED-89-170BR,*

Uranium Enrichment: Some Impacts of Proposed Legislation on DOE's Program. LES vaguely states that LES should get a license without delay in order to avail itself of a "critical opening" in the uranium market that is expected to begin in 1996 "because U.S. customers have terminated their commitments for over 40 percent of their enrichment requirements scheduled to be supplied by the Department of Energy during the late 1990's." A generalized statement of LES' marketing hopes for the 1990's does not constitute a demonstration that additional enriched uranium production capacity is needed. LES should be required to evaluate existing and projected production capacity both in the U.S. and abroad, and to evaluate existing and projected enriched uranium demand in the United States. [Footnotes omitted.]

CANT's contention K, entitled "No Discussion of No-Action Alternative," states that:

The ER violates NEPA because it does not contain an adequate discussion of alternatives to the proposed action.

BASIS: NEPA, as implemented by 10 C.F.R. § 51.45, requires that environmental reports must include, inter alia, a discussion of "alternatives available for reducing or avoiding adverse environmental effects." LES' ER fails to satisfy this requirement in the critical respect that it does not discuss the no-action alternative. Given the significant environmental costs of this project and the fact that LES has not demonstrated a need for the facility, this alternative should have been analyzed in detail. [Footnotes omitted.]

In opposing the admissibility of contention J.4 before the Licensing Board, the Applicant argued that "the economics of the proposed facility are not within the scope of the ER and need not be addressed under NEPA" and that "the economic wisdom of its proposed venture is simply not an environmental issue germane to the NEPA analysis." LBP-91-41, 34 NRC 332, 351 (1991). The NRC Staff did not oppose the admission of the contention. The Board admitted contention J.4, ruling that it "raises a litigable issue" that involves the legal question of "[w]hat, if any, consideration must be given to the need for the facility in fulfilling NEPA responsibilities?" *Id.* The Staff also did not oppose the admission of contention K in the context of considering the Applicant's NEPA cost-benefit analysis, but the Applicant argued that there is no explicit regulatory requirement that the ER address the no-action alternative and that the applicable Staff regulatory guidance does not state that an assessment of the no-action alternative must be included in the ER. The Board admitted contention K finding that "a genuine dispute exists with LES on the need to discuss the no-action alternative." *Id.* at 353.

Although CANT's contentions J.4 and K are phrased only in terms of challenges to the Applicant's ER, these contentions necessarily encompass the Staff's environmental impact statement ("EIS") as well. As the Applicant states, "[a]t bottom, Contention J.4 involves disagreement as to (1) whether LES and the NRC are required to consider 'need' for the CEC in the ER and FEIS respectively, and, if some consideration is required, (2) the appropriate focus of

that determination (including the proper definition of 'need' in this context)." Applicant's Proposed Findings of Fact and Conclusions of Law (May 26, 1995) at 39 [hereinafter App. P.F.]. Similarly, at bottom, contention K involves a disagreement as to whether the treatment of the no-action alternative in the ER and FEIS is adequate.

As the Commission has declared,

[w]hile all environmental contentions may, in a general sense, ultimately be challenges to the NRC's compliance with NEPA, factual aspects of particular issues can be raised before the DES [Draft Environmental Statement] is prepared. As a practical matter, much of the information in an Applicant's ER is used in the DES.

Duke Power Co. (Catawba Nuclear Station, Units 1 and 2), CLI-83-19, 17 NRC 1041, 1049 (1983). This being so, the Commission held that contentions cannot be deferred until the draft or final EIS is issued by the Staff but must, where possible, be formulated and filed based upon the Applicant's ER. *Id.* Accordingly, contentions like Intervenor's J.4 and K that assert deficiencies in the Applicant's ER also necessarily include the same general deficiency that remains applicable with respect to the EIS. *See* 10 C.F.R. § 2.714(b)(2)(iii). And here, of course, the Applicant and the Intervenor in their evidentiary presentations on these contentions included evidence on all aspects of the issues.

Further, as we stated in LBP-96-7, 43 NRC 142, 144-45 (1996), with respect to other Intervenor contentions in this proceeding,

the Subpart G rules of practice for the conduct of formal adjudicatory hearings provide in 10 C.F.R. § 2.732 that the applicant has the burden of proof in the proceeding. Thus, in order for the applicant to prevail on each contested factual issue, the applicant's position must be supported by a preponderance of the evidence. *Philadelphia Electric Co.* (Limerick Generating Station, Units 1 and 2), ALAB-819, 22 NRC 681, 720 (1985); *Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), ALAB-763, 19 NRC 571, 577 (1984). *See* 1 Charles H. Koch, Jr., *Administrative Law and Practice* § 6.44 (1985).

Where environmental and NEPA issues are involved, however, care must be taken in applying the Commission's general burden of proof rule. This is because the NRC, not the Applicant, has the burden of complying with NEPA. *Catawba*, CLI-83-19, 17 NRC at 1049. But the label of a contention as an environmental or NEPA contention does not automatically allocate the burden of proof. Rather, it is the subject matter of the contention that determines upon whom the burden technically falls. Thus, because the Commission's regulations require the Applicant to file an ER (*see* 10 C.F.R. § 51.60) and prescribe its contents (*see* 10 C.F.R. § 51.45), the Applicant has the burden on contentions, or those portions of contentions like J.4 and K, asserting deficiencies in the ER. *See Consumers Power Co.* (Midland Plant, Units 1 and 2), CLI-74-5, 7 AEC 19, 31 (1974). *See generally United States Energy Research and Development*

Administration (Clinch River Breeder Reactor Plant), CLI-76-13, 4 NRC 67, 77 (1976). Similarly, because the Staff ultimately is responsible for preparing the EIS required by NEPA (see 10 C.F.R. §§ 51.80, 51.97(c)), the Staff generally has the burden on contentions, or those portions of contentions like J.4 and K, that allege deficiencies in the EIS. Further, because the Staff, as a practical matter, relies heavily upon the Applicant's ER in preparing the EIS, should the Applicant become a proponent of a particular challenged position set forth in the EIS, the Applicant, as such a proponent, also has the burden on that matter. See *Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), ALAB-471, 7 NRC 477, 489 n.8 (1978).

Finally, overlying all NEPA issues in this proceeding are the additional obligations that the Commission has placed upon the Licensing Board in the hearing notice. First, the Commission instructed us to determine whether the Staff's environmental review conducted pursuant to 10 C.F.R. Part 51 was adequate. Second, it charged us with determining whether the agency had complied with the requirements of section 102(2)(A), (C), and (E) of NEPA. Lastly, the Commission directed us independently to consider the cost-benefit balance among the conflicting factors contained in the record of the proceeding. See 56 Fed. Reg. 23,310 (1991). See also 10 C.F.R. § 51.105. Although obviously related, these obligations placed upon us by the Commission to ensure the agency's compliance with NEPA are independent of the parties' burdens with respect to the Intervenor's environmental contentions.

B. NEPA Overview

Because the Intervenor's contentions are footed on the requirements of NEPA, a brief review of that Act is necessary to any analysis of these contentions. As the regulations of the Council on Environmental Quality state, "[t]he National Environmental Policy Act (NEPA) is our basic national charter for protection of the environment." 40 C.F.R. § 1500.1. Section 101 of NEPA "declares a broad national commitment to protecting and promoting environmental quality," *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 348 (1989), and sets forth the Act's basic "substantive goals for the Nation," *Vermont Yankee Nuclear Power Corp. v. NRDC*, 435 U.S. 519, 558 (1978), that the federal government should "use all practicable means and measures" to protect environmental values. 42 U.S.C. § 4331(a). Section 101(b) of the Act then provides that "it is the continuing responsibility of the Federal Government to use all practicable means, consistent with other essential considerations of national policy" to, inter alia, avoid environmental degradation, "attain the widest range of beneficial uses of the environment without degradation . . . or other undesirable and unintended consequences," and "preserve important historic, cultural, and natural aspects of our national heritage." 42 U.S.C. § 4331(b).

To attain these sweeping substantive goals, section 102 of the Act contains a set of "action-forcing" procedures. *Kleppe v. Sierra Club*, 427 U.S. 390, 409 & n.18 (1976). See *Calvert Cliffs' Coordinating Committee v. AEC*, 449 F.2d 1109, 1113 & n.7 (D.C. Cir. 1971). The section directs that "to the fullest extent possible" all federal agencies shall "utilize a systematic, interdisciplinary approach" in environmental planning and "in decisionmaking which may have an impact on man's environment." 42 U.S.C. § 4332(2)(A). To ensure that environmental considerations become part of the decisional calculus, section 102(2)(B) instructs agencies to "identify and develop methods and procedures . . . which will ensure that presently unquantified environmental amenities and values may be given appropriate consideration in decisionmaking along with economic and technical considerations." 42 U.S.C. § 4332(2)(B). As the court stated in *Calvert Cliffs'*, 449 F.2d at 1113,

"[e]nvironmental amenities" will often be in conflict with "economic and technical considerations." To "consider" the former "along with" the latter must involve a balancing process. In some instances environmental costs may outweigh economic and technical benefits and in other instances they may not. But NEPA mandates a rather finely tuned and "systematic" balancing analysis in each instance.

In order to effectuate this NEPA balancing analysis, section 102(2)(C) requires that all agencies

include in every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment, a detailed statement by the responsible official on —

- (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 the maintenance and enhancement of long-term productivity, and
- (v) any irreversible and irretrievable commitments of resources, which would be involved in the proposed action should it be implemented.

42 U.S.C. § 4332(2)(C). In addition to the discussion of alternatives in the detailed statement set forth in section 102(2)(C)(iii), the requirement for a thorough study and a detailed description of alternatives was given further emphasis by Congress in NEPA section 102(2)(E) (formerly section 102(2)(D)) that all federal agencies, to the fullest extent possible, "study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of

available resources.” 42 U.S.C. § 4332(2)(E). Indeed, the study and description of alternatives is the “linchpin” of the environmental impact statement process. *Monroe County Conservation Council, Inc. v. Volpe*, 472 F.2d 693, 697-98 (2d Cir. 1972). As explained by the court in *NRDC v. Callaway*, 524 F.2d 79, 92-93 (2d Cir. 1975) (citation omitted):

It is absolutely essential to the NEPA process that the decisionmaker be provided with a detailed and careful analysis of the relative environmental merits and demerits of the proposed action and possible alternatives, a requirement that we have characterized as “the linchpin of the entire impact statement.” Indeed the development and discussion of a wide range of alternatives to any proposed federal action is so important that it is mandated by NEPA when any proposal “involves unresolved conflicts concerning alternative uses of available resources.” This requirement is independent of and of wider scope than the duty to file the EIS.

Thus, NEPA’s requirement of a “detailed statement,” including the development and description of alternatives mandated by sections 102(2)(C) and (E), serves a number of purposes. First, it requires the agency to compile a reviewable environmental record demonstrating the agency has made a good faith effort to consider the environmental values NEPA seeks to safeguard, *Minnesota PIRG v. Butz*, 541 F.2d 1292, 1299 (8th Cir. 1976), *cert. denied*, 430 U.S. 922 (1977); *Trout Unlimited v. Morton*, 509 F.2d 1276, 1282 (9th Cir. 1974); *Silva v. Lynn*, 482 F.2d 1282, 1284 (1st Cir. 1973); *Monroe County*, 472 F.2d at 697, and taken a hard look at the environmental consequences of its action. *Robertson*, 490 U.S. at 350; *NRDC v. Morton*, 458 F.2d 827, 838 (D.C. Cir. 1972). Second, the detailed statement serves as an environmental full disclosure law providing agency decisionmakers, as well as the President, the Congress, the CEQ, and the public the environmental cost-benefit information that Congress thought they should have about each qualifying federal action. *Minnesota PIRG*, 541 F.2d at 1299; *Trout Unlimited*, 509 F.2d at 1282; *Silva*, 482 F.2d at 1285; *Morton*, 458 F.2d at 833; *Alabama ex rel. Baxley v. Corps of Engineers*, 411 F. Supp. 1261, 1267 (N.D. Ala. 1976). See *Robertson*, 490 U.S. at 349. Third, and perhaps most importantly, “the requirement of a detailed statement helps insure the integrity of the process of decision by precluding stubborn problems or serious criticism from being swept under the rug.” *Silva*, 482 F.2d at 1285. The EIS accomplishes this by “gather[ing] in one place a discussion of the relative impact of alternatives so that the reasons for the choice of alternatives are clear.” *Minnesota PIRG*, 541 F.2d at 1300.

Although the action-forcing procedures of NEPA “are almost certain to affect the agency’s substantive decision, it is now well settled that NEPA itself does not mandate particular results, but simply prescribes the necessary process.” *Robertson*, 490 U.S. at 350. Thus, NEPA is designed to lead the mule to water, but NEPA cannot make it drink. See *Strycker’s Bay Neighborhood Council*,

Inc. v. Karlen, 444 U.S. 223, 227-28 (1980); *Vermont Yankee*, 435 U.S. at 558; *Calvert Cliffs*', 449 F.2d at 1115. As the Supreme Court stated in *Robertson*, 490 U.S. at 350-51 (citations and footnote omitted):

If the adverse environmental effects of the proposed action are adequately identified and evaluated, the agency is not constrained by NEPA from deciding that other values outweigh the environmental costs. . . . Other statutes may impose substantive environmental obligations on federal agencies, but NEPA merely prohibits uninformed — rather than unwise — agency action.

In other words, “[t]he project when finished may be a complete blunder — NEPA insists that it be a knowledgeable blunder.” *Matsumoto v. Brinegar*, 568 F.2d 1289, 1290 (9th Cir. 1978).

C. Witnesses and Exhibits

Consistent with the Commission’s burden of proof rule and in accordance with the stipulation of the parties, the Applicant presented its case first, followed by the Intervenor, and then the Staff. In support of its position on Intervenor’s contentions J.4 and K, the Applicant presented the testimony of Michael H. Schwartz and Peter G. LeRoy. (Schwartz-LeRoy fol. Tr. 383.) Mr. LeRoy, the Licensing Manager of the CEC, was responsible for compiling the information on the need for the CEC facility in the Applicant’s ER that is part of the license application. He also was responsible for compiling the information in the Applicant’s responses to the Staff’s requests for additional information on the need for the facility and for the Applicant’s response to the public comments on the draft EIS for the CEC. (*Id.* at 1-2.)

Mr. Schwartz is employed by Energy Resources International, Inc. (“ERI”), an organization specializing in technical and economic consulting, nuclear fuels planning and procurement, and resource and market analysis. ERI also publishes the annual *Nuclear Fuel Cycle and Price Report*. (*Id.* at 2-4.) Mr. Schwartz has earned a bachelor of science and a master of science degree in nuclear engineering and he has taken graduate level courses in finance, economics, and management. (*Id.*, Attach. 2.) In his current position with ERI and in his previous position as a senior consultant with Pickard, Lowe, and Garrick, Inc., Mr. Schwartz has been involved in the complete range of nuclear fuel procurement and market analysis related activities including analysis of the domestic and international markets for uranium enrichment services. Specifically, he has been involved with preparation of market price projections, development of utility nuclear fuel procurement plans, preparation of client bid specifications for nuclear fuel cycle materials and services, development of evaluation guidelines for vendor proposals, performance of commercial

evaluations of vendor proposals, and development of recommendations for clients in support of contract negotiations. (*Id.* at 3.) Mr. Schwartz has also published extensively in his areas of interest. (*Id.*, Attach. 2.)

The prefiled direct testimony of Mr. LeRoy and Mr. Schwartz on contentions J.4 and K was admitted pursuant to a pretrial stipulation of the parties and without any further objection at the hearing. (Tr. 383.) The Applicant did not offer these witnesses as experts and, because of the stipulation on admissibility and the fact that neither the Intervenor nor the Staff raised any further objection, the Board at trial did not rule on the qualifications of Mr. LeRoy or Mr. Schwartz as experts. Obviously, as the LES official responsible for compiling the information in the Applicant's ER, Mr. LeRoy is qualified to testify on that information and the related submittals to the NRC. As a practical matter, however, Mr. LeRoy provided little testimony and shed little light on the matters involved in these contentions. Further, although not offered as an expert witness by the Applicant, we find that Mr. Schwartz is qualified by knowledge and experience to testify as an expert on the issues involved in contention J.4 concerning the need for the CEC facility.¹

In support of its contentions J.4 and K, the Intervenor presented the testimony of David E. Osterberg, a partner in the firm of Osterberg and Sheehan, Public Utility Economists, of Scappoose, Oregon, and Osterberg Consulting of Mt. Vernon, Iowa. (Osterberg at 1 fol. Tr. 451 and Exh. A.) Mr. Osterberg has earned bachelor of arts and master of arts degrees in economics and earned a master of science degree in agricultural economics, and one in water resources management. He taught economics as an instructor at the University of Wisconsin-Green Bay and as an assistant professor of economics and business at Cornell College in Iowa. Currently, he is an adjunct professor in the Department of Geography at the University of Iowa. For 12 years until 1995, Mr. Osterberg also served as a representative in the Iowa General Assembly. During his tenure in the Iowa House of Representatives, he served, in 1991-1992, as Chairman

¹ Pursuant to a stipulation of the parties, the following Applicant exhibits were admitted into evidence relating to these contentions: Applicant's Exhibit 10, LES letter to NRC dated April 30, 1992 (with Attachment A containing responses to NRC request for additional information concerning need for the facility) (App. Exh. 10); Applicant's Exhibit 11, LES letter to NRC dated July 23, 1992 (with Attachment A containing response to NRC request for additional information concerning the no-action alternative) (App. Exh. 11); Applicant's Exhibit 12, LES letter to NRC dated May 1, 1992 (with Attachments A, B, D, G, I, J, and L containing nonproprietary responses to NRC request for additional information concerning LES' financial qualifications) (App. Exh. 12); Applicant's Exhibit 13, LES letter to NRC dated May 1, 1992 (with Attachments C and E containing proprietary responses to NRC request for additional information concerning LES' financial qualifications) (App. Exh. 13); Applicant's Exhibit 14, LES letter to NRC dated December 22, 1994 (with Attachment E containing proprietary revised version of LES Project Financial Plan) (App. Exh. 14); Applicant's Exhibit 17, LES letter to NRC dated March 29, 1994 (with Attachments A and B containing responses to request for additional information concerning LES' ER and the draft EIS) (App. Exh. 17). (Tr. 706.) The Applicant also introduced Intervenor's Exhibit I-DO-33, Attachment D to LES letter to NRC dated December 22, 1994 (nonproprietary update of LES Project Financial Plan) (I-DO-33). (Tr. 706.) Additionally, Applicant's Exhibit 1(h), the CEC Environmental Report (App. Exh. 1(h)), was previously admitted into evidence pursuant to a stipulation of the parties during the Phase I hearings. (Tr. 31.)

of the Committee on Energy and Environmental Protection and, in 1987-1990, as Chairman of the Committee on Agriculture. While in the legislature he also was a member of the Iowa Energy Policy Council and the Agricultural Energy Management Council. (Osterberg at 1-2 fol. Tr. 451 and Exh. A.) As a consulting economist, Mr. Osterberg has testified as an expert witness for various clients before regulatory commissions in Florida, Illinois, Indiana, Iowa, New York, South Carolina, South Dakota, and Tennessee. He also has worked for the Nebraska Energy Office and the Omaha Public Power District and participated in an energy study for the State of Missouri. (Osterberg at 2-3 fol. Tr. 451 and Exh. A.) He also has written and spoken extensively in his areas of interest. (Osterberg fol. Tr. 451 Exh. A.)

The prefiled direct testimony of Mr. Osterberg was admitted pursuant to a pretrial stipulation of the parties and without further proper objection at the hearing. (Tr. 451.) The Intervenor offered Mr. Osterberg's testimony as his expert opinion on contentions J.4 and K and as that of an expert in energy economics. (Tr. 447, 450.) We find that Mr. Osterberg is qualified by knowledge, experience, training, and education to testify as an expert on the issues involved in these contentions, and that he is qualified to testify as an expert in energy economics.

The Applicant states, however, that "[t]he Board declined Intervenor's request for a ruling on Mr. Osterberg's expert status" and suggests that Mr. Osterberg was not qualified as an expert to testify on all the matters addressed in his testimony. (App. P.F. at 53-55.) Although the Applicant's statement that the Board declined to rule on Mr. Osterberg's qualifications is literally true as far as it goes, the Applicant's statement ignores the context of our ruling.

The Board did not rule upon Mr. Osterberg's qualifications because there was simply no need to make such a ruling in light of the parties' prior stipulation of admissibility of Mr. Osterberg's prefiled direct testimony on the full range of matters involved in contentions J.4 and K. Even assuming that an objection to the qualifications of Mr. Osterberg might have been entertained in light of the parties' pretrial stipulation to the admissibility of his prefiled direct testimony that covered the full range of matters involved in contentions J.4 and K, after the Intervenor's tender of Mr. Osterberg, the Applicant did not state a proper objection or request *voir dire* on any or all of Mr. Osterberg's qualifications to testify as an expert on the matters involved in these contentions. Rather, the Applicant merely indicated it would let its "cross-examination speak for itself as to the level of that *expertise* in this proceeding." (Emphasis added.) (Tr. 451.)

The Applicant, of course, properly may bring out on cross-examination the lack of factual basis for an expert's opinion on a matter; however, the elicitation of such testimony goes to the weight to be accorded any particular expert opinion and not (as the Applicant's comment at the hearing seemingly indicates) to the

qualification of the expert to give his opinion. See Fed. R. Evid. 702, 703, & 705 and advisory committee's notes. Because the parties' pretrial stipulation on admissibility stands as a bar to any objection, and, in any event, the Applicant failed at the hearing to make an objection that was proper in either form or substance to challenge Mr. Osterberg's qualifications, there was no reason for the Board to make any ruling.

Thus, contrary to the implication of the Applicant's proposed finding, the Board's ruling had nothing to do with any supposed lack of qualifications of Mr. Osterberg as an expert witness on the matters involved in these contentions. Although the Applicant's cross-examination showed that Mr. Osterberg could not, for example, recite from memory the current price range for uranium ore or fuel fabrication (Tr. 463-64), such matters are not directly relevant to these contentions and the Applicant's cross-examination did not demonstrate that Mr. Osterberg was not qualified, for example, by education, or training, or experience, to testify as an expert on the economic and other issues involved in these contentions.² Instead, we find Mr. Osterberg to be a credible, soundly grounded economist whose direct testimony on these contentions is amply documented and well supported with materials from the professional and trade literature, and all his testimony is deserving of serious consideration and substantial weight.³

² In this regard, we note that Mr. Osterberg testified that the standard tools for economic analysis are applicable for evaluating the need and economic viability of the CEC, and, while there are additional factors that must be considered with a nuclear facility, the supply, demand, and price of the product are relevant to every market. (Tr. 482-83, 516, 518.) Similarly, the Applicant's witnesses on the Intervenor's financial qualifications contention, stated in their prefiled direct testimony that free-market assumptions apply to the enrichment services market. (Doudiet-Arnold at 19 fol. Tr. 563.)

³ Pursuant to a stipulation of the parties, the following Intervenor exhibits were admitted into evidence on these contentions: Intervenor's Exhibit I-DO-19, Energy Information Administration, U.S. Dep't of Energy, *World Nuclear Outlook 1994*, DOE/EIA-0436(94), Dec. 1994, at ix-xi, 7-10, 39-40, 57 (I-DO-19); Intervenor's Exhibit I-DO-20, Energy Information Administration, U.S. Dep't of Energy, *World Nuclear Capacity and Fuel Cycle Requirements 1993*, DOE/EIA-0436(93), Nov. 1993, at ix-xi, 33 (I-DO-20); Intervenor's Exhibit I-DO-21, "The New Birth of Urenco," *Nukem Market Report*, June 1994, at 4-13 (I-DO-21); Intervenor's Exhibit I-DO-22, "Interview," *Nukem Market Report*, June 1994, at 14-20 (I-DO-22); Intervenor's Exhibit I-DO-23, "Outlook on USEC," Special Report, *Nuclear Fuel*, Oct. 11, 1993, at 1-17 (I-DO-23); Intervenor's Exhibit I-DO-24, Charles H. Montagne, *The Federal Uranium Enrichment Program and the Criteria and Full Cost Recovery Requirements of Section 161 of the Atomic Energy Act*, 2 J. Min. L. & Pol'y 1, 21-25 (1986-87) (I-DO-24); Intervenor's Exhibit I-DO-25, Energy Information Administration, U.S. Dep't of Energy, *Monthly Energy Review*, Nov. 1994, at 103-07 (I-DO-25); Intervenor's Exhibit I-DO-26, Energy Information Administration, U.S. Dep't of Energy, *Annual Energy Outlook 1994 with Projections to 2010*, DOE/EIA-0383(94), Jan. 1994, at 7, 172-78 (I-DO-26); Intervenor's Exhibit I-DO-27, "Should Investors Be Concerned About Rising Nuclear Plant Decommissioning Costs?" Shearson Lehman Brothers, Electric Utilities Commentary, Jan. 6, 1993, at Executive Summary, 1-28 (I-DO-27); Intervenor's Exhibit I-DO-28, Energy Information Administration, U.S. Dep't of Energy, *Monthly Energy Review*, Aug. 1994, at 1-14, 112, 137-38 (I-DO-28); Intervenor's Exhibit I-DO-29, Committee on Future Nuclear Power Development, National Research Council, *Nuclear Power: Technical and Institutional Options for the Future*, 1992, at 2-3, 38-43 (I-DO-29); Intervenor's Exhibit I-DO-30, Charles M. Studness, "Stranded What, Exactly?" *Public Utilities Fortnightly*, Dec. 1, 1994, at 40-42 (I-DO-30); Intervenor's Exhibit I-DO-31, "Portland GE Says Closing Trojan Was Least-Cost Decision," *Public Utilities Fortnightly*, Feb. 15, 1993, at 11-12 (I-DO-31); Intervenor's Exhibit I-DO-32, Charles E. Bayless, "Less Is More: Why Gas Turbines Will Transform Electric Utilities," *Public Utilities Fortnightly*, Dec. 1, 1994, at 21-25 (I-DO-32); Intervenor's Exhibit I-DO-33,

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The Staff presented the testimony of Merri L. Horn in support of its position on contentions J.4 and K. (Horn re J.4, Horn re K fol. Tr. 500.) Ms. Horn is an environmental engineer in the Enrichment Branch, Division of Fuel Cycle Safety and Safeguards, Office of Nuclear Material Safety and Safeguards, and is the Environmental Project Manager for the CEC license application. (Horn re J.4, Attach. 1 fol. Tr. 500.) Pursuant to the pretrial stipulation of the parties, and without any further objection at the hearing, Ms. Horn's prefiled direct testimony regarding these contentions was admitted. (Tr. 500.)⁴

D. Adequacy of FEIS Treatment of Need Issue

CANT's contention J.4 challenges the sufficiency of the treatment in the Applicant's ER and the Staff's FEIS of the need for the facility. Among other things, the contention asserts that the Applicant has failed to demonstrate a genuine need for the facility by showing that additional enriched uranium production capacity is needed. Arguing in the alternative that the Commission's regulations do not require it to address the need for the facility at all in its ER, the Applicant also takes the additional position that its treatment of the need for the CEC in the ER, as supplemented by LES' responses to Staff requests for information, is a legally sufficient evaluation of the need issue. (Schwartz-LeRoy at 4, 6-9 fol. Tr. 383; App. P.F. at 39-41, 55.) The Applicant also claims that the Staff has appropriately considered the need issue in its FEIS. (Schwartz-LeRoy at 12 fol. Tr. 383; App. P.F. at 127-28.) Similarly, the Staff asserts that the Applicant's treatment of the need issue in the ER is sufficient and that the Staff has adequately considered the need issue in the FEIS. (Horn at 3-6 fol. Tr. 500.) NRC Staff's Proposed Findings of Fact and Conclusions of Law in the Form of a Partial Initial Decision Regarding Contentions B, J, K, and Q (May 26, 1995) at 46 [hereinafter Staff's P.F.]. Because the Staff's discussion of the issue of the need for the CEC in the FEIS is based upon, and parallels, the information provided by the Applicant in the ER and LES' supplemental responses to the Staff's requests for information, we need not separately address the adequacy of the Applicant's treatment of the need issue in the ER.⁵ Therefore, we turn to

Attachment D to LES letter to NRC dated December 22, 1994 (nonproprietary update of LES Project Financial Plan) (I-DO-33); Intervenor's Exhibit I-DO-34, United States General Accounting Office, *Uranium Enrichment: Congressional Action Needed to Revitalize the Program*, GAO/RCED-88-18, Oct. 1987, at 21-23 (I-DO-34); Intervenor's Exhibit I-DO-35, answers of Northern States Power Company to MPUC [Minnesota Public Utilities Commission] Information Requests on Greystone, at 00474 (answer to question 12) (I-DO-35). (Tr. 452.)

⁴ In accordance with the same stipulation, the following Staff exhibit relating to these contentions was admitted into evidence: NRC Staff's Exhibit 2, NUREG-1484, "Final Environmental Impact Statement for the Construction and Operation of CEC, Homer, Louisiana" (1994) (Staff Ex. 2). (Tr. 501.)

⁵ Although conceding that the Commission's regulations require that the Applicant's ER contain a cost-benefit analysis of the proposed action and include sufficient data to aid the Commission in the development of its independent analysis, the Applicant and the Staff nevertheless resort to a superficial literalism to argue that because

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the ultimate question in contention J.4 of whether the treatment of the need for the facility issue in the FEIS is adequate.

1. *Applicable Standard*

The Commission's regulations implementing section 102(2) of NEPA, 10 C.F.R. Part 51, also contain an Appendix A entitled "Format for Presentation of Material in Environmental Impact Statements." Section 1(a) of the Appendix sets forth the matters that generally must be addressed in an environmental impact statement, including item 4, labeled "Purpose of and need for action." A similarly titled section 4 of the Appendix then provides that

[t]he statement will briefly describe and specify the purpose of [and] the need for the proposed action. The alternative of no action will be discussed. In the case of nuclear power plants,

the word "need" does not appear in the Commission's regulations prescribing the contents of the environmental report, there is no requirement that it address the need for the facility in its ER. (Schwartz-LeRoy at 8-9 fol. Tr. 383; App. P.F. at 41; Horn at 3 fol. Tr. 500; Staff P.F. at 45.) It is, however, clear that 10 C.F.R. §51.45(c) requires the Applicant to include in its ER a cost-benefit analysis of the proposed facility. In the words of the regulation, that analysis must "consider[] and balance[]" the various environmental effects or costs of the proposal against the various "environmental, economic, technical and other benefits" of the project. As the Intervenor's contention correctly indicates, the "need" for the CEC is simply a catchword for the principal or primary benefit of the proposed facility that goes on the benefit side of the cost-benefit ledger. As should hardly need explication, a cost-benefit analysis, or a benefit-cost analysis, cannot be performed consistent with the Commission's regulations and section 102(2) of NEPA without weighing the benefits or need for the project on one side of the equation with the costs or environmental effects of the project on the other side. See *Calvert Cliffs*', 449 F.2d at 1113.

This self-evident and seemingly simple proposition has long been recognized in agency reactor licensing decisions. As the Appeal Board stated,

[t]he demand for electricity is of course the justification for building any power plant. Satisfaction of that demand is the principal beneficial factor weighed against the environmental costs in striking the balance the National Environmental Policy Act requires. In other words, "[n]eed for power" is a shorthand expression for the 'benefit' side of the cost-benefit balance which NEPA mandates for a proceeding considering the licensing of a nuclear plant."

Public Service Co. of Oklahoma (Black Fox Station, Units 1 and 2), ALAB-573, 10 NRC 775, 804 (1979) (quoting *Rochester Gas and Electric Corp.* (Sterling Power Project, Nuclear Unit No. 1), ALAB-502, 8 NRC 383, 388 n.11 (1978) quoting *Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), ALAB-422, 6 NRC 33, 90 (1977).) *Accord Public Service Co. of Indiana* (Marble Hill Nuclear Generating Station, Units 1 and 2), ALAB-459, 7 NRC 179, 184 (1978); *Duke Power Co.* (Catawba Nuclear Station, Units 1 and 2), ALAB-355, 4 NRC 397, 405 (1976); *Niagara Mohawk Power Corp.* (Nine Mile Point Nuclear Station, Unit 2), ALAB-264, 1 NRC 347, 352 (1975). See *Vermont Yankee Nuclear Power Corp.* (Vermont Yankee Nuclear Power Station), ALAB-179, 7 AEC 159, 175 (1974).

Equally without merit is the Applicant's assertion that the agency's power reactor precedents requiring the applicant to demonstrate the need for the facility are inapplicable to the LES enrichment facility. According to the Applicant, this is so because reactor licensees historically have operated in a regulated, monopolistic utility market whereas LES seeks to market its enrichment services in an unregulated, nonmonopolistic market in which existing capacity can be displaced regardless of whether the capacity needs to be replaced or supplemented. (Schwartz-LeRoy at 14 fol. Tr. 383; App. P.F. at 44.) But the Commission's regulations implementing NEPA require the applicant of a proposed facility — regardless of the type of facility — to establish the need for the facility so that that asserted benefit — regardless of whether the need is great or small — can be weighed against the project's environmental costs in the required cost-benefit analysis. Whether the uranium enrichment market or the electric utility market is regulated or not, or monopolistic or not, is completely irrelevant to that portion of the NEPA

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consideration will be given to the potential impact of conservation measures in determining the demand for power and consequent need for additional generating capacity.

Further, the Commission regulations prescribing the contents of the draft and final environmental impact statements, 10 C.F.R. §§ 51.70(b), 51.90, state, respectively, that the Staff should use the format set forth in Appendix A in preparing environmental impact statements. Those same regulations also provide, in language similar to that detailing the cost-benefit analysis that must be included in an applicant's environmental report, that the cost-benefit analysis contained in draft and final environmental impact statements "will, to the fullest extent practicable, quantify the various factors considered" and "[t]o the extent that there are important qualitative considerations or factors that cannot be quantified, these considerations or factors will be discussed in qualitative terms." 10 C.F.R. § 51.71(d). See 10 C.F.R. § 51.90. See also *Baxley*, 411 F. Supp. at 1268-69; *Vermont Yankee*, ALAB-179, 7 AEC at 174-76. Thus, the Commission's regulations specifically direct that the Staff's FEIS address the need for the CEC.

Labeling this requirement as the "need" for the proposed facility is merely a shorthand expression to describe the principal beneficial factor that is to be weighed against the various costs of the proposal in striking the cost-benefit balance required by NEPA and the Commission's implementing regulations. See *supra* note 5. Therefore, whatever the principal benefit provided by the

cost-benefit analysis that requires weighing the need for the facility against the environmental costs of the project. The Intervenor's expert, Mr. Osterberg, was quite correct when he testified that "just because it is in a different kind of market doesn't mean need is not a question." (Osterberg Tr. 519.)

Also without merit is the Staff's additional argument that its regulatory guidance regarding the Commission's environmental regulations does not require the Applicant to address the need for the CEC in its ER. In her prefiled direct testimony, the Staff Environmental Project Manager for the LES license review referred to Regulatory Guide 4.9, "Preparation of Environmental Reports for Commercial Uranium Enrichment Facilities" (1975) and testified that "Regulatory Guide 4.9 . . . does not discuss any requirement for applicants to provide information or discuss need for the facility. However, the regulatory guide, at section 1.2 'Need for Facility' lists several items which an applicant is encouraged to describe or discuss in an environmental report." (Horn re J.4 at 3 fol. Tr. 500.)

Even though regulatory guidance is just that, advisory not obligatory, and regulatory guides are not substitutes for regulations, such guides nevertheless "present[] the Staff's view of how to comply with the regulatory requirements." LBP-96-7, 43 NRC at 147. In this instance, noting (at 1) that its purpose "is to provide assistance to applicants for the development of environmental reports dealing with the construction, operation, and decommissioning of uranium enrichment facilities," Regulatory Guide 4.9 states in section 1.2, entitled "Need for Facility," that "[t]he degree of enrichment and quantities of separative work that will be provided for domestic use should be described. A 20-year projection of national and foreign requirements for the services should be supplied." *Id.* at 4.9-6. Thus, in clear and unmistakable terms, Regulatory Guide 4.9 states that the Applicant should address in its ER the need for the facility and it calls for the Applicant to describe that need in terms of a 20-year projection of "requirements for the services," i.e., need for SWUs. Because the word "requirement" means "something that is . . . needed," no other reading of the Staff guidance is reasonable. See *Webster's Third New International Dictionary* 1929 (1971).

In the face of these unequivocal statements in Regulatory Guide 4.9 that the Applicant should address the need for the facility in its ER — statements that represent the Staff's view of how to comply with the Commission's regulations — the Staff's testimony quoted above, at best, makes no sense and, at worst, is disingenuous. Most importantly, however, this kind of Staff testimony is completely unhelpful to the Licensing Board in resolving the matters before it.

CEC, it must be addressed in the FEIS as the need for the facility and, "to the fullest extent practicable," the benefit must be quantified.

And, contrary to the suggestion in the Intervenor's contention J.4, the Applicant is not limited to establishing the need for the CEC by showing that additional capacity for enriching uranium is essential to meet current or future demand — although such a showing is certainly one obvious way of demonstrating the benefit of the facility. Rather, because the need for the proposed facility is definitionally the primary benefit against which the various costs of the project are weighed in the cost-benefit analysis and NEPA does not dictate any substantive outcome for the cost-benefit balancing process, the principal benefit of the project does not have to arise to any minimum level or meet any other prescribed standard.⁶ In other words, whatever the benefit of the

⁶ Having been introduced by the Staff to Regulatory Guide 4.9 (see *supra* note 5), we note an additional troubling matter with obvious relevance to the need for the facility issue and the ultimate cost-benefit analysis in the Staff's EIS. In Chapter 8, entitled "Benefit-Cost Analysis," the Staff regulatory guidance states that:

This Chapter should demonstrate through a benefit-cost analysis of the proposed plant why in the applicant's judgment the aggregate benefits outweigh the aggregate costs. Even though the NRC will independently prepare a benefit-cost analysis of the proposed plant in its Environmental Statement, the applicant should perform its own analysis to aid the NRC in its evaluation.

The applicant should note that the major objective of the preparation of the environmental report is to demonstrate that the aggregate benefits outweigh the aggregate costs for the proposed plant.

Reg. Guide 4.9 at 4.9-25 (emphasis supplied). Although representing the Staff's view of how to comply with the Commission's regulations, this Staff guidance seemingly is at odds with the very purpose of the National Environmental Policy Act and the Commission's implementing regulations.

As indicated, NEPA calls for a forthright and objective analysis of the various costs and benefits of a proposed project. NEPA is an environmental full disclosure law and as such it does not dictate any preconceived result for that analysis, much less mandate a result requiring the benefits to outweigh the costs. See *supra* p. 341. Similarly, the Commission's implementing regulations do not call for such a preconceived result for the cost-benefit analysis performed in the Applicant's ER. Indeed, far from preordaining a specific outcome for that analysis, the regulations require the Applicant to provide in its ER "sufficient data to aid the Commission in its development of an independent analysis," 10 C.F.R. § 51.45(c), and instruct the Applicant that "[t]he information submitted pursuant to . . . this section should not be confined to information supporting the proposed action but should also include adverse information." 10 C.F.R. § 51.45(e).

The Staff's view of the Commission's regulations set out in Chapter 8 of Regulatory Guide 4.9 is disquieting and brings to mind the Appeal Board's admonition in *Florida Power & Light Co.* (St. Lucie Nuclear Power Plant, Unit 2), ALAB-435, 6 NRC 541, 544 (1977). Although in *St. Lucie* the Appeal Board was concerned with an alternative site analysis in a construction permit proceeding, the general thrust of its remarks bear repeating here:

We regret the necessity of having to state that the record of this case does not instill confidence in us that the staff always acts with that degree of care which would demonstrate its commitment to the vigorous enforcement of NEPA's commands regarding alternate site inquires. At different times in this proceeding, the staff appeared to treat compliance with NEPA as a hurdle in the path of, rather than a prerequisite to, the issuance of a nuclear power plant license. Manifestly, the staff's attitude toward environmental questions should be parallel to its generally commendable stance in the safety area. There, the staff quite properly treats an applicant's statements as those of a decidedly interested party. Accordingly, the staff reviews them with a trained, dispassionate and skeptical eye. Where the environment is concerned, the same sort of review should be the norm.

Lest we be misunderstood, we harbor no bias for or against any particular outcome of the staff's review of environmental matters. But a staff conclusion that an applicant's proposal passes muster is valuable only to the extent it represents the results of vigorous probing for possible shortcomings. Where that has been done, there is much more reason to trust the validity of the conclusion. 6 NRC at 544 (footnotes omitted).

proposed facility and whether that benefit is great or small, it must be addressed and, if practicable, quantified in the FEIS as the need for the facility.

2. *Assertion of Need in the ER and FEIS*

Here, as the Intervenor's contention asserts, the Applicant's ER, under the heading of "Need for Facility," merely states the yearly production capacity of the CEC of 1.5 million SWUs per year and asserts that this amounts to 15% of the requirements of domestic nuclear power plants. The ER then lists the suppliers of enriched uranium to the United States in 1988 and sets out a table of world enrichment services requirements for the years 1991 to 2010 prepared by ERI in 1990. (App. Exh. 1(h) at 1.2-1, Table 1.2-1.) In response to NRC Staff requests for additional information, the Applicant amended its ER to include ERI's 1991 mid-range projections for the years 1991 to 2030 of world enrichment services requirements and nuclear power growth, ERI's forecast of world enrichment capacity in the year 2000, and a graph depicting LES' estimation of the uncommitted SWUs market in the United States from 1992 to 2000. (App. Exh. 10 at A-1, Tables 1, 2, and 3, Graph 1.) Additionally, the Applicant asserted that:

The fundamental case for the CEC is that it can and will compete on economic grounds, allowing U.S. electric utilities a competitive source of supply so that they can in turn achieve the lowest cost reliable supply of electricity to their rate payers. This is achieved primarily because the centrifuge process uses only a small fraction of the electric power required by the competing diffusion plants. Also, its relatively benign environmental impact assures that this cost advantage will, if anything, grow in the future as environmental restrictions on enrichment plants and on the electric power sources which supply them come under increasingly severe restrictions.

A competitive domestic market will also act as a self-regulating mechanism to keep the DOE operations, whether managed by DOE or a successor corporation, operating as efficiently as possible. The successful introduction of a world-class technology to the United States will also provide a more complete perspective when future decisions to add or replace capacity must be made on a national basis.

(App. Exh. 10 at A-3 to A-4.)⁷

In the FEIS, the NRC Staff adopts the Applicant's assertion of need for the CEC. It states that "[b]ecause existing world enrichment capacity is adequate to meet demand for the foreseeable future, the need for this facility lies primarily in the need for an additional market competitor in the U.S., rather than in a need to increase world or U.S. enrichment capacity." (Staff Exh. 2 at 1-5

⁷ The Applicant repeats this same formulation of the need for the CEC in a number of additional responses to Staff requests for information on the no-action alternative (App. Exh. 11 at A-2) and on financial qualifications (App. Exh. 12, Attach. D at 5; App. Exh. 13, Attach. E at 5; App. Exh. 14, Attach. E at E-5).

(citation omitted).) As support, the Staff first reiterates ERI's 1991 demand forecast that, by the year 2000, requirements for enriched uranium in the United States are expected to increase slowly. It next states that premature reactor shutdowns affecting demand cannot be quantified at this time and it then lists the Applicant's estimates of the uncommitted SWU market in the U.S. through the year 2000. Finally, it recounts the Applicant's belief that the market provides an entry opportunity for LES to compete against the United States Enrichment Corporation ("USEC"). In conclusion, the Staff asserts that the CEC could be an effective competitor because the USEC's gaseous diffusion plants ("GDPs") are old and need maintenance and upgrades, use 50 times the electricity per SWU as the CEC, and may face increases in the cost of power due to required environmental upgrades on the plants supplying electricity. (*Id.*)

After setting out the above described discussion of the need for the CEC, the FEIS closes with a brief description of the United States-Russian weapons to plowshares agreement whereby the United States will purchase low enriched uranium ("LEU") blended down from high enriched uranium ("HEU") from dismantled nuclear weapons. According to the FEIS, the agreement requires the United States to purchase the equivalent of 92.1 million SWUs over the 20-year period from 1994 to 2013 with 10%, or approximately 1.8 million SWUs per year, supplied from 1994 to 1998 and 90%, or approximately 5.5 million SWUs per year, supplied from 1999 to 2013. The Staff states that the Russian LEU supplied from 1999 to 2013 is about 3.7 times larger than the coincident CEC output and represents about 15% of projected world demand, more than 50% of projected U.S. demand, and almost half of all uncommitted world demand. (*Id.* at 1-5 to 1-7.)

Although not included in its main discussion of need in the FEIS, the Staff states in an introductory summary to the FEIS:

It should be noted that the enrichment market in the future will continue to be highly competitive. . . . Although the exact timing and impacts of the Russian supplies and other potential competition are uncertain, they are likely to result in downward pressure on U.S. and world SWU prices. The potential price-depressing effect of the Russian LEU introduces an additional uncertainty concerning the economic feasibility of the CEC in the proposed time period.

(*Id.* at xviii.)

3. Board Findings on Parties' Positions

At the evidentiary hearing on CANT's contention J.4, the Applicant repeated its formulation of the need for the CEC (Schwartz-LeRoy at 12-13 fol. Tr. 383) and presented additional supply, demand, price, and market information in support of its position. (*Id.* at 14-55.) In a nutshell, the Applicant asserted

that, even though current and future enrichment capacity exceeds demand, the CEC will be able to produce its full capacity of 1.5 million SWUs per year at a price falling within ERI's future price forecasts and, therefore, can compete on the basis of price to capture 15% of the demand for enrichment services in the U.S. from current producers. The Staff took the position that the FEIS adequately describes the need for the CEC. (Horn re J.4 at 4-5 fol. Tr. 500.) The Intervenor, on the other hand, challenged the Applicant's supply, demand, price, and market information and the Applicant's claim that LES would bring price competition to the market. (Osterberg at 4-25 fol. Tr. 451.)

Initially, it bears repeating that the CEC will use gas centrifuge technology licensed by Urenco and that the facility has a design capacity of 1.5 million SWUs per year. Also we note that pursuant to the provisions of the proprietary "Agreement of Limited Partnership of Louisiana Energy Services, L.P." ("Partnership Agreement"), the CEC, as a practical matter, cannot market its enrichment services outside the United States (I-DO-44 art. IX, § 9.2(c); art. V, §§ 5.1, 5.2(a) & (d), 5.3(a), Schedule B; Osterberg Tr. 821-22; I-DO-23 at 13) and, in any event, the Applicant intends only to market its services in the U.S. (Schwartz-LeRoy at 27 fol. Tr. 383.) Further, because of the manner in which commerce for the various components of the nuclear fuel cycle developed, uranium enrichers perform a service on customer-owned uranium hexafluoride but the enricher retains the depleted uranium tails. This enrichment service, again because of an historical anachronism, is measured in terms of the work or effort required to enrich the material to the desired level, called a separative work unit or SWU. Thus, when examining the supply component of the enrichment market, the principal focus historically has been on the capacity to provide enrichment services or SWUs. With the advent of transactions such as the purchase by the United States of large quantities of Russian LEU derived from blended-down weapons HEU, however, the enriched uranium is purchased by weight and a conversion to SWUs is necessary in order to make symmetrical comparisons.

With this background we first address the issues of supply and demand for enrichment services. The Applicant and the Staff do not assert that the CEC is needed to meet current or future demand. Nonetheless, these fundamental market forces are relevant to their assertions that the principal benefit against which the costs of the facility are weighed is the CEC's ability to bring price competition to the enrichment services market, thereby permitting the CEC's utility customers to achieve the lowest-cost electric rates.

a. Supply

Currently, the four major producers of enrichment services are (1) the United States Enrichment Corporation with GDPs in Paducah, Kentucky, and Portsmouth, Ohio; (2) Eurodif with a GDP in France; (3) Urenco with gas

centrifuge facilities in Germany, the United Kingdom, and the Netherlands; and (4) Russia with gas centrifuge facilities. (I-DO-23 at 4; I-DO-20 at 33, Table 16; Schwartz-LeRoy at 14 fol. Tr. 383.) In addition, Japan, the People's Republic of China, Brazil, Argentina, and Pakistan have modest capabilities to produce enriched uranium; at present, however, these capacities, with the possible exception of a small amount in the People's Republic of China, are either solely for internal use or are not economically competitive on the world market. (Schwartz-LeRoy at 14, 31 fol. Tr. 383; I-DO-23 at 4.)

According to the 1992 amendment to its ER, which included an undated table of worldwide enrichment capacity compiled by ERI, worldwide enrichment capacity stood at 43.7 million SWUs per year in 1990. Of that figure, 19.2 million SWUs per year were listed as the capacity of what were then the Department of Energy's Paducah (11.3 million) and Portsmouth (7.9 million) GDPs. ERI forecasts that, in the year 2000, there would be 49.1 million SWUs per year of worldwide capacity with the same 19.2 million SWU per year capacity from the domestic GDPs. (App. Exh. 10, Attach. A, Table 3.)

At the hearing, the Applicant did not introduce into the evidentiary record ERI's latest 1994 nuclear fuel cycle supply, demand, and price report containing its complete market forecasts. *See supra* p. 342. *See also* I-DO-19 at 57, Table 31 note c. Instead, the Applicant's witness, Mr. Schwartz, testified that in 1995 worldwide enrichment capacity was approximately 42 million SWUs per year which he labeled as being "generally consistent" with ERI's 1990 estimate of 43.7 million SWUs per year. He forecast that, by the year 2000, there is an upper-end potential for 51 million SWUs per year from worldwide production facilities. (Schwartz-LeRoy at 16-17 fol. Tr. 383.) According to Mr. Schwartz, capacity increases by Urenco and Russia could result in an additional 6.5 million SWUs per year by that time and the People's Republic of China, Japan, and other minor suppliers have the potential to add another 1.5 million SWUs per year. (*Id.* at 20, 21.)

In variously qualifying his estimates and forecasts, the Applicant's expert noted, first, that 15% of ERI's projected 51 million SWU per year capacity in the year 2000 was made up of relatively high-cost portions of GDP capacity in the United States and France. With respect to the U.S. facilities, he predicted that, because only 6.5 million of the Portsmouth plant's 7.9 million SWU per year capacity is considered economically competitive, the USEC would decide either to place the plant on stand-by or retire it by the year 2000. (*Id.* at 21.) He indicated in other testimony, however, that the USEC has made public announcements that it has no current plans to close either of the GDPs anytime soon and that the President and CEO of USEC has been reported in the trade press as saying the expected life of the GDPs was another 15 years. (*Id.* at 18, 51.) In addition, he noted that 25% of ERI's projected world capacity figure was located in Russia and, therefore, was vulnerable to political and

economic uncertainties. Further, he stated that the Russian capacity was subject to trade restrictions in Western Europe and the United States. Specifically, he mentioned the enormously complex Russian Suspension Agreement and its 1994 Amendment that restrict the amount of Russian uranium that can enter the United States. (*Id.* at 17, 21, 43-45.)

In addition to the enrichment production capacity he described, Mr. Schwartz indicated that up to 9 million more SWUs per year could become available to commercial markets from blended-down Russian and American HEU. In this regard, he asserted that the agreement for the USEC, as the Executive Agent for the United States, to purchase 500 metric tons of Russian weapons HEU over 20 years could, under current schedules, result in the delivery to the USEC of enriched uranium equivalent to 2 million SWUs per year over the next 5 years which could rise to as much as 7 million SWUs over the following 15 years. (*Id.* at 41-43.) Similarly, he indicated that sales from the stockpiles of the United States could amount to 300 metric tons of HEU reaching the market as LEU, which is equivalent to a total of 47 million SWUs or about 3 million SWUs per year. (*Id.* at 53.) In summary, he forecast that, excluding production from the USEC's Portsmouth plant, but including Russian and American HEU-derived supply, "the resulting supply of enrichment services should be sufficient to meet expected levels of demand during the next 20 years." (*Id.* at 21-22.)

With respect solely to enrichment capacity of the United States, Mr. Schwartz, consistent with ERI's earlier estimate included in the Applicant's ER, asserted that the capacity of USEC's two GDPs was 19.2 million SWUs per year with 11.3 million of that at Paducah and 7.9 million at Portsmouth. He reiterated that a portion of the USEC capacity was not economically competitive and also stated that USEC currently has contract commitments for some 4 million SWUs per year to customers outside the United States. Nonetheless, he concluded that, because ERI's mid- and high-range forecasts for demand in the United States called for no more than 9.5 million and 11 million SWUs per year, respectively, during the next 20 years, current USEC enrichment capacity was sufficient to meet such demand through the year 2010. (*Id.* at 27-28.)

The Intervenor's expert, Mr. Osterberg, testified that it was generally acknowledged that the supply of SWUs was greatly in excess of any reasonable need for this product. (Osterberg at 5 fol. Tr. 451; Tr. 483.) Specifically, he relied upon the then-latest December 1994 estimates of the Department of Energy's independent statistical and analytical agency, the Energy Information Administration ("EIA"), reporting that "[t]he current worldwide enrichment capacity of 46.7 million SWU is more than enough to meet the expected demand" (I-DO-19 at xi; Osterberg at 5 fol. Tr. 451) and the 1993 EIA estimate that placed worldwide enrichment capacity at 46.1 million SWU stating that, "[c]learly, with capacity far in excess of annual requirements, the enrichment services market is highly competitive." (I-DO-20 at xi; Osterberg at 5-6 fol. Tr. 451.) Mr.

Osterberg also referenced other sources such as (1) a June 1994 *Nukem Market Report* article on Urenco that stated the world's four major SWU suppliers alone had a capacity of 45 million SWUs per year versus a global demand on the order of 34 million SWUs per year and concluded "[i]n short, the market appears destined to remain oversupplied for a very long time" (I-DO-21 at 9; Osterberg at 6 fol. Tr. 451); and (2) an October 11, 1993 *Nuclear Fuel* special report on USEC stating that Urenco's managing director, speaking at the 1993 enrichment conference, placed existing worldwide enrichment capacity at about 45 million SWUs per year with the four major producers accounting for 43 million SWUs per year, but with a demand of 34 million SWUs per year. (I-DO-23 at 2, 4.) These figures led the publication to conclude that "overcapacity is the dominant fact of life for enrichers in the 1990s, making enrichment services a buyer's market." (*Id.* at 2; Osterberg at 6 fol. Tr. 451.)

The Intervenor's expert also asserted that worldwide enrichment production capacity was expanding, not contracting, but he emphasized that this expansion in various countries does not imply that there is any economic justification for expanding SWU capacity in general. Rather, almost all of the expansion was directed by specific national policy considerations within each country because, unlike the United States, most of these countries do not have enough enrichment capacity to serve their domestic demand. (Osterberg at 7 fol. Tr. 451.) In particular, he pointed to the announced expansion of Japanese and Urenco capacity as increasing EIA's capacity estimates from 46.1 million SWUs in 1992 to 47.1 million SWUs in 1995. (Osterberg at 6 fol. Tr. 451; I-DO-20 at 33.) Further, he claimed that Russia's effective capacity recently has grown as it has converted military SWU production to domestic purposes and he cited this factor as partially accounting for the 10% capacity differences between EIA's higher estimates and ERI's lower ones. (Osterberg at 7 fol. Tr. 451; Tr. 523-25.) Finally, CANT's expert expressed optimism that the Russian HEU purchased by the United States under the weapons to plowshares agreement would come onto the market and he stated that it was unreasonable to conclude otherwise. (Tr. at 521-22.)

The estimates of the Applicant and the Intervenor of current and future worldwide enrichment capacity do not precisely correspond. Nonetheless, their respective estimates and forecasts are not widely divergent and there is no significant disagreement that current and future supply exceeds demand requirements. Further, in assessing those forecasts, we recognize that because forecasts look into the future on the basis of the information available today, they provide no absolute answers. Rather, they must be judged on their reasonableness. Here, the estimates or forecasts of ERI relied upon by the Applicant or those of EIA relied upon by the Intervenor are not unreasonable. Therefore, based upon those forecasts, we find that the current and future worldwide supply of enrichment production capacity and the supply of enriched

uranium available to the commercial market exceeds, and will continue to exceed well into the future, worldwide demand requirements. We find that the same situation pertains to the supply situation within the United States.

On the record before us, we do, however, find unreasonable Mr. Schwartz's caveat to his worldwide supply forecast that if any of the major sources of enrichment services are interrupted, then the expected level of world demand would exceed supply. (Schwartz-LeRoy at 22 fol. Tr. 383.) Even giving no consideration to the testimony of Mr. Osterberg, Mr. Schwartz's own testimony on future supply stands in direct contravention of his caveat, which was not supported with any other significant evidence establishing the likelihood or reasonableness of such a scenario. Further, it seems apparent that the 1996 enactment of the USEC Privatization Act, Pub. L. No. 104-134, 110 Stat 1321 (1996), provides additional assurance that LEU derived from Russian weapons HEU will reach the commercial market, albeit on a slightly delayed but more generous schedule. That Act also appears to pave the way for some of DOE's existing stockpiles of enriched uranium to reach the commercial market in the near and intermediate term and with respect to the long term, it authorizes future commercial sales of such DOE material in a way that limits the material's adverse impacts on uranium mining, conversion, and enrichment industries in the United States. *See* 42 U.S.C. § 2297h-10.

b. Demand

Outside of military applications and use in small quantities as fuel for research reactors, the only use for enriched uranium is as fuel for nuclear reactors in order to produce electricity. Therefore, in gauging the demand component of the market for enriched uranium, the determinative factors are the number of nuclear reactors that are currently operating and those expected to be operating in the future. As a general rule of thumb, a typical 1000-megawatt reactor requires approximately 100,000 SWUs per year of enrichment services.

In its ER, the Applicant included a table listing ERI's 1990 projected world enrichment requirements from 1990 to 2010 forecasting, inter alia, that, in the years 1995, 2000, 2005, and 2010, world SWU demand would be about 30 million, 33 million, 37 million, and 40 million SWUs per year, respectively. ERI's 1990 forecast listed SWU demand for the United States in the years 1995, 2000, 2005, and 2010 as 9.5 million, 8.5 million, 8.7 million, and 10.2 million, respectively. (App. Exh. 1(h), Table 1.2-1.) Although at the hearing the Applicant did not introduce into evidence ERI's latest 1994 nuclear fuel cycle report containing its complete market forecasts, the Applicant's expert, Mr. Schwartz, testified that the current world SWU demand was about 28 million SWUs per year. He stated that ERI's latest mid-range forecast projected that SWU demand would grow slightly between 1995 and 2000, increasing to about

31 million by 2010 and approach 32 million SWUs per year by 2015. He gave ERI's current low-range SWU demand forecast for the years 2000, 2010, and 2015 as 27 million, 26 million, and 22 million SWUs per year, respectively, and the high-range forecast for these years as 31 million, 38 million, and 42 million SWUs per year, respectively. Regarding the SWU requirements of the United States, the Applicant's expert testified that current U.S. demand was 9.5 million SWUs per year. He further stated that ERI's mid-range forecast projected that demand was not expected to exceed 9.5 million SWUs through the year 2010, after which demand will decline. In ERI's high-range forecast, demand was not expected to exceed 11 million SWUs per year. In contrast, ERI's low-range demand forecast for the United States showed a decline into the future. (Schwartz-LeRoy at 22-23, 25-26, 27 fol. Tr. 383; Tr. 393, 432.)

Mr. Schwartz explained that ERI's 1990 SWU world demand forecast set out in the Applicant's ER for the years 2000, 2005, and 2010 was approximately 13%, 18%, and 22% higher, respectively, than ERI's current mid-range forecast. He attributed ERI's overestimation of demand to the very significant reduction in the prospects for Russian expansion of its nuclear power program that came to light in the West in the 1990s along with the recession in Europe during the early 1990s that led to a reduction in electricity production and reduction in the nuclear role. (Schwartz-LeRoy at 26 fol. Tr. 383; Tr. 433-34.) Mr. Schwartz testified that, because ERI does not currently see any substantial nuclear generating growth in those parts of the world, accurate forecasting today depends upon the extent to which existing plants will continue to operate. (Tr. 434.)

Mr. Schwartz explained that ERI's world SWU forecasts are based upon three corresponding projections of nuclear electric generation capacity representing low-, mid-, and high-range nuclear power growth scenarios to take into account the uncertainties involved in long-term predictions of economic and political climates around the world. (Schwartz-LeRoy at 23-24 fol. Tr. 383.) He stated that ERI's worldwide mid-case growth forecast shows an average nuclear growth capacity rate of 1.0% through the year 2010, dropping to about 0.3% thereafter as the effects of plant retirements begin. This same forecast shows no growth of nuclear capacity in the United States through the year 2010, followed by a decline of 2.4% per year as older plants retire. The mid-case forecast for the United States assumes that, in the next 7 to 15 years, six nuclear power plants will retire prior to the expiration of their operating licenses. Mr. Schwartz asserted that ERI's mid-case growth forecast is consistent with current trends and he considers it the most likely scenario at the present time. (Schwartz-LeRoy at 24, 54 fol. Tr. 383; Tr. 432.) ERI's high-case growth forecast for nuclear generation is generally consistent with announced utility schedules for identified nuclear plants in the midterm and projects an annual growth rate of approximately 2.2% on a world basis through the year 2015, which is twice the growth rate of ERI's mid-case growth forecast. The high-case forecast for

the United States shows life extension for some reactors beyond their original licenses and, in later years, some new reactors. (Schwartz-LeRoy at 25 fol. Tr. 383; Tr. 416-17.) ERI's worldwide low-case growth forecast indicates a future lack of support for the nuclear option by most countries, including the United States, which results in no annual growth on a world basis through 2010 followed by a decline of 2.6% per year. Under this scenario, the addition of new nuclear generation capability beyond those units already nearing completion is limited to Japan, Korea, and France and, in the United States, it is assumed that seven plants will shut down prematurely over the next 8 years. (Schwartz-LeRoy at 25 fol. Tr. 383; Tr. 432.)

Because the demand for SWUs is directly dependent on the number of reactors requiring nuclear fuel services, the Intervenor's expert also testified regarding the number of nuclear reactors likely to be operating in the future and the various factors that needed to be taken into account in various demand projections. According to Mr. Osterberg, estimates of the number of nuclear reactors likely to require enrichment services have suffered from extreme optimism, starting with the 1973 Atomic Energy Commission estimate that by the year 2000 nuclear reactors would total 1,200,000 megawatts, more than ten times what we will see in that year. (Osterberg at 7-8 fol. Tr. 451; I-DO-24 at 22.) He testified that he had never seen an estimate for how many nuclear power plants are going to exist or how many SWUs are going to be needed that was too low. Rather, such estimates are always too high. (Tr. 791.)

Mr. Osterberg introduced EIA's 1994 nuclear capacity estimates and noted that these forecasts had been revised downward over time. (I-DO-19; Osterberg at 8 fol. Tr. 451.) He noted that EIA's 1994 forecasts reduced its previous year's 1993 high-case capacity projection for the year 2010 by 17 Gigawatts electric ("GWe"). Unlike ERI's forecasts, the EIA presents only low- and high-case scenarios. EIA's then-latest December 1994 low-case forecast projects that worldwide nuclear capacity will increase slightly from 338.1 GWe in 1993 to 354.7 GWe in the year 2010, representing an annual growth rate of 0.3%, while its high-case projection goes from 338.1 GWe to 410.3 GWe in the year 2010, representing an annual growth rate of 1.1%. (I-DO-19 at ix-x; Osterberg at 8 fol. Tr. 451.) Mr. Osterberg testified that EIA's 1994 low-case projection failed to take into account the 1994 year-end action of the Tennessee Valley Authority ("TVA") to halt construction of three nuclear units, so that EIA's low-case estimates are high by approximately 3.6 GWe. With respect to the United States, EIA's 1994 forecast projects that nuclear capacity will decline slightly from 99.0 GWe in 1993 to 90.7 GWe in the year 2010 in its low case and from 99.0 GWe in 1993 to 94.7 GWe in the year 2010 in its high case. Again, however, EIA's domestic forecast did not take into account TVA's action halting three units. (I-DO-19 at x; Osterberg at 9 fol. Tr. 451.)

The Intervenor's expert indicated that EIA's nuclear capacity estimates also remain too high because they do not properly take into account the early retirement of currently operating nuclear reactors. For the same reason, he stated that ERI's worldwide SWU estimates remain too high even though in its 1994 forecast ERI reduced its estimate almost 40 million SWUs per year for the 1994-2005 period. He leveled the same criticism at ERI's domestic SWU demand that continues to rise over time. (Osterberg at 11 fol. Tr. 451.) Noting his agreement with Wall Street financial analysts' predictions in 1993 that over the next several to 10 years up to twenty-five operating nuclear reactors could close prematurely (I-DO-27 at 1), Mr. Osterberg cited the following factors that led him to conclude domestic nuclear plant closings will be substantial and higher than ERI predicts: (1) continued high operating and maintenance ("O&M") costs for nuclear plants that since 1987 have exceeded the costs for coal-fired plants that are nuclear technology's main competitor (Osterberg at 12 fol. Tr. 451; I-DO-19 at 39-40; I-DO-28 at 4); (2) changes in historic utility regulation that have forced utilities to demonstrate how they can produce energy services most cheaply (Osterberg at 13 fol. Tr. 451; I-DO-19 at 7, 9); (3) direct competition for utilities from practices like retail wheeling that could lead to stranded investments in nuclear plants with high O&M costs (Osterberg at 14 fol. Tr. 451; I-DO-30); and (4) specific events in the life of a nuclear plant such as the need to replace a steam generator (Osterberg at 15-16; I-DO-28 at 8; I-DO-31.) Finally, the Intervenor's expert testified that, for the foreseeable future, new domestic electric generating demand will be met by small- to medium-size gas turbine units, not new nuclear or even coal baseload units, and that efficiency (i.e., producing "negawatt" hours not kilowatt hours) will be responsible for a large share of the energy services in the future. (Osterberg at 17-18 fol. Tr. 451; I-DO-32.)

Like the forecasts of SWU supply of the Applicant and the Intervenor, their estimates and forecasts of (1) nuclear generation capacity and rates of growth or decline and (2) SWU demand do not precisely correspond. Indeed, because of the manner in which the witnesses for the Applicant and the Intervenor presented their demand estimates and forecasts, their respective projections cannot be directly compared. What is clear, however, is that their estimates and forecasts are not widely divergent and there is no significant disagreement that current and future demand requirements for SWUs are far less than the production capacity for enriched uranium and equivalent SWUs from, inter alia, down-blended HEU. Once again, we cannot find that either the estimates or forecasts relied upon by the Applicant or the Intervenor are unreasonable. For present purposes it is sufficient to find, as we do, that current and future worldwide demand requirements for SWUs are substantially less and will continue to be substantially less well into the future than the worldwide production capacity for enriched uranium and supply of SWU equivalents. Further, we find that the

current and future demand requirements for SWUs within the United States are substantially less and will continue to be substantially less well into the future than domestic production capacity for enriched uranium and the supply of SWU equivalents.

We note that in resolving this market demand question and this contention, it is not necessary to choose among the various premature nuclear plant closing scenarios forecast by the experts for the Applicant and the Intervenor — the most pronounced area of disagreement between them. The Applicant's high-case forecast for the United States includes life extension for some reactors and some new reactors in the later years. Its mid-case forecast, which Mr. Schwartz found most likely, and its low-case forecast include six plant closings over the next 7 to 15 years and seven plant closings over the next 8 years, respectively. The Applicant's expert also mentioned a 1994 forecast of eight to ten plant closings over the next 4 to 6 years by former NRC Commissioner Asselstine, who is currently a senior vice president of Lehman Brothers. (Tr. 432-33.) The Intervenor, on the other hand, relies upon a 1993 forecast by other analysts at then Shearson Lehman Brothers who estimated up to twenty-five plant closings in the next 10 years. (I-DO-27 at 1.)

Although we are a bit dubious of Mr. Schwartz's claim that ERI's forecasts are "quite consistent" (Tr. 433) with those of former Commissioner Asselstine, what is clear is that there is general agreement there will be a significant number of premature nuclear plant closings in the United States in the coming years. Indeed, even under the Applicant's concededly unlikely high-case forecast where there are no plant closings, demand does not exceed supply. Nor would that situation change under any of the other likely permutations mentioned by the witnesses. Obviously, if the Intervenor's forecast ultimately proves correct, the already significant and substantial excess supply of SWUs over demand will only be further exacerbated.

c. Competition and Character of Market

As should hardly be surprising in a market where supply greatly exceeds demand requirements, the market for SWUs is very highly competitive. The Applicant's expert as well as the expert witness for the Intervenor both agree on the general degree of competition in the market for enrichment services and the character of the market itself.

The Applicant's expert, Mr. Schwartz, testified that the market for enrichment services "very much is an international market." (Tr. 398.) He also unequivocally stated that the international market for enrichment services today "is very highly competitive." (Tr. 399.) Consistent with this testimony, Mr. Schwartz also testified that USEC's customers in the United States include about 85% of American utilities with requirements of 8 million SWUs per year as well as a

predominant share of up to 3.5 million SWUs per year of the requirements of Japan, South Korea, and Taiwan. He stated that USEC also had customers in France, Germany, Mexico, Sweden, Switzerland, Spain, and Yugoslavia that account for about 750,000 SWUs per year. (Schwartz-LeRoy at 16 fol. Tr. 383.) The Applicant's expert predicted that over the long term he expected USEC would be able to retain about 75% of its foreign business. (Tr. 413.) Further, he testified that 15% of the demand in the United States currently was met by suppliers other than USEC and he forecast that, by the year 2000, USEC will retain only 45 to 75% of its United States utility business, losing that market share to Urenco, Eurodif, Russia, and LES. (Tr. 396-97.) Finally, he noted that Urenco had been able to compete in the United States "[v]ery effectively." (Tr. 431.)

Similarly, the Intervenor's expert, Mr. Osterberg, testified that although in the past DOE maintained a monopoly position as world supplier of SWUs, that situation has completely changed so that today the SWU market is competitive and worldwide. (Osterberg at 23 fol. Tr. 451.) Among other things, he referenced a 1987 Report of the General Accounting Office concluding that the enrichment services market was international (I-DO-34 at 21) and a June 1994 *Nukem Market Report* article about Urenco that stated "[c]ompetition in the global SWU market is becoming fierce as the nuclear fuel market continues to contract" (I-DO-21 at 8) and quoted Dr. Klaus P. Messer, the Chief Executive of Urenco, as declaring that "[t]he current enrichment market is so limited that if you want to expand, you have to take business away from another enricher." (*Id.* at 9; Osterberg at 23-24 fol. Tr. 451.)

Further, that article recites that Urenco has 9% of the global market, USEC 43%, Eurodif 23%, Russia 21%, and a few minor players account for 4%. (I-DO-21 at 9.) In his testimony, Mr. Osterberg criticized the Applicant's discussion in its ER amendments and the Staff's discussion in the FEIS on the need for the facility because they assume there is a domestic market of SWUs that needs additional competition when, in fact, the market for SWUs is international and already very competitive. (Osterberg at 5 fol. Tr. 451.) He asserts that because the market is international and depends on both the supply of all current producers of SWUs and the various alternatives to new SWU production, events outside the United States will greatly impact the LES project. Thus, he testified there is no such thing as an exclusively domestic market because domestic utilities that need to purchase enrichment services do not limit their purchases to the United States, but buy worldwide. According to Mr. Osterberg, the worldwide enrichment market is highly competitive and will continue to be so for the foreseeable future. (*Id.* at 24-25; I-DO-21 at 9.)

On the basis of the record before us, we find that the enrichment services market is international and fiercely competitive. Further, we find that the market will remain very highly competitive for the foreseeable future.

d. Price and LES' Price Competitiveness

Although the expert witnesses for the Applicant and the Intervenor generally agree that the supply of SWUs exceeds demand requirements and that the SWU market is international and very highly competitive, they disagree on the effect these economic factors will have on LES' entry into the market as a SWU supplier that, in the Applicant's words, "can and will compete on economic grounds, allowing U.S. electric utilities a competitive source of supply so that they can in turn achieve the lowest cost reliable supply of electricity to their ratepayers." (App. Exh. 10 at A-3.) Stated otherwise, on the question whether LES will bring real price competition to the SWU market as an additional domestic supplier — which is the asserted benefit to be weighed against the various costs of the facility in the NEPA-required cost-benefit analysis — they are in substantial disagreement.

The Applicant's expert testified that ERI's projections of future enrichment market prices for term contracts use a methodology that combines uncommitted requirements with uncommitted supply in accordance with clearing price economic considerations to obtain long-term, cost-based prices. ERI's methodology separates each supplier's facilities into production capacity increments; production-cost-based prices are then estimated in discounted cash flow analyses that account for all production costs and assume a return on capital investment. The estimated production costs of each supplier are used in a production-cost-based clearing price model to project market prices.

Using this method, Mr. Schwartz testified that ERI forecasts that, for 1996 to 1998, average enrichment prices, in 1994 dollars, will be in a range between \$92 and \$105 per SWU and, for 1999 to 2001, average enrichment prices will be in a range between \$98 and \$113 per SWU. After 2000, ERI projects market prices will remain relatively flat in a range between \$100 and \$115 per SWU. (Schwartz-LeRoy at 29-32 fol. Tr. 383.) On cross-examination, Mr. Schwartz revealed that ERI's price-range forecast for the years after 2000 included the production of the CEC and, if the production of the CEC were not included, ERI's forecast price would be \$2 to \$3 higher or between \$103 and \$118 per SWU. (Tr. 386-87, 442.)

Mr. Schwartz also testified that the pricing agreement for Russian down-blended HEU provides that for 1994 the enrichment component of the LEU purchased by the USEC is priced at \$82.10 per SWU. (Schwartz-LeRoy at 42 fol. Tr. 383.) Further, he stated that the USEC's marginal cost of production was \$55 per SWU. He indicated that USEC pays a cost of several dollars per SWU for implementing the disarmament policy of the United States at the current agreement price and predicted a future offset from the U.S. government so that ultimately USEC's blended price of a mix that also included American and Russian HEU would be about \$70 per SWU. (Tr. 388, 400.)

Mr. Schwartz asserted that, if the price offered by LES falls into ERI's forecast price range, LES should be competitive. (Schwartz-LeRoy at 34 fol. Tr. 383.) He testified that the fact that there is excess supply capacity in the enrichment services market is not pertinent to determining the need for the CEC. He stated that the objective of utilities purchasing enrichment services is to minimize their fuel costs and maximize the security of supply, so another supplier in the United States offering services on a competitive basis would be welcome. (*Id.* at 28.) Similarly, he asserted that the marketing of Russian HEU in the United States is not a problem with respect to LES' ability to compete even if all of the Russian material is sold into the market. (Tr. 427.) In like vein, Mr. LeRoy testified that LES' current projections and financial model analyses indicate that LES can reasonably expect to be competitive in the enrichment services market within ERI's forecast price ranges and still cover its construction and operation costs. (Schwartz-LeRoy at 37-39 fol. Tr. 383.)

The Applicant's witnesses for the financial qualifications contention also testified that LES seeks to capture 17% of the enrichment services market in the United States by selling the full 1.5 million SWU per year output of the CEC. (Doudiet-Arnold at 12 fol. Tr. 563.) These witnesses stated that the \$816 million hard construction costs of the CEC (in 1992 dollars) would be financed using a debt-to-equity ratio of between 60/40 and 70/30 with 60 to 70% of the funds borrowed from international banks and the remaining 30 to 40% equity raised from the limited partners of the LES partnership. The Applicant's witnesses indicated that the financing would be for a 10-year term and they forecast an 8.5 to 9% interest rate. (*Id.* at 14, 17, 28; Tr. 654, 656.)

In this regard, Mr. Schwartz asserted that the LES would be able to compete, even though it was carrying the capital costs of a new facility, because the operating costs of the CEC centrifuge facility are extremely low compared to gaseous diffusion plants. (Tr. 424.) He then indicated, without defining his terms, that "[i]ts production costs are approximately 25 percent of the production — excuse me — the operating costs of its competitors." (Tr. 425.) The Applicant's expert stated that because centrifuge enrichment producers have most of their costs on the "capital side" as opposed to the "operating side" it gives such producers much more flexibility to meet market pricing than enrichers using GDPs. (Tr. 508, 416, 424, 513.) On cross-examination, however, he testified that such flexibility does not mean that LES could produce SWUs at lower prices because the total production costs of the CEC and gaseous diffusion producers, which include both the capital and the operating costs, are comparable. Rather, Mr. Schwartz agreed that such flexibility meant that centrifuge enrichment producers can offer lower prices but they will be paying their investors less as a consequence. (Tr. 513-14.) Further, he testified that LES could sell SWUs into the market at prices as low as \$60 per SWU and

cover all of its operating costs and debt before its profit component goes to zero. (Tr. 424.)

The Applicant's expert also asserted that a new entrant into the enrichment services market does not need to sell substantially below the market price to enter the market. According to Mr. Schwartz, this is so because the level of competition that exists today, unlike 10 years ago, has resulted in pricing being much closer to the cost of production than in the past so that margins are now smaller. (Tr. 508.) Mr. Schwartz said that an existing supplier could drop its price in an attempt to keep competitors out but it could not do that for all of its sales because the supplier must cover its fixed cost. He stated that a supplier can compete for a particular transaction and win it with lower prices but a supplier cannot continuously do that for all transactions. (Tr. 509.)

With regard to the particular competitors now in the enrichment market, Mr. Schwartz asserted that the European competitors will not revert to standard competitive tactics and drop their prices to preclude LES from entering the market because there is a currency exchange rate risk for them and he "would expect that there will be a limit to how much they are willing to tie up with U.S. business to control that risk." (Tr. 414-15.) With respect to the USEC, Mr. Schwartz testified that, based on history, he did not expect it to act to keep LES out of the market. (Tr. 415.) He indicated that, in the past when prices were much higher than today, USEC's predecessor, DOE, dropped its prices very drastically in the face of competition from the then new market entrants, Eurodif and Urenco, but those producers were, nevertheless, able to compete. (Tr. 430.) He stated that he did not "see a situation where the current market competitors are going to drop their prices substantially below where they are today to keep LES from competing." (Tr. 430-31.)

Finally, Mr. Schwartz testified that based on what ERI had seen over the last 10 years, each increment of competition is very important and it is the willingness of individual suppliers to go after enrichment services that keep prices from rising. (Tr. 416.) He stated that a new competitor would not cause prices to be lowered further; instead, prices would be maintained at the levels he predicted, thereby forestalling future price increases caused by the lack of competition. (Tr. 401-02.)

The Intervenor's expert testified that, in a market with an oversupply of SWU capacity and a shrinking demand, it is possible for a very low-cost producer to find a share of the market. (Osterberg at 19 fol. Tr. 451.) He emphasized, however, that a new producer has to have substantially lower costs to get into one of these markets. (Tr. 493-94.) Mr. Osterberg asserted that LES is unlikely to fill the role of a very low-cost producer because, even assuming the CEC's low production costs, LES will be carrying the heavy capital costs of an undepreciated plant. (Osterberg at 19 fol. Tr. 451.) In this regard, he contrasted the CEC with current SWU producers, all of which carry lesser

capital costs because their plants are older and are partially or fully depreciated. Mr. Osterberg noted that the Russians will continue to be the low-cost producer of SWUs and that Urenco, which uses similar technology to that proposed by LES, can produce more cheaply from partially depreciated plants in Europe than the CEC. He stated that Eurodif will likely continue to compete using its older gaseous diffusion plant, and the USEC plants, which are quite old and substantially depreciated, will continue to be competitive as they do not carry a large burden of capital costs that must be amortized. (*Id.* at 20.) As one of Intervenor's exhibits shows, Eurodif's GDP began operating in 1982, while Urenco's three European plants started up between 1975 and 1985, and USEC's Paducah and Portsmouth GDPs were completed in 1951 and 1956, respectively. (I-DO-23 at 3-4.)

Mr. Osterberg further testified it is a fundamental economic principle that the already constructed plants of LES' competitors can be expected to continue to produce as long as something above marginal costs is being covered. Consequently, it is not low operating and maintenance costs that dictate whether the CEC has the ability to compete successfully, it is the CEC's total costs — including paying its lenders for its construction costs — that will determine the CEC's ability to compete because it has not yet been constructed. Mr. Osterberg concluded that logic dictates that, even with low operating and maintenance costs, the CEC is unlikely to be a successful competitor with producers that do not have such heavy capital costs. (Osterberg at 20-21 fol. Tr. 451.)

Similarly, Mr. Osterberg stated that LES' claim that the level of demand and supply will not affect LES' position as a competitor overlooks the fact that the CEC will not exist until LES constructs it. According to Mr. Osterberg, because supply and demand are so far apart in the enrichment market, LES will not get the opportunity to construct the CEC because the project is too risky to attract lenders at a rate of return low enough for the project to proceed. (Tr. 528-29, 536-37, 543-44. *See also* I-DO-44, Exh. D at D-4.) In that regard, he asserted that LES' estimated interest rate was unreasonably low. (Tr. 537, 539.) Because supply and demand in the relevant market are so far out of kilter, he indicated that hypothetical questions that assume the construction of the CEC and then seek to measure the impact make an assumption that does not make economic sense. (Tr. 529-30.)

Mr. Osterberg testified there were several answers to the question of the amount of price competition LES would bring to the enrichment services market. (Tr. 531.) He stated that, on the one hand, "LES is saying that it isn't going to make it very much more competitive at all with the prices staying about the same as they are." (Tr. 530.) He asserted that LES' own projections show that LES' entry into the market will have very little effect on price (Tr. 539-40) and he stated that a \$3 differential in LES' forecast range of \$100 to \$115 per SWU

in the years after 2000 on an estimate that is 6 years out “is kind of like [pocket] change.” (Tr. 531.)

Mr. Osterberg stated, on the other hand, there is also the possibility of a big competitive effect if prices are driven down substantially by the entry of a new supplier at a time when there is already excess supply in the market. (*Id.*) According to the Intervenor’s expert, the assumptions that go into the pricing model determine which of these two scenarios will occur. Because of the number of assumptions that must be made in predicting price, he stated that it is much harder to predict than predicting just supply or demand. Mr. Osterberg said that to forecast price, it is necessary to first predict supply as well as demand and also predict the behavior of the other market participants on the supply curve. He stated that, here, the market behaviors of USEC, Eurodif, Urenco, and the Russians all play a part in forecasting price and it is difficult to predict their behaviors. Mr. Osterberg declared that this difficulty in predicting competitor behavior translates into another of the risk factors he believes will preclude the facility from ever being built in this market. (Tr. 531-34, 540-42, 545.) To illustrate the size of the risk, he pointed to the 22% differential between ERI’s 1990 and 1994 demand forecasts for the year 2010. He noted that while predicting demand is easier than predicting price, a similarly sized error in the price forecast would have a very, very large negative effect on LES. (Tr. 540-41.) Additionally, he disagreed with ERI’s pricing model assumption that USEC and the other producers would allow LES to take away a portion of the market without fighting. (Tr. 540, 495-96.)

Mr. Osterberg testified, however, that if prices were significantly driven down by LES’ entry into the market, LES may not be able to pay off its lenders. (Tr. 530, 533.) Indeed, he concluded it was not only possible that LES would not survive, but if prices were driven down far enough, other producers would fail as well. (Tr. 530, 532.) Finally, with respect to currency exchange risks influencing foreign producers’ behavior toward LES, Mr. Osterberg testified that currency exchange rate risks can be easily and readily taken care of using the foreign exchange markets and, therefore, such risks are not significant. (Tr. 546-48.)

It is apparent from the record before us that the central benefit of the CEC identified by the Applicant in its ER and the Staff in the FEIS is that LES will bring real price competition to the enrichment market as a domestic supplier. Indeed, price competition is the quintessence of economic competition and, as the record in this proceeding also demonstrates, that asserted benefit is quantifiable. Yet here, neither the Applicant nor the Staff has quantified the effect of such price competition on the enrichment services market “to the fullest extent practicable,” as required by the Commission’s regulations. 10 C.F.R. §§ 51.45(c), 51.71(d). *See supra* p. 348. Therefore, it is necessary that the FEIS include a quantification of this asserted benefit of the CEC so that factor can be weighed against the various costs of the facility in striking the

required cost-benefit balance. As the record as a whole shows, however, when this asserted benefit of the CEC is quantified, in order for it to withstand scrutiny as a "benefit," a significant qualification must be appended.

The Applicant's expert, Mr. Schwartz, testified that if the price offered by LES fell into ERI's projected competitive market price range, then LES should be competitive. Similarly, Mr. LeRoy testified that, according to LES' current projections and financial model analyses, LES can reasonably expect to be competitive in the enrichment services market within the market price range provided by Mr. Schwartz and ERI. But being able to be competitive within a forecast price range is not equivalent to bringing real price competition to the current and future enrichment market — the asserted benefit of the CEC.

As we have already found, the enrichment market is an international one and fiercely competitive among four major producers with enrichment capacity and SWU equivalents far exceeding current or future forecast demand. Moreover, that demand is essentially inelastic. (Osterberg Tr. 491.) This combination of factors leads us to conclude, contrary to the Applicant's assertion, that excess supply over demand in the enrichment market is highly pertinent to determining the benefit the CEC will provide. These market factors have led to what the Applicant's witness himself characterized as, and we already have found is, a very highly competitive market. And, in order to bring real price competition to such a market, LES must bring to it significantly lower costs that translate into significantly lower prices. LES cannot merely be competitive with the already established producers within the forecast price range and get into the market. Although Mr. Schwartz testified that the CEC's centrifuge technology gives them low operating costs and this, in turn, gives LES market pricing flexibility, he also conceded that LES' *total* costs of producing SWUs, which includes operating and capital cost, were comparable with gaseous diffusion enrichers.

This last point is important because, as the Intervenor's expert economist correctly points out, the Applicant must borrow a large amount of capital to finance construction of the CEC. With the current and future enrichment services market forecast showing significant oversupply, the proposed facility presents substantial investment risks (*i.e.*, lending risks), thereby raising the investment return (*i.e.*, interest rate) the project must provide to attract financing. This, in turn, raises the proposed project's costs, thereby lessening the likelihood that the CEC will bring real price competition to the enrichment market.

Indeed, contrary to the Applicant's proposed findings that paint Mr. Osterberg as taking numerous incompatible positions with respect to the effect of LES' entry into the enrichment services market (App. P.F. at 117-22), his testimony, in context, is not contradictory. Rather, Mr. Osterberg correctly points out that there is not a single answer to the question of the effect of LES' entry into the market because the answer depends upon the assumptions made in the pricing model, including predicting the competitive behavior of all the market

competitors. As already indicated, Mr. Osterberg disagreed with a number of the Applicant's price model assumptions and stated that the uncertainty surrounding these assumptions translates into such significant investment risks that the CEC will not be built in the present market. But even without accepting the Intervenor's view, the Applicant's own price projections show the exceedingly minimal impact the CEC will have on price competition in the enrichment services market.

The Applicant's expert testified that ERI forecast that average enrichment prices, in 1994 dollars, for 1999 to 2001 will be in the range of \$98 to \$113 per SWU and this forecast did not include any of the CEC's production. After the year 2000, Mr. Schwartz testified that ERI forecast that average enrichment prices will remain relatively flat in the range of \$100 to \$115 per SWU and this forecast included CEC's production. He revealed on cross-examination that, in the years after 2000, ERI's forecast price would be \$2 to \$3 higher without CEC's production included. As the Intervenor's expert economist pointed out, however, this mathematical differential in the modeled price is very small in the context of a price model that is forecasting a \$15 price range 6 years out. We agree with his characterization that such a difference is "pocket change" in light of the inherent uncertainties in forecasting price that many years in the future. Further, because of the already fiercely competitive nature of the current and future enrichment market, we do not find credible the Applicant's assertions that the market price differential could be greater than \$2 to \$3 because of the lack of competition without the CEC.

Furthermore, we find that the Applicant's price model, which models supply, demand, and the competitive behavior of the other market participants on the supply curve, makes assumptions about the behavior of the other market participants that are unrealistic and not credible. For example, the Applicant asserts that, based on the history of USEC's predecessors, USEC will not act aggressively to keep LES from entering the market. But the USEC was established by Congress in the Energy Policy Act of 1992 specifically for the purpose of operating "as a business enterprise on a profitable and efficient basis," 42 U.S.C. § 2297(a)(1), and is charged with setting the price for its services on a basis "that will allow it to attain the normal business objectives of a profitmaking corporation." 42 U.S.C. § 2297c-1(a). To assume that the less than businesslike practices of the old Atomic Energy Commission and DOE in selling enrichment services will continue relative to LES and a new market entrant, flies in the face of the USEC's congressional mandate. Rather, we find that the special report on USEC published in *Nuclear Fuel*, which was admitted into evidence pursuant to the stipulations of the parties, reflects more accurately how USEC will operate. In that report, William Timbers, the head of USEC, is reported as indicating that "the new corporation will operate with many fewer employees than DOE had and will aggressively market SWU and other services. Unlike DOE, he says,

which relied on a one-size-fits-all contract, the USEC aims to tailor its contracts to individual customer's needs." (I-DO-23 at 2.) Further, that report states:

Timbers proclaimed the difference between the USEC and its predecessor would be as distinct as night and day. He said the USEC would offer as many contract arrangements as needed to meet customers' needs and that it would have prices as competitive as any other company in the field. "USEC is in business to make a profit and satisfy its customers," said Timbers. "At USEC, customer satisfaction is 'Job 1.'"

(*Id.* at 8.)

Similarly, we can give little credence to the Applicant's assertion that the European producers will not revert to standard competitive practices to keep LES from entering the market and taking their respective market shares because currency exchange risks limit those competitors' willingness to compete for American business. Not only is the currency exchange risk easily taken care of by using the foreign exchange markets, but the Applicant's own witness forecast that by the year 2000, USEC, which currently has an 85% share of American enrichment requirements, will retain only 45% to 75% of its market share, losing it to Eurodif, Urenco, Russia, and LES. Performing the simple mathematics associated with the Applicant's projection demonstrates the currency exchange risk is not a significant deterrent to European producers seeking to fill American demand requirements. Similarly, this forecast refutes the proffered notion that domestic utilities would rather not deal with foreign producers.

4. Board Conclusion Regarding Adequacy of NEPA Cost-Benefit Need Analysis

Based upon the record before us, we conclude that the actual benefit of the CEC is not accurately represented by the Applicant in the ER and the Staff in the FEIS and the discussion of need in the FEIS is inadequate. Specifically, we find that contrary to the conclusion of the ER and the FEIS, the CEC merely will be a fifth producer whose total costs of producing SWUs are comparable to the other market competitors in an already very highly competitive market where the current and future supply of SWUs far exceeds current and future demand. Consequently, rather than bringing the benefit of significant price competition to the enrichment services market as an additional domestic supplier, the evidence before us clearly shows that, when quantified, the CEC will have little, if any, effect on price competition in the enrichment services market.

Therefore, pursuant to 10 C.F.R. § 51.102, the discussion in the FEIS on the need for the facility is hereby supplemented by our decision on this contention and the underlying adjudicatory record. *See Philadelphia Electric Co.* (Limerick Generating Station, Units 1 and 2), ALAB-819, 22 NRC 681,

706 (1985). Further, the benefit of competition as we have described it above is the benefit that must be weighed against the various costs of the project in the NEPA-mandated cost-benefit analysis. We reiterate, however, that NEPA is a procedural environmental full disclosure law and it does not dictate any particular substantive outcome as a result of the cost-benefit analysis.

In addition to the foregoing findings on contention J.4, we have carefully considered all of the other arguments, claims, and proposed findings of the parties on this contention and find that they are without merit or that they are not material to this contention.

E. No-Action Alternative

On its face the Intervenor's contention K challenges the adequacy of the Applicant's ER for failing to include any discussion of the no-action alternative.⁸ As we previously explained, however, the contention also is deemed to challenge the sufficiency of the Staff's treatment in the FEIS of that same alternative. *See supra* pp. 337-38.

In the FEIS, the Staff's discussion and analysis of the no-action alternative is set forth on three-quarters of a page in five brief paragraphs. (*See* Staff Exh. 2 at 4-77.) First, the Staff indicates that the no-action alternative is the denial of the NRC license, so the impacts, both positive and negative, discussed in the previous 76 pages of chapter 4 of the FEIS regarding the various environmental

⁸ In response to the Intervenor's contention as initially framed, both the Applicant and the Staff argue that the Commission's regulations do not require the Applicant to include any discussion of the no-action alternative in the environmental report. Although the Commission's regulation prescribing the contents of the environmental report does not explicitly direct that the Applicant's ER address the no-action alternative, (any more than that same regulation contains an explicit direction that the ER address the need for the facility, *see supra* note 5), that is the clear import of the regulation and the most reasonable reading of it. Specifically, 10 C.F.R. § 51.60 requires that a license applicant for the construction and operation of a uranium enrichment facility must prepare an environmental report containing the information specified in 10 C.F.R. § 51.45. In turn, that regulation requires the environmental report to discuss

[a]lternatives to the proposed action. The discussion of alternatives shall be sufficiently complete to aid the Commission in developing and exploring, pursuant to section 102(2)(E) of NEPA, "appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources." To the extent practicable, the environmental impacts of the proposal and the alternatives should be presented in comparative form.

10 C.F.R. § 51.45(b)(3).

The study and discussion of alternatives is the linchpin of the EIS process and it is well settled under NEPA that "[i]n considering proposed government action, which significantly affects the quality of our environment, the decision-makers should have placed before them during the decision-making process a complete statement of the effect of the proposed action including the comparative effect of no action at all." *Matsumoto*, 568 F.2d at 1290. *See Calvert Cliffs*, 449 F.2d at 1114. Indeed, the Commission's regulations implementing NEPA state that among the alternatives the FEIS must address is the alternative of no action. 10 C.F.R. Part 51, Appendix A; 10 C.F.R. §§ 51.70(b), 51.90. *See also* 49 Fed. Reg. 9352, 9353 (1984). Because NEPA and the Commission's implementing regulations require the Staff to address the no-action alternative in the FEIS, and the Commission's regulations, in turn, require the Applicant to discuss in the ER the alternatives to the proposed action that will help the Staff to develop and explore the alternatives that must be discussed under section 102(2)(E) of NEPA, section 51.45(b) necessarily requires the Applicant to address the no-action alternative in its ER. The arguments of the Applicant and the Staff to the contrary are without merit.

consequences of the project would be eliminated and the site is assumed to revert to its former use. Second, it states that, environmentally, the continuation of logging on the site at the same rate as before would allow soil erosion, surface water contamination, and an imbalance of biological diversity. Third, the Staff states that, socioeconomically, the impact of the no-action alternative would perpetuate the depressed economic conditions in the area and the region would continue to depend upon its current commercial, industrial, and agricultural base. Fourth, it indicates that, statewide, the impact of the no-action alternative is the failure to obtain, largely through multiplied effects, 450 jobs per year during construction and 600 jobs per year during operation. Fifth, and finally, the Staff states that, nationally, the impact of the no-action alternative is that there would be no change in the pressure on other enrichment suppliers to maintain competitive positions, the loss of an additional domestic supplier, and the loss of the opportunity to substitute an energy-efficient process for the older gaseous diffusion process. (Staff Exh. 2 at 4-77.) The Staff reiterates these same points in a five-sentence discussion of the no-action alternative in the introductory summary. (*Id.* at xviii.) Further, at the beginning of chapter 2 of the FEIS the Staff, in three sentences, reiterates that the no-action alternative is the denial of the LES license application and consequently LES could either sell or lease the site for agricultural, timbering, or other industrial uses, in which case Parish Road 39 transversing the property would not need to be relocated. (*Id.* at 2-1.)

The Staff asserts that its treatment of the no-action alternative is sufficient because the no-action alternative merely refers to the situation where no license is issued and the CEC is not built, so neither the benefits nor the impacts are realized. (Horn re K at 3-4 fol. Tr. 500; Staff P.F. at 79.) Similarly, the Applicant argues that the Staff has addressed adequately the issue because the no-action alternative is merely the converse of the cost-benefit analysis. According to the Applicant, the no-action alternative would involve simply reversing the cost-benefit analysis, such that the benefits of going forward with the project become costs of no action and the costs associated with the project became benefits. (Schwartz-LeRoy at 58-59 fol. Tr. 383; App. P.F. at 125.)

The Intervenor, on the other hand, asserts that where, as here, there is no demonstrable need for the facility, the no-action alternative becomes even more important. According to the Intervenor, if the CEC is not built, the potential adverse environmental effects on air, groundwater, surface water, and other natural resources will be eliminated and an additional 120,000 tons of toxic, radioactive tailings will not be added to the waste inventory because the down-blending of HEU, whether foreign or domestic, does not result in any more toxic wastes. Thus, the Intervenor argues that the FEIS is inadequate because the Staff should have reviewed and weighed in its cost-benefit analysis all of the individual impacts that would not be incurred if the CEC were not built. Finally, the Intervenor states that because the Staff failed even to recognize the negative

impacts of the CEC on the neighboring communities, it is not surprising that the Staff analysis of the no-action alternative is entirely deficient. (Osterberg at 27-28 fol. Tr. 451.) [CANT's] Proposed Findings of Fact and Conclusions of Law Regarding Contentions J.4 and K, Need and No Action (May 26, 1995) at 34-35 [hereinafter CANT P.F.].

We must judge the adequacy of the Staff's treatment of the no-action alternative in the FEIS by the rule of reason. *Citizens Against Burlington, Inc. v. Busey*, 938 F.2d 190, 195 (D.C. Cir. 1991); *Morton*, 458 F.2d at 837. See *Seabrook*, ALAB-471, 7 NRC at 486. Here, we could scarcely be accused of exaggeration for calling the Staff's treatment of the no-action alternative minimal. In this regard, we note the sharp contrast between the Staff's treatment of the no-action alternative for the licensing of the LES facility and the Federal Aviation Administration's ("FAA") treatment of the no-action alternative for the approval of an expansion of the Toledo Express Airport as described in the *Citizens Against Burlington* case. In that case, the court framed the issue as "whether the FAA has complied with NEPA in publishing an environmental impact statement that discussed *in depth* two alternatives: approving the expansion of the Toledo Express Airport, and not approving the expansion of the Toledo Express Airport." 938 F.2d at 194 (emphasis added). Whatever other description is attached to the Staff's treatment of the no-action alternative, it most assuredly is not "in depth."

In its sparse discussion, the Staff correctly recognizes that this alternative is the denial of a license. The Staff then states that as a consequence of not building the CEC the "impacts, both positive and negative, discussed in this chapter would be eliminated." (Staff Exh. 2 at 4-77.) Presumably, the Staff means that neither the benefits flowing from the construction and operation of the CEC would be realized nor the various costs imposed by the construction and operation of the facility would occur. But nowhere in its brief analysis of the no-action alternative does the Staff follow its own lead and even mention, much less address, the numerous avoided environmental impacts to, inter alia, surface and groundwater and air quality from not building the facility.

Most surprisingly, the avoided impact of not generating depleted uranium tails is not even mentioned. In this regard, we note that tails accumulation and disposal cannot simply be dismissed by assuming that tails not generated by the CEC would be produced by some other facility. For example, if domestic utilities import enriched uranium from foreign suppliers instead of purchasing from the CEC, the tails may have an environmental impact on the global commons, but the Commission's environmental regulations do not apply to such foreign environmental effects. See 10 C.F.R. § 51.10(a). (Tr. 489.) Similarly, if domestic utilities use blended-down HEU that is forecast to come onto the market, no new tails or significantly smaller quantities of tails are generated.

Yet the FEIS is completely silent on this subject. Such avoided environmental impacts, however, are the grist for the mill of the no-action alternative.

Rather than discussing the numerous avoided environmental impacts of the no-action alternative and comparing that alternative to the proposed project, the Staff confines its discussion to the negative consequences of logging if the site reverted to its former use and the negative socioeconomic effects of perpetuating the depressed economic conditions in the area from not creating jobs, if the facility is not constructed. But these matters are, at most, incidental to the no-action alternative and the comparison of that alternative to the proposed project. The no-build option starts with the status quo, i.e., the natural and human environment as it exists before the project. Whether that environment is subjectively good, bad, or somewhere in between is not the principal focus of the analysis of the no-action alternative, which concerns the avoided environmental consequences of not building the project.⁹ We will not speculate on why the Staff chose to ignore the avoided environmental impacts that must be addressed in an analysis of the no-action alternative and addressed only the supposed negative environmental and socioeconomic consequences of not building the project. By not identifying and analyzing the former, however, the effect of the no-build alternative cannot properly be compared to the proposed project, thereby fatally undermining the very purpose of the no-action alternative.¹⁰

Finally, it is apparent from the Staff's treatment of the negative socioeconomic effects of not building the CEC in its discussion of the no-action alternative that the Staff places considerable importance upon the creation of construction and facility operating jobs in its final cost-benefit analysis. Although the Intervenor questioned the propriety of the Staff's inclusion of secondary benefits

⁹ Moreover, even if we assume for the sake of argument that the items included in the Staff's brief discussion in the FEIS move to the forefront of a no-action alternative analysis, the negative effects of not building the project nevertheless must be accurately and objectively stated. Most importantly, such effects still must be addressed along with a full discussion of the avoided environmental impacts. Here, for example, the Staff's description of the effects of logging on the site does not fairly correspond with the discussion of the botanical communities on the site and the time progression of forest growth from timbering operations contained in chapter 3 of the FEIS. See Staff Exh. 2 at 3-70 to 3-76. Nor does the Staff's discussion of the negative environmental effects of logging mention either that 61% of the tract was clear cut in 1990 or that 94% of the tract had been timbered in the past 10 years (*Id.* at 3-75 to 3-76, 4-8), matters that seemingly have some relevance to the weight to be given such a negative impact.

¹⁰ Further, and contrary to the Applicant's assertion, the no-action alternative cannot be dismissed as nothing more than a simple reversal of the costs and benefits of the project. For purposes of an appropriate analysis of the no-action alternative under NEPA, every benefit of the proposed project does not automatically become a cost imposed by the lack of the project any more than every cost can be turned into a benefit. There is no simple one-to-one correlation as the Applicant asserts. Because the avoided environmental impacts are the focus of the no-action alternative, a significant winnowing of the various impacts is necessary to a proper analysis. Thus, not only is the Applicant's characterization inaccurate, but the purpose of the FEIS is to place before the NRC decision-makers "a complete statement of the effect of the proposed action including the comparative effect of no-action at all." *Matsumoto*, 568 F.2d at 1290. That purpose is not met by merely giving the decision-makers a formula for mental gymnastics. Nor is that purpose met by a post hoc rationalization that the benefits of the project outweigh the costs so the no-action alternative can be ignored. NEPA requires that the comparative cost-benefit analysis precede the agency decision, not vice versa.

in the cost-benefit analysis as part of its challenge to the Staff's treatment of the need-for-the-facility issue, we believe that issue is most appropriately addressed here.

In its brief discussion of the no-action alternative, the Staff states that the no-build option will perpetuate the depressed economic conditions in the area by failing to obtain, including multiplied effects, 450 jobs per year during construction and 600 jobs per year during full operations. In its cost-benefit analysis following the no-action alternative discussion, the Staff concludes that the LES facility presents a large net benefit. (Staff Exh. 2 at 4-77.) The Staff reaches this conclusion based almost entirely upon the construction and operations jobs created by the facility, the economic multiplier effect of those jobs, and the tax revenues generated by the facility. (*Id.* at 4-77 to 4-84.) The Intervenor argues, however, that a line of agency adjudicatory decisions, including *Seabrook*, ALAB-471, 7 NRC at 509 n.58, and *Vermont Yankee*, ALAB-179, 7 AEC at 177, hold that the secondary benefits of increases in local employment and tax revenues cannot be included on the benefit side of the equation in striking the ultimate NEPA cost-benefit balance for a particular facility. For their part, the Applicant and the Staff both have ignored completely the Intervenor's argument by failing to address it.

The agency precedents that the Intervenor cites, as well as a number of additional Appeal Board and Licensing Board decisions, *see Illinois Power Co.* (Clinton Power Station, Units 1 and 2), ALAB-340, 4 NRC 27, 49 (1976); *Arizona Public Service Co.* (Palo Verde Nuclear Generating Station, Units 1, 2, and 3), ALAB-336, 4 NRC 3, 4 (1976); *Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), ALAB-349, 4 NRC 235, 269 (1976); *Duke Power Co.* (Cherokee Nuclear Station, Units 1, 2, and 3); LBP-76-18, 3 NRC 627, 642 n.3 (1976); *Gulf States Utilities Co.* (River Bend Station, Units 1 and 2), LBP-75-50, 2 NRC 419, 446 (1975); *Virginia Electric and Power Co.* (Surry Power Station, Units 3 and 4), LBP-74-68, 8 AEC 506, 528 (1974); *Georgia Power Co.* (Alvin W. Vogtle Nuclear Plant, Units 1, 2, 3, and 4), LBP-74-39, 7 AEC 895, 915 (1974), clearly provide that increased local employment and tax revenues are in the nature of transfer payments resulting in offsetting costs and benefits. These cases conclude that as secondary benefits these items should not be included on the benefit side in striking the ultimate NEPA cost-benefit balance for a facility.¹¹

We have been unable to find any decisions questioning this consistent line of holdings or the underlying rationale of these cases. Indeed, as is evident from the Appeal Board's decision in *Vermont Yankee*, ALAB-179, 7 AEC at 177, the

¹¹ This line of cases recognizes that such factors should be noted in the EIS only for informational purposes in describing the socioeconomic impact. *See Seabrook*, ALAB-471, 7 NRC at 509 n.58; *Vermont Yankee*, ALAB-179, 7 AEC at 177.

underlying basis for this line of authority rests upon the Staff's treatment and analysis of secondary benefits in the Vermont Yankee FEIS and its exclusion of such secondary benefits from the benefit side of the final cost-benefit analysis. In light of these numerous agency precedents going back over 30 years requiring the exclusion of the secondary benefits of increased employment and tax revenues from the benefit side of the NEPA cost-benefit analysis, the Staff now can change course to include such secondary benefits only if it fully explains in the FEIS why the agency's previous position was in error and why it is advancing a new position. See *Citizens Awareness Network, Inc. v. NRC*, 59 F.3d 284, 291 (1st Cir. 1995). But the FEIS contains no such explanation. Thus, in accordance with the Commission's instructions to us in the hearing notice, see *supra* p. 339, we find that the Staff's cost-benefit analysis in the FEIS incorrectly includes and heavily relies upon such secondary benefits or, alternatively, its cost-benefit analysis is inadequate for not explaining why it is now deviating from prior agency practice by including such secondary benefits in its ultimate cost-benefit analysis.

In light of our findings on contentions J.4, K, and the Staff's ultimate cost-benefit analysis and on the basis of the record before us, we cannot independently supplement or reanalyze the no-action alternative or independently balance anew the various costs and benefits of the proposed CEC project. Rather, at this point that task is most appropriately done by the Staff. The Staff, of course, may remedy the foregoing deficiencies in the FEIS in the manner it deems most appropriate. We suggest, however, that the Staff consider filing a supplement to the FEIS.

II. FINANCIAL QUALIFICATIONS

A. Contention Q

The Intervenor's contention Q asserts that "LES has not demonstrated that it is financially qualified to build and operate the CEC." As the basis for the contention, the Intervenor claimed that two of the partners in the project had committed only to fund the venture phase and intend to leave the partnership after a license is obtained. The Licensing Board admitted the contention, finding that the Intervenor had asserted sufficient facts to show that a dispute with the Applicant exists. LBP-91-41, 34 NRC at 358.

B. Witnesses and Exhibits

Consistent with the Commission's burden of proof rule and in accordance with the stipulation of the parties, the Applicant presented its case first, followed

by the Intervenor, and then the Staff. In support of its position on CANT's contention Q, the Applicant presented the testimony of James T. Doudiet and W. Howard Arnold. (Doudiet-Arnold fol. Tr. 563.)

Mr. Doudiet is President of J. T. Doudiet Associates, Inc., of Minneapolis, Minnesota, a consulting firm that specializes in advising entities involved in various aspects of the electric and gas utility industries on strategic, financial, and regulatory issues. (*Id.* at 1.) Mr. Doudiet earned an MBA degree from the University of California, Berkeley, where the subject of his master's thesis was the financing of the nuclear fuel cycle. He has 23 years experience as a utility financial executive and 3 years experience as an investment banker serving from 1985-1988 as the Managing Director, Corporate Utility Finance, Dean Witter Reynolds, Inc., New York, New York. (*Id.* at 2, Attach. 1.) He was retained by the Applicant to advise LES on various matters concerning the financing of the CEC project and he assisted in the development of the LES financing plan for the construction, operation, and decommissioning of the CEC. (*Id.* at 1.)

Dr. Arnold is President of LES and is responsible for the licensing and operation of the CEC and obtaining financing for the construction and operation of the CEC. (*Id.* at 3.) He earned his Ph.D. in experimental physics at Princeton University and over approximately 34 years held a variety of engineering, senior management, and executive positions with various Westinghouse divisions and affiliated companies. (*Id.*, Attach. 2.) In these positions he managed a number of large projects comparable or greater in size than the CEC and was responsible for preparing construction and equipment cost estimates and completing those projects within the budgets. (*Id.* at 3.)

The prefiled direct testimony of Mr. Doudiet and Dr. Arnold on contention Q was admitted pursuant to a pretrial stipulation of the parties and without any further objection at the hearing. (Tr. 563.) The Applicant did not offer these witnesses as experts and, because of the stipulation on admissibility and the fact that neither the Intervenor nor the Staff raised any further objection, the Board did not rule at the hearing on the qualifications of Mr. Doudiet or Dr. Arnold as experts. Nevertheless, we find that Mr. Doudiet is qualified by knowledge, experience, training, and education to testify as an expert on the issues involved in contention Q on the financial qualifications of LES to construct and operate the CEC. Similarly, we find that Dr. Arnold is qualified by knowledge and experience to testify as an expert on the issues involved in contention Q.¹²

¹² Pursuant to a pretrial stipulation of the parties, the following Applicant exhibits were admitted into evidence relating to contention Q: Applicant's Exhibit 15, Letter from Dr. K. P. Messer, Chief Executive, Urenco Ltd., Marlow Bucks, England, to Mr. Richard B. Priory, Claiborne Energy Services, c/o Duke Power Company, Charlotte, N.C. (App. Exh. 15); Applicant's Exhibit 21, First Amendment to Agreement of Limited Partnership of Louisiana Energy Services, L.P. (nonproprietary) (App. Exh. 21); Applicant's Exhibit 22, First Amendment to Agreement of Limited Partnership of Louisiana Energy Services, L.P. (proprietary) (App. Exh. 22) [hereinafter Amended Partnership Agreement]; Applicant's Exhibit 26, Diagram of LES Ownership and LES Limited Partners

(Continued)

In support of its contention Q, the Intervenor again presented the testimony of David E. Osterberg, a consulting economist. (Osterberg fol. Tr. 715.) Having previously discussed his qualifications in regard to contentions J.4 and K, we need not replot that ground. *See supra* pp. 343-44. The prefiled direct testimony of Mr. Osterberg on contention Q was admitted pursuant to a pretrial stipulation of the parties and without further proper objection at the hearing. (Tr. 715.) Mr. Osterberg filed both a nonproprietary text and a proprietary text of his direct testimony. The proprietary version was received into evidence as Attachment A to his prefiled direct testimony and has remained under seal. (Tr. 983.)

The Intervenor offered Mr. Osterberg's prefiled direct testimony as his expert opinion on contention Q and as that of an expert on energy economics. (Tr. 709, 713.) Even assuming that an objection to the qualifications of Mr. Osterberg might have been entertained in light of the pretrial stipulation of the parties on the admissibility of his prefiled direct testimony covering the full range of matters involved in contention Q, the Applicant did not interpose a proper objection to that Intervenor offer. Nor did the Applicant seek *voir dire* to challenge Mr. Osterberg's qualifications as an expert witness. Rather, as it did with respect to Mr. Osterberg's testimony on contentions J.4 and K, the Applicant stated that "we will let our examination speak for itself as to his status as an expert." (Tr. 714.)

We find that Mr. Osterberg is qualified by knowledge, experience, training, and education to testify as an expert on the issues involved in contention Q and that he is qualified to testify as an expert on energy economics. Although the Applicant's extremely brief cross-examination of Mr. Osterberg showed that he had never financed an energy project of the size of the CEC, directed investments in energy projects, or spoken to investors about the CEC (Tr. 715-16), these three matters certainly do not demonstrate that Mr. Osterberg was not qualified by knowledge, experience, education, or training to testify as an expert on the economic and other issues involved in contention Q.

Indeed, as we indicated at the time, the Applicant's cross-examination could, at most, be taken as aimed at the credibility of Mr. Osterberg's expert testimony and not his qualifications to offer his expert opinion on the matters involved in contention Q. Further, the parties' pretrial admissibility stipulation barred

(App. Exh. 26). (Tr. 706, 765.) The Applicant also introduced Intervenor's Exhibit I-DO-36, Attachment N to LES letter to NRC dated May 1, 1992 (LES Financial Information, nonproprietary, dated May 1, 1992) (I-DO-36); Intervenor's Exhibit I-DO-37, Attachment H to LES letter to NRC dated May 1, 1992 (Graystone Corporate Financial Information, proprietary, dated May 1, 1992) (I-DO-37); Intervenor's Exhibit I-DO-38, Attachment M to LES letter to NRC dated May 1, 1992 (Urenco Investments, Inc., Financial Information, nonproprietary, dated May 1, 1992) (I-DO-38); Intervenor's Exhibit I-DO-39, Attachment K to LES letter to NRC dated May 1, 1992 (Fluor Corporation, 1991 Annual Report) (I-DO-39); Intervenor's Exhibit I-DO-40, Agreement of Limited Partnership of Louisiana Energy Services, L.P., nonproprietary (I-DO-40); Intervenor's Exhibit I-DO-44, Agreement of Limited Partnership of Louisiana Energy Services, L.P., proprietary (I-DO-44) [hereinafter Partnership Agreement]. (Tr. 706-07.)

any such objection and, in any event, the Applicant failed at the hearing to make an objection that was proper in either form or substance to challenge Mr. Osterberg's qualifications as an expert. Similarly, the Applicant's attempt in its proposed findings (App. P.F. at 136) to challenge Mr. Osterberg's expertise on the range of matters involved in contention Q comes too late. And contrary to the thrust of the Applicant's proposed findings (App. P.F. at 135-36), we do not find that the Applicant's earlier cross-examination of Mr. Osterberg with respect to contentions J.4 and K undermines in any way his testimony on contention Q, and our previous findings in that regard are equally applicable here. With respect to his testimony on contention Q, we find Mr. Osterberg to be a credible, soundly grounded economist whose testimony is deserving of serious consideration and substantial weight.¹³

The Staff presented the testimony of Robert S. Wood in support of its position on contention Q. (Wood fol. Tr. 721.) Mr. Wood is a senior financial policy analyst, Advanced Project Directorate, Office of Nuclear Reactor Regulation. (*Id.* at 1.) At the NRC, he is responsible for reviewing and evaluating the financial qualifications of license applicants and Commission licensees. (*Id.*, Attach. 1.) Pursuant to the pretrial stipulation of the parties, and without any further objection at the hearing, Mr. Wood's prefiled direct testimony was admitted. (Tr. 721.) As the agency's primary Staff regulator in the area of financial qualifications, we find that he is qualified to testify on the Staff's determination and view of the Applicant's financial qualifications to construct and operate the CEC.

C. The Applicant, LES

Louisiana Energy Services, L.P., is the partnership formed to design, license, construct, own, and operate the CEC. LES is a Delaware limited partnership consisting of four general partners that manage and control the business and have a very limited equity investment and seven limited partners that have invested equity but have no management control of the business. The four LES general partners are (1) Urenco Investments, Inc.; (2) Claiborne Fuels,

¹³ Pursuant to a pretrial stipulation of the parties, the following Intervenor exhibits were admitted into evidence relating to contention Q: Intervenor's Exhibit I-DO-41, Duke Power Company, "Louisiana Energy Services, L.P.: A Report to the North Carolina Utilities Commission" (June 20, 1990) (I-DO-41); Intervenor's Exhibit I-DO-42, Partial Transcript, Louisiana Public Service Commission, Baton Rouge, Louisiana, April 26, 1990 (I-DO-42); Intervenor's Exhibit I-DO-43, Attachment F to LES letter to NRC dated May 1, 1992 (LES Financial Model, proprietary) (I-DO-43); Intervenor's Exhibit I-DO-45, Table prepared by David E. Osterberg of 1/3 CEC build out, proprietary (I-DO-45); Intervenor's Exhibit I-DO-46, Office of Technology Assessment, U.S. Congress, *Agging Nuclear Power Plants: Managing Plant Life and Decommissioning*, Sept. 1993, at 74-80 (I-DO-46); Intervenor's Exhibit I-DO-47, "Electric Utilities Financial Ratios Revised," Standard & Poor's Creditweek, Nov. 1, 1993, at 41 (I-DO-47). (Tr. 823.) The Intervenor also relied upon Intervenor's Exhibit I-DO-35 that was previously admitted regarding contention J.4. (Tr. 452.) Additionally, the Intervenor relied upon Intervenor's Exhibits I-DO-36 through -40 and I-DO-44 that were previously introduced by the Applicant and admitted. (Tr. 706-07.)

L.P.; (3) Claiborne Energy Services, Inc.; and (4) Graystone Corporation. The overall management, operation, and control of the business is vested in the management committee of the four LES general partners with the following voting rights: (1) Urenco Investments, Inc., 47%; (2) Claiborne Fuels, L.P., 12%; (3) Claiborne Energy Services, Inc., 33%; and (4) Graystone Corporation, 8%. (I-DO-33 at D-1 to D-3.) The Partnership Agreement, however, contains a number of special voting provisions relating to the inclusion and exclusion of management committee members on certain issues and voting percentages on various matters. (I-DO-44 art. V, §§ 5.2, 5.3, Schedule B.)

The partnership financial interest, i.e., the equity interest and capital contribution responsibilities, of each of the four LES general partners for the venture phase of the project is as follows: (1) Urenco Investments, Inc., 3.33%; (2) Claiborne Fuels, L.P., 0.88%; (3) Claiborne Energy Services, Inc., 2.37%; and (4) Graystone Corporation, 0.54%. The four LES general partners have no capital contribution requirements after the venture phase for the construction of the project. (I-DO-33 at D-3, D-12 to D-13; I-DO-44 arts. XI, XIII.)

Each of the four LES general partners, however, is itself either a first- or second-tier wholly owned subsidiary of another corporation or a limited partnership whose sole general partner, in turn, is a second-tier wholly owned subsidiary of another corporation. Specifically, LES general partner Urenco Investments, Inc., is a Delaware Corporation that is a wholly owned subsidiary of Urenco Ltd., a foreign corporation formed under the laws of the United Kingdom.¹⁴ LES general partner Claiborne Fuel, L.P., is a Delaware limited partnership whose sole general partner is Claiborne Fuels, Inc., a California corporation that is a wholly owned subsidiary of Fluor Daniel, Inc., also a California corporation that, in turn, is a wholly owned subsidiary of Fluor Corporation, a publicly held Delaware corporation. LES general partner Claiborne Energy Services, Inc., is a Louisiana corporation that is a wholly owned subsidiary of Duke Power Company, a publicly held North Carolina corporation. Finally, LES general partner Graystone Corporation is a Minnesota corporation that is a wholly owned subsidiary of the NRG Group, Inc., a second Minnesota corporation that, in turn, is a wholly owned subsidiary of Northern States Power Company, a publicly held Minnesota corporation. (I-DO-33 at D-2; App. Exh. 26.)

The seven LES limited partners and their respective partnership interest and capital responsibilities are (1) Louisiana Power and Light Company, 4.10%; (2)

¹⁴ Urenco Ltd. is owned in equal shares by three limited companies formed under English law: (1) International Nuclear Fuels Ltd., which is a wholly owned by British Nuclear Fuels plc, which, in turn, is wholly owned by the Government of the United Kingdom; (2) Ultra-Centrifuge Nederland Ltd., which is wholly owned by Ultra-Centrifuge Nederlands NV, a Netherlands corporation, which is 99% owned by the Government of the Netherlands with the remaining 1% owned by four Dutch companies; and (3) Uranit UK Ltd., which is wholly owned by Uranit GmbH, a German corporation, which is owned equally by two other German companies, PreussenElektra AG and RWG AG.

Urengo (Investments US) Ltd., 16.21%; (3) GnV Gesellschaft für nukleare Verfahrenstechnik mbH (“GnV”), 16.21%; (4) UCN Deelnemingen B.V., 16.21%; (5) Claiborne Energy Services, Inc. (also a general partner), 23.82%; (6) Le Paz, Inc., 6.19%; and (7) Micogen Limited III, Inc., 10.16%. (I-DO-33 at D-3 to D-4; App. Exh. 26.)

Similar to the LES general partners, the seven LES limited partners are all first- or second-tier wholly owned subsidiaries of other corporations. Specifically, LES limited partner Louisiana Power and Light Company is a wholly owned subsidiary of Entergy Corporation, a publicly held Florida holding company. LES limited partner Urengo (Investments US) Ltd., is a corporation formed under English law and a wholly owned subsidiary of Urengo Ltd., the English parent corporation of LES general partner Urengo Investments, Inc. LES limited partner GnV is a corporation formed under the laws of the Federal Republic of Germany and a wholly owned subsidiary of Uranit UK Ltd., a limited company formed under English law that, in turn, is a wholly owned subsidiary of the German corporation Uranit GmbH. *See supra* note 14. Uranit UK Ltd. is one of the owners of Urengo Ltd., the parent corporation of LES general partner Urengo Investments, Inc. LES limited partner UCN Deelneminger B.V. is a Netherlands corporation and a wholly owned subsidiary of Ultra-Centrifuge Nederland Ltd., a limited company formed under English law that, in turn, is a wholly owned subsidiary of the Netherlands corporation Ultra-Centrifuge Nederlands NV. *See id.* Ultra-Centrifuge Nederland Ltd. is one of the owners of Urengo Ltd., the parent corporation of LES general partner Urengo Investments, Inc. LES limited partner Claiborne Energy Services, Inc., is also an LES general partner and is a Louisiana corporation and a wholly owned subsidiary of Duke Power Company. LES limited partner Le Paz, Inc., is a Minnesota corporation and a wholly owned subsidiary of LES general partner Graystone Corporation, which, in turn, is a second-tier subsidiary of Northern States Power Company. *See supra* p. 379. Finally, LES limited partner Microgen Ltd. III, Inc., is a California corporation and a wholly owned subsidiary of Fluor Daniel, Inc., which, in turn, is a first-tier subsidiary of Fluor Corporation. Fluor Daniel, Inc., is also the parent corporation of Claiborne Fuels, Inc., the sole general partner of the Claiborne Fuels Limited Partnership, which is a LES general partner. (I-DO-33 at D-2 to D-3; App. Exh. 26.) Thus, of the seven LES limited partners, only Louisiana Power and Light Company has no ties to any LES general partner.

D. The Commission’s Financial Qualification Regulations and the Applicable Legal Standards

The Commission’s hearing notice in this combined construction permit-operating license proceeding for a 30-year materials license for the CEC states that among the “matters of fact and law to be considered are whether the

application satisfies the standards set forth in 10 C.F.R. . . . [§]70.23.” 56 Fed. Reg. at 23,310. Among the provisions of section 70.23 is subsection (a)(5) governing the financial qualifications of applicants for special nuclear material licenses. That subsection provides:

(a) An application for a license will be approved if the Commission determines that:

. . . .

(5) Where the nature of the proposed activities is such as to require consideration by the Commission, that the applicant appears to be financially qualified to engage in the proposed activities in accordance with the regulations in this part[.]

Further, in the regulation prescribing the contents of Part 70 license applications, the Note following 10 C.F.R. § 70.22(a)(8) states, “[w]here the nature of the proposed activities is such as to require consideration of the applicant’s financial qualifications to engage in the proposed activities in accordance with the regulations in this chapter, the Commission may request the applicant to submit information with respect to his financial qualifications.” Having directed in the hearing notice that the Applicant must satisfy the standards of 10 C.F.R. § 70.23, the Commission necessarily determined that the licensing of an enrichment facility requires consideration of the Applicant’s financial qualifications to construct and operate the CEC.¹⁵ Thus, in the context of this proceeding, the Commission’s financial qualification regulations require a demonstration by LES that it “appears to be financially qualified” to construct and operate the CEC.

The generality of this standard raises the obvious question, what must LES demonstrate to comply? Nothing in Part 70 itself provides a definitive answer. There are, however, other provisions in the agency’s regulations regarding financial qualifications for licensing facility construction and operation. Specifically, 10 C.F.R. § 50.40(b), like 10 C.F.R. § 70.23(a)(5), states that in determining if it should issue a construction permit the Commission should consider whether “[t]he applicant is technically and financially qualified to engage in the proposed activities in accordance with the regulations in this chapter.” Further, 10 C.F.R. § 50.33(f), in prescribing the contents of Part 50 license applications for construction permits and operating licenses, requires applicants to include the following financial qualifications information in their applications:

Except for an electric utility applicant for a license to operate a utilization facility of the type described in § 50.21(b) or § 50.22, information sufficient to demonstrate to the Commission the financial qualification of the applicant to carry out, in accordance with

¹⁵ In any event, the Staff reviewed the Applicant’s financial qualifications, determining that the construction and operation of an enrichment facility requires such review. (Wood at 3 fol. Tr. 721; Staff Exh. 1 at 13-2 to 13-5.)

regulations in this chapter, the activities for which the permit or license is sought. As applicable, the following should be provided:

(1) If the application is for a construction permit, the applicant shall submit information that demonstrates that the applicant possesses or has reasonable assurance of obtaining the funds necessary to cover estimated construction costs and related fuel cycle costs. The applicant shall submit estimates of the total construction costs of the facility and related fuel cycle costs, and shall indicate the source(s) of funds to cover these costs.

(2) If the application is for an operating license, the applicant shall submit information that demonstrates the applicant possesses or has reasonable assurance of obtaining the funds necessary to cover estimated operation costs for the period of the license. The applicant shall submit estimates for total annual operating costs for each of the first five years of operation of the facility. The applicant shall also indicate the source(s) of funds to cover these costs. An application to renew or extend the term of an operating license must include the same financial information as is required in an application for an initial license.

(3) Each application for a construction permit or an operating license submitted by a newly-formed entity organized for the primary purpose of constructing or operating a facility must also include information showing:

(i) The legal and financial relationships it has or proposes to have with its stockholders or owners;

(ii) [Their] financial ability to meet any contractual obligation to the entity which they have incurred or proposed to incur; and

(iii) Any other information considered necessary by the Commission to enable it to determine the applicant's financial qualification.

Further, in Appendix C to Part 50, the Commission has provided extensive additional guidance relative to these requirements. That Appendix provides in pertinent part:

This appendix is intended to apprise applicants for licenses to construct production or utilization facilities of the types described in § 50.21(b) or § 50.22, or testing facilities, of the general kinds of financial data and other related information that will demonstrate the financial qualification of the applicant to carry out the activities for which the permit is sought. The kind and depth of information described in this guide is not intended to be a rigid and absolute requirement. In some instances, additional pertinent material may be needed. In any case, the applicant should include information other than that specified, if such information is pertinent to establishing the applicant's financial ability to construct the proposed facility.

It is important to observe also that both § 50.33(f) and this appendix distinguish between applicants which are established organizations and those which are newly-formed entities organized primarily for the purpose of engaging in the activity for which the permit is sought. Those in the former category will normally have a history of operating experience and be able to submit financial statements reflecting the financial results of past operations. With respect, however, to the applicant which is a newly formed company established primarily for the purpose of carrying out the licensed activity, with little or no prior operating history, somewhat more detailed data and supporting documentation will generally be necessary. For this reason, the appendix describes separately the scope of information to be included in applications by each of these two classes of applicants.

Additionally, with respect to newly formed entities — a category into which LES certainly falls — that apply for construction permits, Appendix C states they should submit the same information as established organizations concerning construction cost estimates. 10 C.F.R. Part 50, Appendix C.II.A.1. *See* Appendix C.I.A.1. In submitting information on the source of construction funds, however, Appendix C states that newly formed entities

should specifically identify the source or sources upon which the applicant relies for the funds necessary to pay the cost of constructing the facility, and the amount to be obtained from each. With respect to each source, the application should describe in detail the applicant's legal and financial relationships with its stockholders, corporate affiliates, or others (such as financial institutions) upon which the applicant is relying for financial assistance. If the sources of funds relied upon include parent companies or other corporate affiliates, information to support the financial capability of each such company or affiliate to meet its commitments to the applicant should be set forth in the application. This information should be of the same kind and scope as would be required if the parent companies or affiliates were in fact the applicant. Ordinarily, it will be necessary that copies of agreements or contracts among the companies be submitted.

10 C.F.R. Part 50, Appendix C.II.A.2.

If these Part 50 financial qualification provisions are applicable in the context of this Part 70 proceeding, then the information that an applicant such as LES needs to supply to demonstrate its financial qualifications to construct and operate the CEC is readily apparent. For its part, however, LES asserts that the Commission's Part 70 financial qualifications standard is less prescriptive than the Part 50 standard generally because (1) Part 70 does not contain the same specifications; and (2) financial qualifications regulations play a secondary role in assuring safety for Part 70 facilities. *See* Memorandum of Applicant LES Regarding the Standard Under the Atomic Energy Act for Assessing Applicant's Financial Qualifications (Apr. 21, 1995) at 5-7, 18 [hereinafter LES Memorandum]. The Staff, on the other hand, argues that while Appendix C to Part 50 should be used as a guide in determining the financial qualifications of an applicant, not all of its provisions are suitable. In particular, the Staff takes issue with the application of the provisions in Appendix C dealing with newly formed entities, asserting that a newly formed entity only needs to show that its corporate affiliates have the capability of providing construction funds and not, as stated in Appendix C, that the corporate affiliates have committed to provide the funds to the applicant. (Wood at 4, 7 fol. Tr. 721.) *See* NRC Staff Memorandum Regarding Legal Standard for Assessing Financial Qualification (Apr. 21, 1995) at 20-21 [hereinafter Staff Memorandum]. The Intervenor, in contrast, declares that the provisions of Part 50 regarding financial qualifications, including Appendix C, provide the definitive guidance for determining whether LES is financially qualified pursuant to Part 70. *See* [CANT] Response Memorandum Regarding the Legal Standard for Assessing, the Applicant's

Financial Qualifications to Construct and Operate the [CEC] (May 1, 1995) at 4-10.

1. Applicability of Part 50 and Part 70 Financial Qualifications Standards

In asserting that the Part 50 financial qualifications requirements are not directly applicable, the essence of LES' argument is relatively straightforward. According to LES, comparing the language of the Note following section 70.22(a)(8) with that of section 50.33(f) makes it clear that the former has none of the specificity of the latter. This lack of specificity in Part 70, in turn, evidences a Commission intent to have financial qualifications under these two Parts treated differently, with Part 70 having much less rigorous requirements.

The problem with this assertion is that, given the close identity of subject matter between the two provisions and the near identical language of 10 C.F.R. § 70.23(a)(5) and 10 C.F.R. § 50.40(b) setting forth the standard for granting licenses under the two Parts, the Applicant's argument does not account sufficiently for the ambiguity that is inherent in their difference in language. Indeed, the very general language in the Note following section 70.22(a)(8) cries out for additional clarification or interpretation. Pursuant to the general interpretational rule that statutory or regulatory provisions that relate to the same subject matter should be construed in *pari materia*, *see* 2B Sutherland Stat. Const. §§ 51.01, 51.03 (5th ed. 1992), section 50.33(f), as the other agency regulatory provision dealing with financial qualifications, is the likely source for obtaining insight about how to interpret the general language of the Note following section 70.22(a)(8). Moreover, an obvious source for attempting to resolve this ambiguity about how the general standard in the Note following section 70.22(a)(8) should be interpreted vis a vis the more specific requirements of section 50.33(f) is the history of both sets of financial qualifications regulations.

a. Regulatory History of Part 50 and Part 70 Financial Qualifications Provisions

The Commission's financial qualifications regulations are rooted in section 182(a) of the Atomic Energy Act of 1954, as amended. That section authorizes the Commission to obtain information concerning the financial qualifications of applicants for Commission licenses and vests the Commission with discretion to determine by rule or regulation what information is appropriate. 42 U.S.C. § 2232(a). *See New England Coalition on Nuclear Pollution v. NRC*, 582 F.2d 87, 93 (1st Cir. 1978).

As originally promulgated in 1956, the Commission's Part 70 regulations establishing procedures and criteria for issuing licenses to possess and use special nuclear material and for Commission allocation of such then government-owned material required applicants to include financial qualifications information in their applications. See 21 Fed. Reg. 764, 766 (1956). In the original provision prescribing the contents of license applications, the Note following then 10 C.F.R. § 70.22(a)(8) stated:

Where the quantity of material requested, or the nature of the proposed activities, is such as to require consideration of the following factors, the Commission will request the applicant to submit information with respect to his financial qualifications (1) to engage in the proposed activities in accordance with the regulations in this chapter, (2) to assume responsibility for the payment of Commission charges for use, consumption or loss of special nuclear material and (3) to undertake and carry out the proposed use of special nuclear material for a reasonable period of time.

Id. at 766. In addition, then 10 C.F.R. § 70.23(e), governing the approval of license applications, stated that an application will be granted if the Commission determines,

[w]here the quantity of material requested, or the nature of the proposed activities are such as to require consideration of these factors by the Commission, that the applicant appears to be financially qualified to assume responsibility for the payment of Commission charges for use, consumption or loss of special nuclear material and to engage in the proposed activities in accordance with the regulations in this part.

Id. Unfortunately, but not atypical of that era, the Commission did not accompany the issuance of the original regulations with a statement of consideration amplifying or explaining the meaning or parameters of 10 C.F.R. § 70.23(e).

In 1967 the current Part 70 financial qualifications regulations, 10 C.F.R. §§ 70.22(a)(8) & Note, 70.23(a)(5), were adopted. See *supra* p. 381. The current regulations merely lack the language from the initial regulations concerning the applicant's ability to assume responsibility for the payment of Commission charges, which reflect changes in the law allowing the private ownership of such material. 32 Fed. Reg. 4055, 4056 (1967). See 31 Fed. Reg. 14,881, 14,882 (1966). Once again, however, in making these changes the Commission provided no supplementary information concerning the meaning or scope of the regulation. Moreover, since the issuance of the Part 70 financial qualifications regulations in 1967, there have been no adjudicatory decisions addressing the nature of the information required of an applicant or explaining the meaning of the requirement that the applicant "appears to be financially qualified to engage in the proposed activities." 10 C.F.R. § 70.23(a)(5).

Although there is no direct Commission explanation of the meaning of the Part 70 financial qualifications regulations, the Commission's Part 50 financial

qualifications regulations were originally enacted, and then amended the first time, almost simultaneously with the Part 70 regulations. Those regulations and all their subsequent amendments, in combination with the criteria and procedures followed by the Atomic Energy Commission in applying the original financial qualifications regulations (as explained in the agency's written submission to Congress), demonstrate convincingly the scope and meaning of the regulations.

Two weeks before the promulgation of the original Part 70 financial qualifications rule, the Commission issued the original Part 50 financial qualifications rule. Although that Part 50 rule was first in time it nevertheless included a provision tying it to the later-issued Part 70 rule. Much like its Part 70 counterpart (*see supra* p. 385), the initial Part 50 financial qualifications rule, 10 C.F.R. § 50.33(f), provided that a license application shall state:

The financial qualifications of the applicant to engage in the proposed activities in accordance with the regulations in this chapter. If the application is also for [a] special nuclear material license pursuant to the regulations in Part 70 of this chapter, information should be included with respect to the applicant's financial qualifications to assume responsibility for the payment of Commission charges for special nuclear material.

21 Fed. Reg. at 355, 357 (1956). Again, much like its Part 70 counterpart, the initial Part 50 financial qualifications rule governing the approval of license applications, 10 C.F.R. § 50.40(b), stated that the Commission should consider whether "[t]he applicant is technically and financially qualified to engage in the proposed activities in accordance with the regulations in this chapter." *Id.* at 358.

Indeed, a side-by-side comparison of the original Part 70 and Part 50 regulations setting forth the standard for granting licenses under those Parts shows that there was no real difference in the critical language of the regulations. Thus, necessarily, there should not be any difference in the original meaning of these provisions. The original 10 C.F.R. § 70.23(e) stated that a license application will be approved if the Commission determines that

the applicant appears to be financially qualified . . . to engage in the proposed activities in accordance with the regulations in this part.

The original 10 C.F.R. § 50.40(b), on the other hand, stated that in determining if it should issue a license the Commission should consider whether

[t]he applicant is . . . financially qualified to engage in the proposed activities in accordance with the regulations in this chapter.

When the Commission amended the Part 70 financial qualifications regulations in 1967 to reflect the changes in the law allowing private ownership of

special nuclear material, it also amended the Part 50 financial qualifications rule as part of the same rulemaking. 32 Fed. Reg. at 4055-56. In 10 C.F.R. § 50.33(f), the Commission deleted the reference to Part 70 special nuclear material licenses and the applicant's financial qualifications to assume responsibility for the payment of Commission charges to reflect the changes in the law allowing private ownership of special nuclear material. See 31 Fed. Reg. at 14,882 (proposed rule). These changes, however, had the effect of making the Part 70 and Part 50 financial qualifications rules essentially indistinguishable from each other.

In late 1966 when the Commission had under consideration these proposed changes to its Part 70 and Part 50 financial qualifications rules, the Congressional Joint Committee on Atomic Energy, through its Executive Director, wrote to the Director of Regulation of the Atomic Energy Commission inquiring about the "provisions in the AEC's regulations dealing with the financial qualifications of applicants for licenses." Letter from John T. Conway, Executive Director, Joint Committee on Atomic Energy, Congress of the United States, to Harold W. Price, Director of Regulation, U.S. Atomic Energy Commission, Washington, D.C. (Nov. 28, 1966) reprinted in *Licensing and Regulation of Nuclear Reactors: Hearings before the Joint Committee on Atomic Energy*, 90th Cong. 1st Sess. 347, pt. I, Appendix 12 (1967) [hereinafter *Hearings*]. The first of the Joint Committee's three questions asked "[w]hat criteria and procedures are used by the Commission in determining whether an applicant is financially qualified to engage in the proposed activities in accordance with the Commission's regulations?" *Id.* In his written response to that question the Director of Regulation informed the Congress that:

The assessment of a license applicant's financial qualifications to engage in the proposed activity in accordance with the Commission's regulations is based upon the review of financial information which we require the applicant to submit and such checks of independent sources of financial information on the applicant as appear warranted in any particular case. Essentially, the issues explored are whether the applicant has adequate financial resources to design, construct and operate the licensed facility.

While the detailed analysis of financial qualifications will vary, depending upon the circumstances of the particular case, the principal matters examined in the case of a construction permit include —

(a) A review to determine the reasonableness of the applicant's estimates of costs to construct the proposed facility.

(b) Analysis of the applicant's plan for financing the cost of the facility; identification of the sources of funds relied upon, e.g., external sources such as borrowing and stock subscriptions, or internal sources such as earnings or depreciation reserves.

(c) Analysis of the applicant's certified financial statements and supporting schedules to assess his current financial condition in relation to this financing plan.

(d) In those cases in which external sources are relied upon for all or part of the required funds, documentary or other evidence relating to contractual arrangements or commitments for such financing, and sometimes the contracts themselves, are also reviewed.

(e) Where the applicant is a newly formed entity, the review particularly covers the capitalization of the organization and the reliability of sources of capital funds needed to construct the facility.

On the basis of these reviews and analyses, conclusions are drawn as to whether there is reasonable assurance that the required funds are or will be available to the applicant in accordance with his financing plan.

With respect to an application for an operating license, the review covers the applicant's current financial statements, with particular reference to current and projected earnings, from which conclusions are drawn as to whether there is reasonable assurance that funds will be available to pay the anticipated operating costs of the facility.

Id. at 348. The Director of Regulation's response went on to explain that the AEC's then current financial qualifications regulations (*see supra* pp. 385, 386) did not prescribe detailed criteria or standards for judging the applicant's financial qualifications because of the variability of factors involved in each case. He noted, however, that the AEC had under consideration at that time the feasibility of setting forth in the regulations general standards that must be met and a description of the kinds of documents and information to be furnished in various types of cases, such as those involving applicants that are newly formed entities. Hearings at 348.

Finally, and most significant here, the Director of Regulation responded to the Joint Committee's third question about the criteria and procedures the Commission proposed to follow in determining the financial qualifications of licensees that contract with the Commission for special nuclear material. He indicated that in the past, when all special nuclear material ("SNM") was government-owned, the material was furnished under contract, a lease agreement, or a supply agreement and, in the future, the Commission also would use a sales contract. The Director of Regulation then stated that "[t]he determination of the financial qualifications of licensees to pay Commission charges for SNM has been based essentially on the same principles of financial analysis referred to under question 1, and this policy is expected to continue in the future regardless of the particular contractual arrangement involved." *Id.* at 349. In other words, the Director informed Congress that the Commission used the same criteria and procedures in determining the financial qualifications of a Part 70 applicant under then 10 C.F.R. § 70.23(e) as it used in determining the financial qualifications of a Part 50 applicant under then 10 C.F.R. § 50.40(b). In light of the nearly identical operative language in the Part 70 and Part 50 financial qualifications regulations, the Commission's use of the same principles for determining compliance with the two provisions is hardly surprising.

Thereafter, as predicted by the Director of Regulation in his response to the Joint Committee, the Commission proposed an amendment to its Part 50 financial qualifications regulations dealing with the information an applicant must submit as part of the license application. 32 Fed. Reg. 8423 (1967). While

not altering 10 C.F.R. § 50.40(b), the proposed amendment expanded section 50.33(f) to require each application to state:

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 necessary funds, or combination of the two.

Id. The proposed regulation also contained a similar requirement with regard to an operating license.

In addition, the proposed amendment included an Appendix C to Part 50 entitled "A Guide for the Financial Data and Related Information Required to Establish Financial Qualifications for Facility Construction and Operating Licenses." *Id.* The proposed Appendix C recognized two classes of applicants: those that were "an established operating business" and those that were "in effect, an instrumentality for the construction and/or operation of the facility as the agent of other principals (usually a new formed entity)." *Id.* at 8424. Besides requiring applicants for construction permits to submit detailed, specific cost estimates for every major plant feature and component and estimates of yearly construction expenditures, it also required them to list their anticipated sources of funds for each year's construction costs and to demonstrate the capability or reasonable assurance of each source to provide the required funds. *Id.* The proposed Appendix C also had markedly different requirements for established operating businesses and newly formed entities. For applicants that were newly formed entities, the proposed Appendix provided that:

documentary support shall be submitted to completely define the legal and financial relationships with the corporate affiliates (usually parent companies) or others (such as banks) upon whom the applicant is relying for financial assistance. This documentary support applies to both the construction and operation of the facility and includes such matters as stock subscription agreements with sponsoring affiliates, loan commitments or agreements, guaranty agreements by affiliates, and similar information to support stability of operations.

Id. Further, the proposed Appendix provided that "[i]f the applicant is, in effect, an agent of others, financial qualifications of each "sponsor" or "principal" to meet its legal obligations shall be demonstrated in the same manner as if it were the applicant. . . ." *Id.*

Shortly after issuing the proposed amendments to its Part 50 financial qualifications regulations, the Commission withdrew them. 32 Fed. Reg. 10,816 (1967). As it subsequently explained, the proposed amendments to Appendix C were withdrawn because the Commission

concluded that it would call for substantially more information in scope and detail than is likely to be necessary, particularly in the case of operating utilities with a history of financial stability.

In rewriting the guide we are attempting to bring into sharper focus and detail the difference in the kind and detail of information to be required of an applicant with an operating history as distinguished from the applicant which is a newly formed entity. . . .

Public Service Co. of New Hampshire (Seabrook Station, Units 1 and 2), CLI-78-1, 7 NRC 1, 10-11 (1978) (quoting letter from the Director of Regulation, Atomic Energy Commission, to Executive Director, Joint Committee on Atomic Energy (Aug. 25, 1967)).

A year later the Commission promulgated the amendments to its Part 50 financial qualifications regulations. 33 Fed. Reg. 9704 (1968). The text of 10 C.F.R. § 50.33(f) remained identical to that of the earlier proposed rule (*see supra* pp. 388-89), but Appendix C was modified to remove much of the detail from the original version. *Compare* 32 Fed. Reg. at 8423-24 *with* 33 Fed. Reg. at 9704-05. The amendment, however, did not alter the language of 10 C.F.R. § 50.40(b). In issuing the new Part 50 financial qualifications regulation, the Commission noted in the statement of consideration that section 182(a) of “[t]he Act and the Commission’s regulations reflect that the fundamental purpose of the financial qualifications provision of that section is the protection of the public health and safety and the common defense and security.” 33 Fed. Reg. at 9704. It further stated that “[a]lthough the Commission’s safety determinations required for the issuance of facility licenses are based upon extensive and detailed technical review, an applicant’s financial qualifications can also contribute to his ability to meet his responsibilities on safety matters.” *Id.*

In the final version of Appendix C, as in the initial proposed text, the Commission emphasized the important distinction, for purposes of determining the financial qualifications of applicants, between those that are established organizations and those that are newly formed special-purpose entities organized to engage in the licensed activity. Although worded more generally than in the proposed version, the final text of Appendix C retained the requirement that newly formed entities relying upon corporate parents or other corporate affiliates for construction funding must make a more detailed showing of not only the sources of funds but also the reliability and commitment of those sources to provide the funds for construction. With the exception of amendments removing the original provisions relating to operating licenses, the text of Appendix C relating to the showing necessary to establish the financial qualifications of

Part 50 construction permit applicants has remained unchanged since its issuance in 1968.¹⁶

After the Commission amended 10 C.F.R. § 50.33(f) and adopted Appendix C in 1968, the Part 50 financial qualifications regulations remained unchanged until 1982. At that time, the Commission amended the regulations to add an exception to 10 C.F.R. §§ 50.33(f) and 50.40(b) that the financial qualifications provisions did not apply to electric utility applicants. 47 Fed. Reg. 13,750, 13,754 (1982). Additionally, the Commission made “certain editorial modifications to § 50.33(f) to improve its clarity.” 46 Fed. Reg. 41,786 (1981) (proposed rule). Chief among these clarifying modifications was the addition of what is now subsection (f)(3) incorporating the thrust of the provisions from Appendix C relating to newly formed entities organized primarily for the purpose of constructing and operating a facility. 47 Fed. Reg. at 13,754. After a court challenge, the Commission again amended the regulations to reinstate the applicability of financial qualifications review for electric utility applicants seeking construction permits under Part 50. 49 Fed. Reg. at 35,752-54 (1984).¹⁷

b. Analysis

We have spelled out the provisions of the Commission’s Part 70 and Part 50 financial qualifications regulations and this lengthy history because these materials provide the context in which 10 C.F.R. § 70.23(a)(5) must be read and define the scope and meaning of that provision. As the language and history of the Part 70 and Part 50 rules graphically illustrate, these financial qualification regulations essentially began as twins. Although the paths of the regulations have diverged somewhat since 1967, the essence of the Part 70 and Part 50 regulations with respect to construction financing and the standard the Commission must apply in granting a license under these Parts has not significantly changed since the initial issuance of the regulations. At that time, because the critical language of the provisions was nearly identical, the provisions had the same basic meaning. Indeed, as the Director of Regulation’s response to a congressional inquiry indicated, the Commission’s financial qualifications reviews of Part 70 and Part 50 license applicants applied the same principles under both regulations at that time.

¹⁶ See 49 Fed. Reg. 35,747 (1984); 50 Fed. Reg. 18,852 (1985). It should be noted that Appendix C was withdrawn in its entirety for a brief period when the Commission eliminated financial qualifications review of electric utilities for both construction permit and operating licenses. See 47 Fed. Reg. 13,750 (1982). After a court challenge, the Commission reinstated Appendix C without the provisions relating to operating licenses. See 49 Fed. Reg. at 35,753.

¹⁷ Subsequently, the Part 50 financial qualifications regulation also were amended with respect to various references to decommissioning funding. See 53 Fed. Reg. 24,018, 24,049 (1988).

Pursuant to those initial financial qualifications criteria and procedures, an applicant was required to show that it was financially qualified to construct a proposed facility by demonstrating that there was reasonable assurance the required funds are or will be available to it in accordance with its financing plan. To demonstrate such reasonable assurance, the applicant needed to show the construction cost estimates for the project and identify the external and internal sources of funds to cover those costs. In those instances in which the applicant relied upon external sources of funds, the applicant needed to produce documentary or other evidence of its contractual arrangements or commitments for the funding. Finally, in those instances in which the applicant was a newly formed entity, the applicant also needed to show the capitalization of the newly formed entity and the reliability of its sources of construction funds. Hearings at 348.

Because there has been no significant change in the critical language of the Commission's Part 70 financial qualifications regulations since their adoption, the same criteria that the Atomic Energy Commission initially applied in determining under both Part 70 and Part 50 whether an applicant was financially qualified are still fully applicable today in determining under 10 C.F.R. § 70.23(a)(5) whether an applicant appears to be financially qualified to engage in the proposed activities. Thus, the history of the Commission's Part 50 and Part 70 financial qualifications requirements fully supports a parallel construction of those regulations in terms of the showing necessary to establish that an applicant "appears to be financially qualified" under section 70.23(a)(5).

As this history also demonstrates, there is no basis for the Applicant's additional assertion in support of its "less prescriptive" interpretation for Part 70 that, in contrast to reactor facilities licensed under Part 50, financial qualifications regulations play a secondary role in assuring safety for Part 70 facilities. As we already have detailed, the critical language of the Part 70 and Part 50 financial qualifications standards is substantially the same and since their inception the two standards have had substantially the same meaning. The Applicant, on the other hand, has presented no reasoned basis that leads us to conclude the Part 70 standard is a lesser one than the Part 50 standard. At the time the Commission amended its Part 50 financial qualifications regulations and adopted Appendix C in 1968, it stated that the fundamental purpose of the financial qualifications provision of the Atomic Energy Act and the Commission's regulations is "the protection of the public health and safety and the common defense and security." 33 Fed. Reg. at 9704. This fundamental purpose is equally involved regardless of whether the financial qualifications review is conducted under Part 70 or Part 50. Certainly, the concerns about safety and national security that arise here relative to the licensing of the first privately owned uranium enrichment facility in the United States do not, on their face, suggest that

a significantly less comprehensive showing should suffice to establish LES' financial qualifications.¹⁸

2. *Applicability of Newly Formed Entity Criteria of 10 C.F.R. Part 50, Appendix C*

The Staff takes the position (which the Applicant also supports¹⁹) that the provisions of Part 50 may be used as guidance but the standard regarding newly formed entities should not be applied. The Staff claims Appendix C must be read in the context of the Commission's Part 50 financial qualifications standard, 10 C.F.R. § 50.33(f), which requires an applicant for a construction permit to show that it "possesses or has reasonable assurance of obtaining the funds necessary to cover estimated construction costs." According to the Staff, the Commission in *Seabrook*, CLI-78-1, 7 NRC at 18, interpreted the Part 50 reasonable assurance standard to mean that an "applicant must have a reasonable financing plan in light of relevant circumstances" and further stated that the standard "does not mean a demonstration of near certainty that an applicant will never be pressed for funds." From this definition, the Staff argues that because the applicant only

¹⁸ In support of its argument for a diminished financial qualifications showing under Part 70, LES suggests that in determining if an applicant is financially qualified to construct the proposed uranium enrichment facility "the issue is whether, assuming the project moves to construction, the applicant has submitted information that provides reasonable assurance that the applicant can obtain the necessary funds, and therefore appears to be financially qualified." LES Memorandum at 18. According to the Applicant, the question of whether the facility will be built is essentially irrelevant since failure to build it has no public health and safety consequences. *Id.*

To accept this assertion would seriously distort the Commission's financial qualifications regulations. By "assuming" construction, we would ignore the financial qualifications requirement of 10 C.F.R. § 70.23(a)(5) that "the applicant appears to be financially qualified to engage in the proposed activities." Because the proposed activities here are the construction and operation of a uranium enrichment facility, to assume construction, as the Applicant would have it, not only begs the question under the regulation, it assumes the answer. The Commission's financial qualifications regulation is written in the present tense and, although it necessarily is future oriented, it requires a *prelicensing* showing that an applicant is currently financially qualified to construct and operate the proposed project.

We add that accepting the Applicant's argument not only would seriously distort the Commission's financial qualifications regulations, but would represent a radical departure from past practice under the agency's financial qualifications regulations. Because there are no comparable provisions in Part 70 to those in Part 50 that establish construction completion deadlines, *see* 10 C.F.R. § 50.55(a), accepting the Applicant's argument in the context of the 30-year Part 70 license is tantamount to providing a newly formed special-purpose entity a 30-year window to determine whether to build the facility and a 30-year unreviewed window to shop for construction financing. In contrast to existing regulations that require a showing of a real, legal nexus between a newly formed special-purpose entity and its anticipated sources of construction funds prior to licensing, acceptance of the Applicant's reading of the Commission's regulations would make the *prelicensing* review of an applicant's financial qualifications a meaningless paper exercise.

¹⁹ Like the Staff's arguments, the Applicant's argument, at bottom, simply ignores the fundamental premise of the Commission's financial qualifications regulations that newly formed special-purpose entities are different from established organizations that have an operating history. The Atomic Energy Commission recognized that distinction in the criteria it applied in determining the financial qualifications of applicants under the original Part 70 and Part 50 regulations (*see supra*, pp. 387-88). Subsequently, it incorporated that distinction into Appendix C and then years later that distinction was put into the regulations. *See supra*, p. 391. In short, newly formed entities have no track record and, therefore, they require a different and greater degree of scrutiny to determine whether they are financially qualified.

needs to show a reasonable assurance of obtaining construction funds, not a certainty of obtaining them, a newly formed entity only needs to show that its corporate affiliates have the capability of providing construction funds and not, as is stated in Appendix C, that the corporate affiliates have committed to provide the funds to the applicant. (Wood at 4, 7 fol. Tr. 721.) Staff Memorandum at 20-21.

Even assuming, as the Staff asserts, that Appendix C is to be used only as a guide in determining the meaning of the Part 70 financial qualifications standard so that the Appendix C criteria with respect to newly formed entities are not directly applicable, the Staff's argument, nevertheless, is without merit. Initially, we note that if, as the Staff asserts, Appendix C is to be used as guidance, it is not apparent why it should not be applied uniformly and consistently rather than, as the Staff has done, picking and choosing among equally applicable provisions. In addition, the Staff's misreading of the Commission's *Seabrook* decision undercuts its argument. Although the Commission explored the meaning of the reasonable assurance requirement in the Part 50 financial qualifications regulations in *Seabrook*, that decision involved established organizations, i.e., the Public Service Company of New Hampshire and several other New England utilities, not a newly formed special-purpose entity without an operating record — a distinction the Commission noted no less than five times in its decision.

Indeed, under the Staff's reasoning and reading of *Seabrook*, the provisions of Appendix C regarding a newly formed entity are so much waste ink in that even a newly formed entity seeking a reactor construction permit under Part 50 and relying on construction funding from corporate affiliates would not need to show that the corporate affiliates had made commitments to provide construction funds to the applicant. In *Seabrook*, however, the Commission did not address, much less render superfluous, the provisions of Appendix C concerning newly formed entities and the distinction between such entities and established organizations. In short, *Seabrook* is simply inapposite to this question.²⁰

The Staff's additional argument that, inter alia, the regulatory history of the Commission's financial qualifications regulations is irrelevant because it predates the *Seabrook* decision²¹ conveniently ignores the fact that the Commission adopted the requirements of 10 C.F.R. § 50.33(f)(3) dealing with newly formed entities and reinstated Appendix C a number of years *after* it handed down *Seabrook*. See *supra* note 21.

Indeed, a comparison of the criteria that the Atomic Energy Commission used in reviewing an applicant's financial qualifications under the original Part

²⁰ Moreover, even if we accept the Staff's definition of reasonable assurance, i.e., a reasonable financing plan in light of relevant circumstances, we nevertheless would apply the Appendix C criteria because an applicant's status as a newly formed special-purpose entity relying on corporate affiliates for construction funding is a highly relevant circumstance that must be factored into any decision on the applicant's financial qualifications.

²¹ Reply of the NRC Staff Regarding Legal Standard for Assessing Financial Qualifications (May 1, 1995) at 3.

70 and Part 50 regulations (*see supra* pp. 387-88; Hearings at 346) with the proposed and final versions of Appendix C of Part 50 (*see supra* pp. 389, 383; 32 Fed. Reg. at 8424; 33 Fed. Reg. at 9705) shows that the Commission merely incorporated those same criteria into Appendix C. Thus, even though Appendix C is applicable as a guide to the Part 50 financial qualifications regulations and, by its terms, is not applicable to Part 70, as a practical matter, Appendix C is little more than a refinement of the criteria that the Atomic Energy Commission applied equally to applicants under the original Part 70 and Part 50 financial qualifications rules.

This is most obvious with respect to the Appendix C provisions concerning newly formed entities, which are a combination of the original criteria dealing with external sources of funds and those dealing with newly formed entities. In Appendix C, however, the Commission has refined the focus of the showing such applicants must make to demonstrate they are financially qualified. Accordingly, we have no hesitancy concluding that the Appendix C provisions dealing with newly formed entities also directly reflect the showing required of Part 70 applicants. In any event, we find it appropriate to apply them because the same concerns that prompted the Commission to differentiate between newly formed entities and established organizations under the Part 50 financial qualifications regulations apply equally to Part 70 applicants.

Therefore, as set out in Appendix C, a newly formed entity, in addition to providing estimates of its costs, must "specifically identify" the source or sources upon which it relies for construction funds and the amount to be obtained from each source. It must also fully detail its "legal and financial relationship" with its corporate affiliates and any financial institutions upon which it relies for funding. In those instances in which the newly formed entity relies upon corporate affiliates for construction funding, it must also demonstrate "the financial capability of each such company or affiliate to meet its commitments to the applicant" and, "[o]rdinarily, it will be necessary that copies of agreements or contracts among the companies be submitted." 10 C.F.R. Part 50, Appendix C.II.A.2.²² When an applicant that is a newly formed entity makes

²² Any doubt about the meaning of these Appendix C provisions is erased by the wording of the provisions of the proposed version of the Appendix, which required newly formed entities to provide "documentary support . . . to completely define the legal and financial relationships with the corporate affiliates," and stated that "[t]his documentary support . . . includes such matters as stock subscription agreements with sponsoring affiliates, loan commitments or agreements, guaranty agreements by affiliates, and similar information to support stability of operations." 32 Fed. Reg. at 8424. The proposed Appendix also provided that newly formed entities needed to demonstrate the financial qualifications of each corporate affiliate "to meet its legal obligations" to the applicant. *Id.* Moreover, the importance of the Appendix C provisions dealing with the *capability* and *commitment* of corporate affiliates to provide construction funding to newly formed entities is highlighted by the Commission's adoption of the gist of these Appendix C criteria into 10 C.F.R. § 50.33(f)(3) in 1982 when Appendix C was briefly dropped from the financial qualifications regulations. *See* 47 Fed. Reg. at 13,754. Subsequently, the Commission again included these identical criteria regarding corporate affiliate capability and commitment for providing construction funding when it reinstated Appendix C in 1984. *See* 49 Fed. Reg. at 35,753. Thus, these Appendix C criteria explain the meaning of section 50.33(f)(3).

this showing, it has demonstrated that there is a reasonable assurance that funds will be available to construct the facility in accordance with its financial plan and it has met the standard of 10 C.F.R. § 70.23(a)(5).

E. Board Findings on the Applicant's Financial Qualifications

Although the parties introduced a great deal of testimony and other evidence on the financial qualifications issue, very little of it is directly relevant to meeting the applicable legal standard. The Applicant's financial plan states that the hard construction costs of the CEC are projected to be \$816 million in 1992 dollars. (I-DO-33 at D-11.)²³ Neither the method by which the Applicant estimated the CEC construction costs nor the reasonableness of the Applicant's cost estimates is disputed. (See Doudiet-Arnold at 14-15 fol. Tr. 563.) The plan further states that construction will be financed by LES with term debt from international lending banks and equity contributions from LES limited partners. (I-DO-33 at D-12.) The Applicant's expert, Mr. Doudiet, testified that he believed the debt would be financed by bank loans of about 10 years duration and he strongly doubted LES would employ any bond indenture to raise construction funds. (Tr. 656-57.) He indicated LES expected to pay an interest rate of 8.5 to 9%. (Doudiet-Arnold at 17 fol. Tr. 563. *But see* I-DO-44, Exh. D at D-4.) Although the precise debt/equity ratio for the project is considered proprietary (App. Exh. 14 at E-13), Mr. Doudiet testified that LES would borrow somewhere between 60 and 70% of the construction costs and the LES limited partners would contribute somewhere between 30 and 40% of those costs. (Tr. 654.)

Additionally, the Applicant's financial plan states that the CEC project has four phases: the venture phase, the construction phase, the operation phase, and the decontamination and decommissioning phase. The venture phase began with the inception of the LES partnership and the general and limited partners have contributed, each in proportion to its respective interest in the partnership, a total of \$31.7 million. (I-DO-33 at D-10.) *see supra* pp. 379-80. Although the Applicant considers the dollar breakdown of its venture-phase costs proprietary, the venture-phase capital contributions cover the costs associated with obtaining engineering services from Urenco for the reference design of the CEC and all administrative, licensing, and marketing costs. (I-DO-33 at D-10 to D-11.) According to the Applicant's financial plan, the objectives of the venture phase are to (1) complete sufficient engineering to file and support the NRC license application; (2) obtain an NRC license; (3) negotiate satisfactory fixed-

²³To put the hard construction costs in perspective in relation to total project costs without using proprietary information (*compare* App. Exh. 14 at E-11 to E-12), the Staff's FEIS states that the total cost of the project including construction, interest, escalation, capitalized interest contingency, replacement centrifuges, decontamination, and decommissioning is estimated at \$1.6 billion in 1990 dollars. (Staff Exh. 2 at 2-2.)

price contracts for the construction of the facility and the supply of centrifuges; (4) secure required financing; and (5) market the initial production capacity of the facility through long-term SWU sales agreements. (*Id.* at D-10.) Both Mr. Doudiet and Dr. Arnold testified that, to date, LES has concentrated on objectives (1) and (2) and, upon receipt of an NRC license, LES will renew activities associated with objectives (3), (4), and (5). (Doudiet-Arnold at 26 fol. Tr. 563.) These witnesses also stated that proceeding beyond the venture phase for LES is conditioned upon the fulfillment of these objectives and that the venture phase will conclude upon a decision to proceed to the construction stage by the LES general partners. (*Id.* at 24, 27; App. Exh. 22 § 13.1 at 7; I-DO-40 art. XIX).²⁴

Although the Applicant's financial plan states that the construction process for the CEC will be continuous starting with fourteen cascades and a capacity of 0.5 million SWUs and expanding to meet the needs of the marketplace up to the licensed capacity of 1.5 million SWUs (I-DO-33 at D-10), Dr. Arnold testified that LES is currently considering another option. Under that alternative, the decision to proceed with construction might not be made unless the full 1.5 million SWU capacity of the CEC is committed. This approach would collapse the construction phase and the operations phase into one so that the operations phase would not commence until the entire facility was completed, instead of operating each unit of one-third plant capacity as it was finished to help raise construction funds. (Doudiet-Arnold at 25-26 fol. Tr. 563; Tr. 761; I-DO-33 at D-11 to D-12.)

In their testimony, the Applicant's witnesses portrayed how LES hoped the financial plan would work and, therefore, how the Applicant believed it was financially qualified to construct the CEC:

An NRC license is a necessary, but not sufficient project precondition. Upon receipt of an NRC license, LES will be in a position to market the planned output. The projected SWU cost will be competitive in the marketplace and thus it is reasonable to assume that LES will be successful in its marketing. Upon successful marketing, LES will be in a position to seek and obtain project funding. This funding will consist of two parts: equity and debt. The equity will be committed to by existing and possibly new partners as a precondition to raising the debt. The favorable economics of the project, as well as the financial well-being of the partners, lead to the conclusion that it is reasonable to assume equity will be raised. Once equity is in place, potential lenders will review the project economics in light of the receipt of an NRC license, the firm contracts for enrichment services and the certainty of

²⁴ Under the provisions of the Partnership Agreement, as amended, once the partners decide to take up the matter, the partners also can agree to continue the partnership in the event they decide not to proceed to the construction phase. (I-DO-40 art. XIX § 19.1; App. Exh. 22 § 13.1 at 7.)

construction and equipment costs. Assuming these eventualities, the project economics are such that it is reasonable to conclude that sufficient debt will be committed to.

(Doudiet-Arnold at 8-9 fol. Tr. 563.)

Although the Applicant's financial plan for funding the construction and operation of the CEC clearly demonstrates optimism, it is equally clear that LES has not made the showing required of a newly formed special-purpose entity under the Commission's financial qualifications regulations. Specifically, and as we discuss in more detail below, the Applicant has not demonstrated that LES has the assets to fund the construction of the CEC nor has it shown any commitments from the corporate affiliates of the LES general or limited partners to provide the equity portion of the construction funds identified in the project financial plan. Further, LES has not even identified, much less fully detailed, the legal and financial relationship it has entered into with the financial institutions upon which it relies for the debt portion of the construction funds identified in the CEC financial plan. Having failed to make this required showing, the Applicant has not demonstrated that there is reasonable assurance that funds will be available to construct the facility, and LES has failed to establish by a preponderance of the evidence that it appears to be financially qualified to build the CEC.²⁵

There is no dispute on the record of this proceeding that LES does not currently have the funds necessary to cover the estimated construction costs of the proposed CEC. (Osterberg at 4 fol. Tr. 715; Doudiet Tr. 568-69.) LES is a development-stage enterprise with few marketable assets. While the cash, land, and office furniture on the Applicant's balance sheet have value, the deferred startup costs for the CEC have little or no value for anyone other than LES or its partners. (Osterberg at 4-5 fol. Tr. 715; I-DO-36.) Similarly, it is undisputed that none of the four LES general partners or the seven LES limited partners have the funds necessary to cover the estimated construction costs of the proposed facility. (Osterberg at 5 fol. Tr. 715; Doudiet Tr. 564, 566, 568, 571-72; I-DO-37; I-DO-38.) None of the LES general and limited partners are entities of worth (Osterberg at 5 fol. Tr. 715) and each is itself a special-purpose company established for the CEC venture. (Doudiet Tr. 567, 571, 696.) As previously

²⁵ Although the Staff's witness, Mr. Wood, testified that the Staff found the Applicant was financially qualified to construct and operate the CEC (Wood at 6 fol. Tr. 721), his testimony demonstrated that the Staff reached that conclusion by applying what we already have found was an erroneous interpretation of the Commission's financial qualifications regulations. (*Id.* at 4, 7.) See *supra* pp. 393-94. Nevertheless, Mr. Wood testified that "[o]ne of the good aspects of this project" was that, because construction of the CEC was planned as a turn-key construction project, it appeared to him that there would be no incentive to cut corners on construction and, thus, there would be no safety concern, which, after all, was the underlying purpose of the financial qualifications regulations. (Tr. 725, 723.) It is not readily apparent to the Board how a turn-key project by itself lessens any safety concern. Rather, it would appear that the incentive for a turn-key contractor that has underestimated the project (or a financially unqualified turn-key contractor) has the same incentive to cut corners as the financially unqualified license applicant that is involved in building the project.

indicated, each of the four LES general partners and the seven LES limited partners is either a first- or second-tier wholly owned subsidiary of another corporation or, in the case of LES general partner Claiborne Fuels, L.P., a limited partnership whose sole general partner is a second-tier wholly owned subsidiary of another corporation. *See supra* pp. 379-80.

Even though none of the LES general or limited partners are corporations of financial worth, the Applicant's financial plan indicates that the seven LES limited partners will provide the 30 to 40% equity funding for the construction of the CEC. (App. Exh. 14 at E-12 to E-13; Doudiet Tr. 654.) The Applicant's witnesses testified that, at the appropriate time at the conclusion of the venture phase, the financially substantial corporations at the top of the respective corporate affiliate chains of each of the LES limited partners (Staff Exh. 1 at 13-3 to 13-4) would determine whether to fund the limited partners and then the various limited partners could have the necessary funds to contribute to the equity portion of the CEC construction funds. (Arnold Tr. 575, 676-77.) If any LES limited partners decide not to provide equity contributions for construction, the Applicant's witnesses stated that the Partnership Agreement contemplates that the "Urenco affiliates"²⁶ would provide the funding or, alternatively, LES would seek new partners and equity. (Doudiet-Arnold at 28 fol. Tr. 563.) There is no dispute, however, that none of the corporate affiliates of any LES general or limited partner has made a commitment of any kind to fund the equity contribution for construction of any of the LES general or limited partners. (Osterberg at 7-8 fol. Tr. 715; Doudiet Tr. 575-76, 579-80, 582-83, 619-33.) Further, the Partnership Agreement does not require or obligate any LES general or limited partner to contribute any funds beyond the venture phase of the project to finance any part of the construction.²⁷ (I-DO-44 art. XI; Arnold Tr. 640,

²⁶ Dr. Arnold stated that by "Urenco affiliates" he meant "the sum total of the entities involved in Urenco" (Tr. 639) and, specifically, LES general partner, Urenco Investments, Inc., its parent corporation, Urenco Ltd., and the three LES limited partners, Urenco (Investments US) Ltd., GmV, and UNC Deelnemingen B.V. and their respective parent corporations. (Tr. 641.) *See supra* pp. 379, 380. Although the Applicant's witnesses stated that the Partnership Agreement "contemplated" that Urenco would provide substitute equity funding, the Agreement places a ceiling on the interest Urenco Investments, Inc., and its affiliates may acquire in the venture. In light of the First Amendment to the Agreement, the existing interests of Urenco Investments, Inc., and its affiliates seemingly preclude any substantial additional substitute funding. (I-DO-44 art. XI § 11.1(f), art. XII § 12.2, art. XV § 15.2(a); App. Exh. 22 § 11.1 at 4-6, § 15.2(b) at 10-11.)

²⁷ Although the Partnership Agreement does not obligate any LES general or limited partner to contribute any funds beyond the venture phase to fund the construction of the project, the Agreement does prescribe the conditions under which the general and limited partners that are corporate affiliates of public utilities may leave the partnership and still receive reimbursement for their interests at the end of the venture phase. It also prescribes the time when any general partner may withdraw without receiving reimbursement for its interest. The Agreement also contains restrictions on the persons to whom any partnership interest may be transferred. (I-DO-44 arts. XIII, XV; App. Exh. 22 § 13.4 at 8, § 15.1(b) at 9, § 15.2 at 9-12.)

In this latter regard, we note that in his testimony the NRC Staff witness stated that, in the event a LES general partner sold its interest in the CEC, a license application amendment or a license amendment would be required. (Wood at 8 fol. Tr. 721.) Equally true, however, is the fact that, if the corporate parent of any LES general partner sold its subsidiary owning the LES partnership interest, no license application amendment or license amendment would be necessary under the Commission's regulations.

692.) Similarly, it is undisputed that none of the corporate affiliates of any LES general or limited partner is a partner under the terms of the LES Partnership Agreement. (Doudiet Tr. 584.)

The Applicant's financial plan also states that 60 to 70% of the construction funds will be financed by LES with term debt from international project lending banks. (I-DO-33 at D-12; Doudiet Tr. 654.) The Applicant's witnesses testified that, at the appropriate time after the other objectives of the venture phase are completed, LES will seek financing from lenders "similar in size and expertise to major energy/project lending banks such as Citibank, Chemical Bank, Barclays Bank and Union Bank of Switzerland." (Doudiet-Arnold at 31 fol. Tr. 563.) Mr. Doudiet stated, however, that none of the LES general or limited partners have relationships with any lending institutions and that only the corporate affiliates of the LES general and limited partners have any such relationships. (Doudiet Tr. 572-73.) Moreover, Mr. Doudiet testified that LES did not yet know the type of financing package it would pursue and whether it would seek project financing or corporate credit financing. (Doudiet Tr. 647-48.)

In sum, based on the record before us, we find that (1) the Applicant, LES, is a newly formed entity organized primarily for the purpose of constructing and operating a uranium enrichment facility pursuant to Part 70 of the Commission's regulations; (2) neither the Applicant nor any of the general or limited partners comprising the LES limited partnership have the financial ability, individually or jointly, to fund the \$816 million (in 1992 dollars) construction costs of the CEC or 30 to 40% of that amount as the equity portion of the construction costs pursuant to the Applicant's financial plan; (3) none of the corporate affiliates of the LES general and limited partners with the financial ability to furnish construction funding have provided the LES general and limited partners with funding commitments, agreements, or contracts of any kind that would permit the LES general and limited partners to fund the equity portion of the construction costs of the CEC;²⁸ and (4) the Applicant has neither specifically identified the

²⁸ Although none of the corporate affiliates of the LES general or limited partners have made any construction funding commitments that meet the requirements of the Commission's regulations, the Applicant's witnesses repeatedly emphasized that these companies had spent over \$30 million on the venture phase of the project and thus they were serious about continuing the project. (Doudiet-Arnold at 25 fol. Tr. 563; Tr. 676-77.) But such venture-phase contributions do not demonstrate any commitment by the corporate parents and affiliates of the LES general and limited partners to contribute the equity portion of the construction funds for the project. As the very name "venture" phase connotes, it is an exploratory undertaking of uncertain outcome and, here, none of the venture-phase participants are obligated to provide any further capital beyond that phase. (I-DO-44 arts. XI, XIII.) Certainly, \$31.7 million is not a trifling sum, but each of the individual contributions of the various participants is a significantly smaller amount and the total venture capital expenditure must be put in the context of a proposed project with estimated total costs of approximately \$1.6 billion. Thus, these venture capital expenditures do not demonstrate a commitment by the corporate parents and affiliates of the LES general and limited partners to fund the equity portion of the construction of the project.

Indeed, the evidence convincingly shows that two of the venture-phase participants have no intention of participating past the venture phase. Duke Power Company, the parent corporation of LES general and limited partner Claiborne Energy Services, Inc. (that together have over a 25% interest in LES), stated in a written report

(Continued)

financial institutions nor detailed any loan agreements, commitments, or other contractual arrangements with the lending banks upon which it will rely for the debt portion of the construction funds for the CEC as stated in the LES financial plan. Accordingly, we conclude that the Applicant has not demonstrated it is financially qualified to construct the CEC as required by the Commission's regulations.

In making these findings, we note that one recurrent theme of the Applicant's witnesses was that, because the LES general and limited partners were all affiliates of other substantial corporations and the funding for the CEC could come from those companies, the distinction between the LES general and limited partners and their corporate affiliates was merely a convenience for the organizations and was not important for purposes of determining the financial qualifications of the LES partnership and its general and limited partners.²⁹ (Doudiet Tr. 572-73, 578, 613.) For example, Mr. Doudiet testified that "my personal view is that whether something is directly owned by the ultimate parent or has three levels of subsidiaries, from the standpoint of what we are interested in here [i.e., financial qualifications], really has not a great bearing on it." (Tr. 578.) Further, he stated that "as a financial analyst, I often, in looking at partnership structure like this, do not make a distinction between the limited or general partners and the ultimate parents, because for financial purposes, the top line of the ultimate parents is where the financial resources come from." (Tr. 613.)

Contrary to the assertions of the Applicant's witnesses, however, the status of the LES general and limited partners as first- or second-tier wholly owned subsidiaries of other corporations is highly relevant under the Commission's financial qualifications regulations. Each of the LES general and limited partners, like the LES partnership itself, is a newly formed entity organized for the

to one of its state regulators, the North Carolina Utilities Commission, its intention to sell or redeem the large majority of its share in LES, perhaps retaining only a small interest. (I-DO-41 at 6.) Similarly, LES limited partner, Louisiana Power and Light Company, the wholly owned subsidiary of Entergy Corporation and holder of a 4.10% interest in LES, represented to one of the Commissioners sitting as a hearing examiner for the Louisiana Public Service Commission that it would cash out its interest at the conclusion of the venture phase. (I-DO-42 at 46.) While the Applicant's witnesses sought to downplay this evidence, stating the obvious literal truth that Duke Power Company had not represented that it would "abandon" the project (Doudiet-Arnold at 23 fol. Tr. 563) and that it was possible Louisiana Power and Light Company might reevaluate its position (Tr. 753), these representations by utility companies to their state regulators clearly show that neither the parent corporation of Claiborne Energy Services, Inc., nor Louisiana Power and Light will fund construction of the CEC. Moreover, the Applicant's witnesses testified that LES would seek additional partners if the current limited partners did not provide sufficient equity for construction funding but LES presented no evidence of additional participants in the project.

²⁹ Indeed, even though the LES general and limited partners and their respective corporate parents and other corporate affiliates are separate corporations and these parent and affiliate corporations are not members of the LES limited partnership, in their testimony, Mr. Doudiet and Dr. Arnold generally do not distinguish among these different entities but lump them all together. (See Tr. 613-17.) In doing so, the Applicant's witnesses use terms like LES partners, partners, affiliates, and entities to include the LES general and limited partners and their respective corporate parents and affiliates even though such meaning is literally incorrect. Portions of the Partnership Agreement suffer from the same imprecision in language.

purpose of constructing and operating the CEC. As such, none of these special-purpose entities, unlike established organizations, have any operating history and financial track record by which their stability and financial qualifications can be objectively judged. For this reason, when newly formed special-purpose entities rely upon corporate affiliates for construction funding, the Commission's financial qualifications regulations require such entities to demonstrate both the financial capability of the corporate affiliates to contribute the construction funds and commitments by the corporate affiliates to provide the funds.³⁰ The financial capability of a corporate affiliate to contribute construction funding without a concomitant commitment to provide the funds, is no more useful in objectively judging the financial qualifications of a LES general or limited partner than a commitment to provide the funds from a corporate affiliate financially incapable of contributing the construction funding. Thus, far from being a matter of little significance as the Applicant's witnesses assert, the corporate relationship between newly formed special-purpose entities and their corporate affiliates is of central importance under the Commission's financial qualifications regulations.³¹

A second recurrent theme of the Applicant's witnesses was that, at the appropriate time at the close of the venture phase, the corporate affiliates of the LES limited partners would decide whether to fund them for the construction phase. Once a decision to proceed was made, the LES limited partners would then be funded by their corporate affiliates with the equity portion of the construction costs and LES would then be able to attract debt financing and

³⁰ Indeed, this regulatory requirement of a funding commitment is merely an implicit recognition that under general principles of corporate law a subsidiary corporation is independent of its parent corporation or other corporate affiliates. Thus, absent contracts or other legally enforceable commitments between a subsidiary and its parent or corporate affiliates, there is no obligation or responsibility on the part of the parent or affiliate corporations to support the activities of a subsidiary. Similarly, the subsidiary has no recourse against its parent or corporate affiliates to force support for its activities. Additionally, here, under the provisions of the Partnership Agreement, the parent and other corporate affiliates of the LES general and limited partners are not responsible for the indebtedness or obligations of the LES partnership. (I-DO-44 art. IV, § 4.2.)

Thus, by arguing that the Applicant need only show the financial capability of the parents or other corporate affiliates to contribute construction funding and that it need not demonstrate any commitment by them to provide the funds, LES would like "to have its cake and eat it too." The Applicant seeks to shield the parents and other corporate affiliates from any obligation to provide construction funding, but still holds out the financial stature of those corporations to demonstrate the financial qualifications of the LES general and limited partners — an approach prohibited by the Commission's financial qualifications regulations.

³¹ In like vein, Mr. Doudiet asserted that lending institutions would consider the LES general and limited partners "one and the same" as their financially substantial corporate parents and affiliates. (Tr. 573.) Mr. Doudiet conceded, however, that it is LES and the LES general partners that will be liable to a lender for any debt, that a lender has no recourse against any parent corporation or other corporate affiliate of the LES general partners, and that these factors affect the interest rate LES would have to pay in borrowing funds. (Tr. 701-02.) For these obvious reasons; commercial lenders, much like the Commission in judging the financial qualifications of a newly formed special-purpose entity under the financial qualifications regulations, look to the financial capability of affiliated companies only to the extent such entities have committed to guarantee the loan or otherwise legally committed themselves to a project. }

be financially qualified to construct the CEC.³² As we have already detailed in our discussion of the applicable legal standard, however, the Commission's regulations require the Applicant to demonstrate its financial qualifications to construct the CEC prior to licensing, not at some future time convenient to the Applicant's determination whether to build the plant. Thus, because the relevant time period for a financial qualifications determination is the present, future speculative contingencies do not satisfy the Commission's regulations. To obtain a license, LES must demonstrate the commitments of the corporate affiliates of the LES partners to fund the equity portion of the facility construction costs. Additionally, the Applicant must identify the financial institutions from which it intends to borrow the debt portion of the construction costs and detail its loan commitments.³³

Our finding that the Applicant has not demonstrated that it is financially qualified to construct the CEC in accordance with the Commission's regulations

³²In this regard, the Applicant states that the "Intervenor also acknowledges that once the substantial parent corporations have committed equity to the project, 'one would be able to go to financial institutions and get a commitment for debt financing.'" (App. P.F. at 151 quoting Tr. 795.) The Applicant's assertion is simply incorrect. The alleged quotation from page 795 of the transcript does not appear on that page and our computer search of the hearing transcripts indicates there is no such quotation in the record. With the exception of the subject of the sentence, the quoted words can be pieced together from two paragraphs appearing on that page but the Applicant has not included any ellipses in its quotation. Most important, the Applicant's assertion mischaracterizes the Intervenor's testimony and ignores the four conditions Mr. Osterberg indicated were necessary to obtain debt financing. We trust the Applicant's error was inadvertent.

³³Because the Applicant has not identified its lenders or detailed its loan commitments as required by the Commission's regulations, we need not specifically address the Applicant's assertions, under its erroneous interpretation of the financial qualifications regulations, that LES has reasonable assurance of attracting debt financing due to the asserted viability of the project. In this regard, we note, however, that even under the Applicant's erroneous legal standard, LES has failed to demonstrate that there is reasonable assurance of obtaining debt financing. No one has better summarized the uncertainty of securing debt financing for construction and the uncertainty of building the CEC in the current market than Dr. Klaus P. Messer, the Chief Executive Officer of Urenco Ltd. — a 47% stakeholder in LES through its various subsidiaries and corporate affiliates and the company supplying the technology and the centrifuges for the CEC. In an interview appearing in the *Nukem Market Report* that was admitted into evidence pursuant to the stipulation of the parties, Dr. Messer was asked about obtaining financing for the project and candidly responded as follows:

NUKEM: *Are you confident of getting the financial support for the LES plant should you decide to build it?*

MESSER: No, we are not. This is due to the unknown effect the Russian HEU will have on the market. The USEC will be paying about \$82 per SWU. If the U.S. utilities have access to a substantial amount of material at such low prices, it will hurt us.

We also don't know how the matching agreement will work out. Obviously, this puts USEC in a very advantageous and, I would say, unfair position, relative to the other enrichers, because it potentially lets USEC become a large trader of cheap Russian SWUs. I don't know if LES is viable under these circumstances. The financial backing will only be available if we can sell in the U.S. from a new U.S. plant at acceptable prices.

(I-DO-22 at 18.) Even more revealing, was his response about building the CEC in the current market:

NUKEM: *Is there any point where you would give up on LES?*

MESSER: We would never consider that because we don't have to. *Why should we?* We would never give up an option if we can keep it at no cost. Market circumstances may change tomorrow and we may decide to build immediately. *What if there is a political change in Russia and the HEU deal just disappears?* The world would urgently need cheap enrichment quickly and with a high degree of security of supply.

(Continued)

is without prejudice to the Applicant acting to amend its financial plan to conform to the requirements of the Commission's regulations. Further, because we find that the Applicant is not financially qualified to construct the CEC, we do not reach the question of whether LES is financially qualified to operate the facility. In addition to the foregoing findings on contention Q, we have carefully considered all the other arguments, claims, and proposed findings of the parties on this contention and find that they are either without merit, immaterial, or unnecessary to this Decision.

III. CONCLUSION

For the reasons detailed in Part I, we conclude that the Staff's treatment of the need for the facility in the FEIS is inadequate and that the FEIS must be amended as set forth in Part I.D.4. To that extent, the Intervenor's contention J.4 is sustained. Additionally, for the reasons detailed in Part I.E, we conclude that the Staff's treatment of the no-action alternative in the FEIS and its cost-benefit analysis in the FEIS is inadequate and that the FEIS must be amended consistent with the Board's decisions. Thus, the Intervenor's contention K is sustained. Finally, we conclude in Part II.E that the Applicant has not demonstrated that LES is financially qualified to construct the Claiborne Enrichment Center within the meaning of 10 C.F.R. § 70.23(a)(5). Therefore, the Intervenor's contention Q is sustained.

Pursuant to 10 C.F.R. § 2.760 of the Commission's Rules of Practice, this Partial Initial Decision will constitute the final decision of the Commission on these contentions forty (40) days from the date of its issuance unless a petition for review is filed in accordance with 10 C.F.R. § 2.786, or the Commission directs otherwise. Within fifteen (15) days after service of this Partial Initial Decision, any party may file a petition for review with the Commission on the grounds specified in 10 C.F.R. § 2.786(b)(4). The filing of a petition for review

(Id.) Although the Applicant introduced a subsequent letter from Dr. Messer in an attempt to explain his interview, nothing in that letter changes the essential import of Dr. Messer's original remarks. (App. Exh. 15.) In light of the current and future market forecast for enrichment services, the other significant risk factors impacting the viability of the project, and Dr. Messer's assessment that he is not confident the project will obtain debt financing, the Applicant has presented no assurance, much less reasonable assurance, that LES can obtain the necessary debt financing.

In any event as we already have explained, under the correct legal standard for judging the Applicant's financial qualifications, the Commission is entitled to know the identity and details of the financing commitments for the debt funding before granting a 30-year license for the CEC. Under the Commission's regulations, the importance of a *prelicensing* review of the identity and commitment of the sources of debt financing takes on an added dimension in the licensing of the first private enrichment facility in the United States because of the obvious national security interests involved. The necessary result of the Applicant's erroneous interpretation of the Commission's financial qualifications regulations, however, is essentially to cede to LES, its general and limited partners, and their various parent and affiliate corporations, unreviewed discretion regarding the source and conditions of debt financing over the 30-year term of the license. The Commission's financial qualifications regulations do not authorize any such result.

is mandatory in order for a party to have exhausted its administrative remedies before seeking judicial review at the appropriate time. Within ten (10) days after service of a petition for review, any party to the proceeding may file an answer supporting or opposing Commission review. The petition for review and any answers shall conform to the requirements of 10 C.F.R. § 2.786(b)(2)-(3).

It is so ORDERED.

**THE ATOMIC SAFETY AND
LICENSING BOARD**

**Thomas S. Moore, Chairman
ADMINISTRATIVE JUDGE**

**Richard F. Cole
ADMINISTRATIVE JUDGE**

**Frederick J. Shon
ADMINISTRATIVE JUDGE**

**December 3, 1996
Rockville, Maryland**

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

**Charles Bechhoefer, Chairman
Thomas D. Murphy
Frederick J. Shon**

In the Matter of

**Docket No. 72-18-ISFSI
(ASLBP No. 97-720-01-ISFSI)**

**NORTHERN STATES POWER
COMPANY
(Independent Spent Fuel Storage
Installation)**

December 3, 1996

In a proceeding involving a proposed license for an independent dry-cask spent fuel storage installation, the Atomic Safety and Licensing Board grants the Applicant's motion to suspend the proceeding, pending resolution in state court of a state agency's determination concerning site suitability. The Licensing Board also denies a cross motion to dismiss the application without prejudice. The Board imposes quarterly reporting requirements on the Applicant during the suspension period.

STATE REGULATORY REQUIREMENTS: INTERPRETATION

In a situation where a particular course of action by an Applicant is being challenged under state law, whether or not that action is a violation of state law is not a question for which a Licensing Board is an appropriate arbiter but rather is a question for state authorities to determine.

MEMORANDUM AND ORDER

(Motion to Suspend Proceeding)

Pending before us is the November 13, 1996 motion of Northern States Power Company (NSP) to suspend this proceeding, which involves a proposed offsite independent spent fuel storage installation (ISFSI). For reasons set forth below, we are granting this motion, subject to specific reporting requirements that we are imposing on NSP.

I. BACKGROUND

This proceeding involves NSP's application for an independent spent fuel storage installation, intended as a dry-cask storage facility, located in Goodhue County, Minnesota. In response to a notice of opportunity for a hearing, published in the *Federal Register* of September 17, 1996, seven entities filed petitions for leave to intervene. On October 24, 1996, we issued a Memorandum and Order outlining standards for intervention, setting forth dates for the filing of supplements to the intervention petitions, including proposed contentions, and responses, and scheduling the initial prehearing conference to begin on Tuesday, December 17, 1996, in St. Paul, Minnesota. LBP-96-22, 44 NRC 138.

One of the Petitioners for intervention — the State of Minnesota Environmental Control Board (MEQB) — on October 14, 1996, submitted its intervention petition. That petition recited that the MEQB "has authority over power plant siting, transmission line routing, wind power systems, environmental review, and other matters" — and specifically "the siting of a dry cask storage facility" in Goodhue County, Minnesota. It stated that NSP cannot under Minnesota law site a dry-cask storage facility without a site certificate from the MEQB, and that on October 2, 1996, the MEQB denied NSP's application for such a site certificate for the proposed away-from-reactor ISFSI.

The MEQB attached to its petition the MEQB Resolutions and Findings of Fact, Conclusions, and Orders that it had adopted on October 2, and concluded that "[a]n order from the NRC issuing a materials license for a dry cask storage facility in Goodhue County would not by itself authorize construction of such a facility since the MEQB has denied a site certificate for the facility." MEQB Intervention Petition at 2. According to NSP, and as reflected in the October 2 MEQB Order, the MEQB also determined that the sites identified by NSP in its application to the NRC are not comparable to the onsite ISFSI at the Prairie Island facility and that no site in Goodhue County can be comparable to the onsite ISFSI.

One of the other intervention Petitioners — the Prairie Island Indian Community (PIIC), which submitted its petition on October 15, 1996 — filed an

appeal to the Minnesota Court of Appeals of the October 2, 1996 MEQB order. In addition, according to NSP, the PIIC is seeking a stay pending appeal of the MEQB orders.

II. DESCRIPTION OF MOTION

The asserted purpose of NSP's suspension motion is to hold this proceeding in abeyance pending resolution in state courts of the PIIC appeal of the MEQB order. NSP anticipates that the appeal to the Court of Appeals will be resolved by May 31, 1997, but adds that, in the event an appeal is taken from the Court of Appeals and accepted by the Minnesota Supreme Court, NSP would seek to have the suspension extended.

NSP assigns three principal reasons why suspension is appropriate. First, suspension would save the Board's resources that would be expended to review and rule on contentions and conduct further proceedings, if necessary. Second, suspension would save the resources of state agencies and other Petitioners in reviewing and analyzing the application, preparing contentions, attending hearings and other forms of participation. Finally, suspension is said to alleviate some of the anxiety of residents near the plant and proposed alternate sites. Because the Minnesota Court of Appeals could resolve the uncertainties surrounding development of an away-from-reactor ISFSI, suspension pending that decision is assertedly beneficial.

III. POSITION ON MOTION OF PARTIES AND PETITIONERS

In response to NSP's motion, we have received responses from Florence Township, the NRC Staff, the City of Lake City, the Prairie Island Coalition, the Minnesota Environmental Quality Board, the City of Red Wing, the Minnesota Department of Public Service, and the Prairie Island Indian Community (PIIC). Only the PIIC opposed the motion. Florence Township (supported by the Prairie Island Coalition) moved either to dismiss without prejudice NSP's application or, alternatively, to grant NSP's suspension motion, with a request to provide 60 days' notice prior to resumption of this proceeding. The NRC Staff responded to the Florence Township motion to dismiss.

IV. ANALYSIS

The position of various parties or Petitioners (other than NSP or the NRC Staff) on the motion depends in large part on their position with respect to the offsite ISFSI. The only Petitioner that is opposed to the motion to suspend — the PIIC — seeks, according to its intervention petition, to avoid the storage of further wastes on the Prairie Island site, logically by storing those wastes at an away-from-reactor site. It thus seeks completion of these proceedings, with a view of NRC approving the license for the away-from-reactor ISFSI as expeditiously as possible. It claims that, by seeking suspension, NSP is acting contrary to state law.

On the other hand, Florence Township, which is now seeking dismissal (albeit without prejudice) as its preferred alternative (although accepting suspension as a less-desired alternative) is adamantly opposed to the away-from-reactor storage site selected by NSP. Its intervention petition recites, *inter alia*, that Florence Township is the unit of government with jurisdiction over the proposed ISFSI site and that "Florence Township will suffer injury-in-fact if the NRC licenses an ISFSI in Florence Township."

The NRC Staff offered no objection to our granting NSP's suspension motion. It added that it has suspended its own review of NSP's application, and has required NSP to file quarterly status reports. But the Staff provided both jurisdictional and merits bases for our not accepting Florence Township's motion to dismiss.

Taking into account the views expressed by all parties and Petitioners, we find the balance of equities to favor granting the suspension sought by NSP, coupled with the notice requirements sought by Florence Township. Most Petitioners favor that course of action, at least as an alternative. The inconsistency with state law, primarily relied on by the PIIC as a basis for not suspending, is a matter that NSP must certainly take into account. If NSP is violating state law, it will have to bear the consequences (under state law) of such violation. But whether or not a violation is in fact occurring is not a question of which we are an appropriate arbiter. That is a question for state authorities to determine.

On the other hand, dismissal (as sought by Florence Township, with support from the Prairie Island Coalition) would not appear to serve a beneficial purpose. Apart from the jurisdictional questions raised by the Staff, which we will not touch upon at this juncture, dismissal would entail additional expenditure of resources by all parties and Petitioners. A new *Federal Register* notice would have to be prepared, Petitioners would again have to file intervention requests (including information supporting standing), time limits would have to be reestablished, and we would have to review and act upon those requests. Because both NSP and the Staff support Florence Township's standing, we would expect

that it could establish its standing with very little, if any, modification to its intervention petition.

For all of these reasons, we are granting NSP's motion to suspend. As part of this suspension, the prehearing conference currently scheduled for December 17-19 in St. Paul, Minnesota, is being cancelled. As Florence Township has requested, we will provide 60 days from the end of suspension for the Petitioners to make such modifications as they deem necessary to their intervention petitions and to file their contentions. Thereafter, we will schedule a prehearing conference to consider the matters we would have considered at the December 17-19, 1996 conference.

We are directing NSP to file quarterly status reports with the Board and parties or Petitioners, on the same dates as NSP files status reports with the NRC Staff. Although the same reports will probably suffice, the reports to the Board and parties or Petitioners should review the status of the state court litigation upon which the suspension request was founded.

V. ORDER

For the foregoing reasons, and based upon a consideration of the filings of all of the parties and Petitioners, it is, this 3d day of December 1996, ORDERED:

1. NSP's Motion to Suspend Proceeding, dated November 13, 1996, is hereby *granted*.
2. Florence Township's Motion to Dismiss Proceeding Without Prejudice is hereby *denied*.
3. The prehearing conference hereby scheduled for December 17-19, 1996, in St. Paul, Minnesota, is hereby *cancelled*, to be replaced by a similar conference following resumption of the proceeding.
4. After NSP notifies the Board and parties or Petitioners that it is prepared to resume the proceeding, the Board will provide at least 60 days for the amending of petitions for leave to intervene and filing of contentions.
5. NSP is directed to file quarterly status reports with the Board and parties or Petitioners, on the same dates that it files its status reports with the NRC

Staff. The report filed with the Board and parties or Petitioners should review the status of the state court litigation.

**THE ATOMIC SAFETY AND
LICENSING BOARD**

**Charles Bechhoefer, Chairman
ADMINISTRATIVE JUDGE**

**Thomas D. Murphy
ADMINISTRATIVE JUDGE**

**Frederick J. Shon
ADMINISTRATIVE JUDGE**

**Rockville, Maryland
December 3, 1996**

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

OFFICE OF NUCLEAR REACTOR REGULATION

Frank J. Miraglia, Jr., Acting Director

In the Matter of

Docket No. 50-219

GENERAL PUBLIC UTILITIES
NUCLEAR CORPORATION
(Oyster Creek Nuclear Generating
Station)

December 11, 1996

The Acting Director of the Office of Nuclear Reactor Regulation denies petitions dated May 11 and June 14, 1996, filed with the Nuclear Regulatory Commission (NRC) by Mr. William deCamp, Jr., on behalf of Oyster Creek Nuclear Watch (Petitioner) requesting the NRC to investigate statements made by GPU Nuclear Corporation (GPU) in the April 1996 publication *Neighborhood Update* (the Licensee's news magazine) and during sworn testimony on March 7, 1996, before the Lacey Township Zoning Board of Adjustment and take appropriate disciplinary action. The statements are that GPU and the Commission agree that a Licensee amendment request that involves the movement of spent fuel from the Oyster Creek Nuclear Generating Station spent fuel pool to the storage facility while the plant is at power "is not a safety issue but a procedural one" and that it is unsafe to operate the Oyster Creek reactor without full-core offload capacity. The Petitioner asserts that the statements are false, referencing language in an NRC Bulletin stating that the NRC Staff determined that the Licensee's proposal involved an unreviewed safety question and that the NRC ruled in February 1985 in 10 C.F.R. Part 53 that reactors may safely be run without full-core offload capacity.

OPERATING LICENSE: AMENDMENTS

When the NRC receives an amendment application, it is required to follow specific procedures set forth in 10 C.F.R. § 50.91.

TECHNICAL ISSUE DISCUSSED: FULL-CORE RESERVE

While a full-core reserve capability is not an NRC licensing or safety requirement, maintenance of full-core reserve would enhance safety to some extent, and would also be needed to prevent extended reactor outages in the event a core must be discharged in order to inspect the reactor pressure vessel and perform other routine and unscheduled maintenance operations.

DIRECTOR'S DECISION UNDER 10 C.F.R. § 2.206

I. INTRODUCTION

By letters dated May 11 and June 14, 1996, Mr. William deCamp, Jr., requested on behalf of Oyster Creek Nuclear Watch (the Petitioner) that the U.S. Nuclear Regulatory Commission (NRC or Commission) take action to investigate statements made by GPU Nuclear Corporation (GPU) in the April 1996 publication *Neighborhood Update* (the Licensee's news magazine) and during sworn testimony on March 7, 1996, before the Lacey Township Zoning Board of Adjustment (the Zoning Board). The Petitioner asserts that the statements are false. The Petitioner further requests that NRC take appropriate disciplinary action against GPU management. The Petitioner's requests are being treated as petitions pursuant to section 2.206 of Title 10 of the *Code of Federal Regulations* (10 C.F.R. § 2.206).

The specific statements of concerns are (1) the statement in the *Neighborhood Update* that GPU and the Commission agree that a license amendment request that involves the movement of spent fuel from the Oyster Creek Nuclear Generating Station spent fuel pool to the storage facility while the plant is at power "is not a safety issue but a procedural one" and (2) a sworn statement by Mr. Barton, who was the Director of the Oyster Creek Nuclear Generating Station, before the Zoning Board that it is unsafe to operate the Oyster Creek reactor without full-core offload capacity. The Petitioner, furthermore, requests that if no special situation is found that prevents Oyster Creek from operating without full offload capacity, the Commission take appropriate disciplinary action against GPU management for making a false statement under oath.¹

¹The Petitioner is not asserting that the Licensee has provided false information to the Nuclear Regulatory Commission. A licensee's obligation to ensure the completeness and accuracy of its communications with the Commission is set forth in 10 C.F.R. § 50.9(a). This regulation requires, in part, that "[i]nformation provided to the Commission by an applicant for a license or by a licensee or information required by statute or by the Commission's regulations, orders, or license conditions to be maintained by the applicant or the licensee shall be complete and accurate in all material respects."

For the reasons stated below, I am denying the relief requested by the Petitioner.

II. DISCUSSION

A. GPU Statement That the Movement of the Fuel Raises a Procedural Issue, Not a Safety Issue

As a basis for the request regarding the first concern that the statement in the *Neighborhood Update* is untrue, Petitioner referenced the following excerpts from NRC Bulletin 96-02 (NRCB 96-02), "Movement of Heavy Loads Over Spent Fuel, Over Fuel in the Reactor Core, or Over Safety-Related Equipment," of April 11, 1996:

The NRC staff audited both the initial and updated 10 C.F.R. 50.59 evaluations performed by the Licensee [GPU Nuclear] and determined that the proposed cask movement activities represent an unreviewed safety question that should be submitted to the NRC for review and approval pursuant to the requirements of 10 C.F.R. 50.59 and 50.90. . . . Accordingly, as defined in 10 C.F.R. 50.59(c), if an activity is found to involve an unreviewed safety question, an application for a license amendment must be filed with the Commission pursuant to 10 C.F.R. 50.90.

GPU met with the NRC Staff on November 19, 1993, to discuss plans for using the reactor building crane to move spent fuel out of the spent fuel pool in a transfer cask for transportation to the dry cask storage facility during power operations at Oyster Creek. During the discussions, the NRC Staff raised concerns regarding the use of the crane and its ability to meet the heavy load criteria of NUREG-0612, "Control of Heavy Loads at Nuclear Power Plants." GPU indicated that this special application of the crane would be evaluated pursuant to 10 C.F.R. § 50.59.² NRC stated that it would conduct an audit of the 50.59 evaluation.

In April 1995, GPU informed NRC that the section 50.59 evaluation for use of the crane to move the transfer cask was complete. On May 2 and 3, June 12, and October 12 and 13, 1995, the NRC Staff conducted onsite audits and met with GPU at Oyster Creek regarding the use of the crane. On November 2, 1995, in a telephone call between the NRC Staff and Mr. Keaten, Vice President and

²Section 50.59 provides, in part, that a licensee may make changes in the facility or procedures as defined in the safety analysis report without prior Commission approval unless the proposed change involves a change in the technical specifications or an unreviewed safety question. The regulation, furthermore, requires the licensee to prepare and maintain a written safety evaluation addressing the issue of whether the proposal involves an unreviewed safety question. A proposal is deemed to involve an unreviewed safety question if (1) it involves an increase in the probability or consequences of an accident previously evaluated; or (2) creates the possibility of a new or different kind of accident from any accident previously evaluated; or (3) involves a reduction in a margin of safety as defined in the basis for any technical specification.

Director, Technical Functions, GPU, the NRC Staff advised GPU that the Staff's concerns regarding the use of the non-single-failure-proof crane to move the 100-ton transfer cask while the plant was at power had not been resolved by its section 50.59 evaluation. Specifically, the Staff was concerned that the activity involved the movement of loads heavier than previously considered in the final safety analysis report (FSAR) and, therefore, might reduce the margin of safety, and that a load drop in the reactor building might result in consequences greater than previously evaluated in the FSAR and, therefore, may pose an unreviewed safety question.

Consequently, Mr. Keaten advised the Staff that GPU was considering a plant modification, including reactor building crane upgrades, that would address the Staff's concerns.

The NRC Staff inspected the Licensee's updated section 50.59 evaluation which considered the reactor building crane upgrades. The NRC Staff's inspections included sending a team to Oyster Creek. The Staff concluded that its safety concerns had been addressed and resolved. The NRC Staff also determined that the Licensee's planned movement of spent fuel to the dry storage facility during plant operation was safe and in accordance with all license requirements. Notwithstanding the technical acceptability of the Licensee's methodology and analysis in the updated section 50.59 evaluation, NRC Staff determined that since the possibility of an unreviewed safety question (USQ) had been involved before the Licensee made modifications to upgrade the reactor building crane, GPU must submit a license amendment application for the proposed cask movement activities. At the public meeting on February 29, 1996, GPU was informed by the NRC Staff that an amendment was required. When the NRC receives an amendment application, it is required to follow specific procedures set forth in 10 C.F.R. § 50.91.³

Accordingly, the Staff finds, after its review and evaluation of the Licensee's proposed action, that there are no safety issues preventing the adoption of the proposal, but procedures require amendment approval before the proposal can be implemented.

B. GPU Statement Concerning Safe Operation and Full-Core Discharge Capability

As basis for the Petitioner's request concerning GPU statements about safety and full-core discharge capability, the Petitioner sets forth excerpts from Mr.

³Section 50.91 requires the Commission to use specified procedures when it receives an application requesting an amendment to an operating license including procedures that concern consulting the state in which the facility is located and procedures concerning providing notification to the public of the Licensee's amendment, the Commission's findings or determinations regarding the amendment, and opportunity for a hearing.

Barton's testimony of March 7, 1994, before the Zoning Board, and states that "the NRC ruled in February 1985 in 10 C.F.R. Part 53 that reactors may safely be run without full-core offload capacity."⁴

The Petitioner quoted in a letter and enclosed, underlined in red [*italicized below*], copied portions of Mr. Barton's testimony as follows:

If we do not install the dry spent fuel storage modules by 1996, the plant would not have the capacity of totally off-loading fuel from the reactor to the in-plant spent fuel pools. (transcript pp. 94-95)

In order to operate safely we should be able to remove this fuel from the reactor and store it in the spent storage pool. . . . (transcript p. 95)

Without dry storage and without the ability to remove this fuel from the reactor, the plant would not be able to operate. (transcript p. 95)

Mr. Barton's full testimony in context with the Petitioner's extracted quotes is as follows:

The fall of 1996 is a critical time for plant operations. If we do not install the dry spent fuel storage modules by 1996, the plant would not have the capability of totally off-loading fuel from the reactor to the in-plant spent fuel pool. This is not a desirable operating configuration, should the plant need to conduct internal inspections of the reactor vessel that would require fuel to be removed from the reactor. In order to operate safely we should be able to remove this fuel from the reactor and store it in the spent fuel storage pool inside the plant, and after 1996 we will not have the flexibility to do that. Without dry storage and without the ability to remove all the fuel from the reactor, the plant would not be able to operate. (transcript p. 95)

Taken in context, it appears that what Mr. Barton is stating is that he is concerned with operations management due to the inability to have full-core offload capability and that having full-core offload capability can in certain situations enhance safety. The plant has the capacity to complete one more refueling operation before they will not be able to operate without dry storage capability as Mr. Barton stated. The Commission has stated a similar view with regard to the issue of maintaining full-core reserve storage capability:

While a full core reserve capability is not an NRC licensing or safety requirement, maintenance of full core reserve would enhance safety to some extent, and would also be needed to prevent extended reactor outages in the event a core must be discharged in order to inspect the reactor pressure vessel and perform other routine and unscheduled maintenance operations.⁵

⁴ The Commission has stated that a full-core reserve capability is not an NRC safety requirement. 50 Fed. Reg. 5548, 5549 (1985).

⁵ The NRC's Statements of Consideration concerning the amendment of 10 C.F.R. Parts 1 and 53 entitled, "Criteria and Procedures for Determining the Adequacy of Available Spent Nuclear Fuel Storage Capacity," 50 Fed. Reg. 5548, 5549 (1985).

The December 6, 1993 Zoning Board hearing testimony of Mr. Gordon Bond, Director of Nuclear Analysis and Fuel for GPU Nuclear, also supports the view that the concern is with operations management. When asked whether it is important to maintain full-core discharge capability, Mr. Bond responded as follows:

We believe it is. It's not required by Federal Regulations, but we believe it's prudent to allow sufficient reserve capacity in our pool to be able to offload the core any time that we may have to. For example, you may want to do some inspections inside the vessel, and to do that you'll need to remove all of the fuel. (transcript p. 32)

Accordingly, the Staff finds that the statements and remarks of Mr. Barton in their context are not false or misleading.

V. CONCLUSION

The NRC Staff has reviewed the statements made by GPU in the April 1996 *Neighborhood Update* (the Licensee's news magazine) and the testimony of GPU managers before a local zoning board and concluded that the assertions raised by the Petitioner are without merit and that there is no basis to take any action against GPU. Accordingly, the Petitioner's requests are denied.

A copy of this Director's Decision will be filed with the Secretary of the Commission for the Commission to review as stated in 10 C.F.R. § 2.206(c). This Decision will become the final action of the Commission 25 days after issuance unless the Commission, on its own motion, institutes a review of the Decision within that time.

FOR THE NUCLEAR
REGULATORY COMMISSION

Frank J. Miraglia, Jr., Acting
Director
Office of Nuclear Reactor
Regulation

Dated at Rockville, Maryland,
this 11th day of December 1996.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

OFFICE OF NUCLEAR REACTOR REGULATION

Frank J. Miraglia, Jr., Acting Director

In the Matter of

Docket No. 50-245
(License No. DPR-21)

**NORTHEAST NUCLEAR ENERGY
COMPANY**
(Millstone Nuclear Power Station,
Unit 1)

December 26, 1996

By a petition dated August 21, 1995, and supplemented on August 28, 1995, from Mr. George Galatis and We the People, Inc. (Petitioners), Petitioners raised issues regarding the Millstone Nuclear Power Station, Unit 1 (Millstone Unit 1), operated by Northeast Nuclear Energy Company (NNECO or Licensee). Petitioners asserted that the Licensee has knowingly, willingly, and flagrantly operated Millstone Unit 1 in violation of License Amendments No. 39 and No. 40. Specifically, Petitioners assert that NNECO has offloaded more fuel assemblies into the Millstone Unit 1 spent fuel pool (SFP) during refueling outages than permitted under these license amendments. Petitioners also asserted that License Amendments No. 39 and No. 40 for Millstone Unit 1 are based on material false statements made by the Licensee in documents submitted to the NRC.

Based on their assertions, Petitioners requested a variety of actions. Petitioners requested institution of a proceeding under 10 C.F.R. § 2.202 to suspend the license for the Millstone Unit 1 facility for a period of 60 days after the unit is brought into compliance with the license and the design basis and to revoke the operating license for the Millstone Unit 1 facility until it is in full compliance with the terms and conditions of its license. Petitioners also requested that, before reinstatement of the license, a detailed independent analysis of the offsite dose consequences of the total loss of SFP water be conducted.

In a Partial Director's Decision issued on December 20, 1996, the Acting Director of the Office of Nuclear Reactor Regulation noted that Petitioners had asserted wrongdoing on the part of the Licensee and that the NRC Staff has not yet completed its review of this issue.

However, as the NRC Staff had completed its technical assessment of core offloading practices at Millstone Units 1, 2, and 3 and Seabrook Unit 1, the Acting Director considered it appropriate to issue a Partial Director's Decision discussing this issue and describing actions taken by the NRC which, in part, address Petitioners' requests.

PARTIAL DIRECTOR'S DECISION UNDER 10 C.F.R. § 2.206

I. INTRODUCTION

On August 21, 1995, Mr. George Galatis and We the People, Inc. (Petitioners), filed a petition with the Executive Director for Operations of the U.S. Nuclear Regulatory Commission (NRC) pursuant to section 2.206 of Title 10 of the *Code of Federal Regulations* (10 C.F.R. § 2.206). A supplement to the petition was submitted on August 28, 1995. These two submittals will hereinafter be referred to as the "petition."

The petition raised three issues regarding the Millstone Nuclear Power Station, Unit 1 (Millstone Unit 1), operated by Northeast Nuclear Energy Company (NNECO or Licensee). First, Petitioners asserted that the Licensee has knowingly, willingly, and flagrantly operated Millstone Unit 1 in violation of License Amendments No. 39 and No. 40. Specifically, Petitioners assert that NNECO has offloaded more fuel assemblies into the Millstone Unit 1 spent fuel pool (SFP) during refueling outages than permitted under these license amendments. Second, Petitioners asserted that License Amendments No. 39 and No. 40 for Millstone Unit 1 are based on material false statements made by the Licensee in documents submitted to the NRC. Third, the license amendment proposed by the Licensee in a letter dated July 28, 1995, regarding offloading of the entire core of spent fuel assemblies at Millstone Unit 1 should be denied and the Licensee should be required to operate in full conformance with License Amendment No. 40.

On the basis of these assertions, the Petitioners requested that the NRC institute a proceeding under 10 C.F.R. § 2.202 to suspend the license for the Millstone Unit 1 facility for a period of 60 days after the unit is brought into compliance with the license and the design basis and to revoke the operating license for the Millstone Unit 1 facility until it is in full compliance with

the terms and conditions of its license. Petitioners also requested that before reinstatement of the license, a detailed independent analysis of the offsite dose consequences of the total loss of SFP water be conducted and that the NRC take enforcement action against NNECO pursuant to 10 C.F.R. §§ 50.5 and 50.9. Finally, Petitioners requested that the license amendment sought by NNECO be denied.

By letter dated October 26, 1995, the NRC informed the Petitioners that the petition had been referred to the Office of Nuclear Reactor Regulation pursuant to 10 C.F.R. § 2.206 of the Commission's regulations for preparation of a response. The NRC also informed the Petitioners that the NRC Staff would take appropriate action within a reasonable time regarding the specific concerns raised in the petition. Additionally, the Petitioners were informed that their request with regard to issues associated with the requested license amendment (i.e., Petitioners' third issue) was not within the scope of section 2.206 and thus was not appropriate for consideration under section 2.206. See *Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), CLI-81-6, 13 NRC 443 (1981).¹ Therefore, this issue will not be addressed in this or any subsequent Director's Decision.

Petitioners' supplement of August 28, 1995, provided additional information. A portion of the Petitioners' supplemental letter of August 28, 1995, contained assertions relating to the third issue. Specifically, regarding Millstone Unit 3, the Petitioners asserted that there is a material false statement in a submission used to support a previous license amendment and that there is an unanalyzed condition in the Updated Final Safety Analysis Report (UFSAR) with regard to system piping not being analyzed for the full-core-offload normal end-of-cycle event. Also, with regard to Seabrook Station Unit 1, Petitioners asserted that there are Technical Specification violations related to criticality analysis and gaps in Boraflex material. As the third issue is outside the scope of section 2.206, these assertions will not be addressed in this or subsequent Director's Decisions. However, the Staff is reviewing these assertions and the Staff's findings will be forwarded to the Petitioners by separate correspondence.

Petitioners' supplemental letter also provided additional information on the first issue. Specifically, the Petitioners asserted that the licensees for Millstone Units 2 and 3 and Seabrook Unit 1 also performed full-core offloads in violation

¹ Petitioners' concerns related to the license amendment were considered by the NRC Staff during the license amendment review process. A license amendment was issued by the NRC Staff on November 9, 1995. A number of Petitioners, including We the People, Inc., sought to intervene in the license amendment proceeding. Two Petitioners, including We the People, Inc., were found to have standing to intervene and were admitted to the proceeding subject to the filing of at least one admissible contention. Based upon confirmation by counsel for these Petitioners that no contention would be filed, the Atomic Safety and Licensing Board terminated the proceeding on April 15, 1996.

of their licenses. These assertions will be addressed in this Partial Director's Decision.

Petitioners' issues 1 and 2 assert wrongdoing on the part of the Licensee. The NRC Staff has not yet completed its review of possible wrongdoing on the part of the Licensee and will address this issue in a subsequent Director's Decision.

The NRC Staff has, however, completed its technical assessment of core offloading practices at Millstone Units 1, 2, and 3 and Seabrook Unit 1 and these areas are discussed below. As explained below, the NRC Staff has taken actions that, in part, address the Petitioners' requests.

II. DISCUSSION

A. Requests to Revoke and Suspend the Operating License for Millstone Unit 1

The Petitioners based their requests on their issues that the Licensee has knowingly, willingly, and flagrantly operated Millstone Unit 1 in violation of License Amendments No. 39 and No. 40 and that License Amendments No. 39 and No. 40 for Millstone Unit 1 are based on material false statements. Specifically, the Petitioners stated that the Licensee conducted full-core offloads as a routine practice when its licensing-basis analyses assumed one-third core offloads as the normal refueling practice. In their August 28 supplemental letter, the Petitioners asserted that the licensees for Millstone Units 2 and 3 and Seabrook Unit 1 also performed full-core offloads in violation of their licenses. The Petitioners further contend that the Licensee's actions subjected the public to an unacceptable risk. As previously noted, the wrongdoing aspects of the Licensee's actions will not be addressed in this Director's Decision. However, the technical aspects associated with core offloading practices will be addressed in the following paragraphs. For perspective, the NRC Staff's conclusions are prefaced by an abbreviated history of this issue.

On October 18, 1993, the Licensee issued Licensee Event Report (LER) 93-11. The LER stated that the Licensee had made inappropriate assumptions in the analysis that was performed in support of License Amendment No. 40 for Millstone Unit 1. Specifically, the normal refueling analysis assumed a one-third core offload when Unit 1 routinely performed full-core refueling offloads. Following issuance of LER 93-11, the Licensee conducted refueling outage (RFO) 14 in 1994. The Licensee used a waiting period between the one-third core offload and the full-core offload during RFO 14 to ensure that the SFP bulk temperature remained within the temperature design parameters identified in LER 93-11 and the UFSAR.

On April 22, 1994, the NRC issued Inspection Report (IR) 50-245/94-01, 50-336/94-01, and 50-423/94-01. The NRC Staff's review of LER 93-11 was included in this inspection report. The NRC Staff found that the Licensee for Millstone Unit 1 had historically removed all of the fuel assemblies to the SFP during refueling outages. The NRC Staff noted that this operating practice was not consistent with the spent fuel analysis design-basis assumptions in the UFSAR. Therefore, the NRC Staff concluded that the Licensee had failed to maintain spent fuel analysis design assumptions in plant operating practices. However, because the violation was a Licensee-identified Severity Level IV violation meeting the criteria set out in section VII.B of the NRC Enforcement Policy,² a Notice of Violation was not issued. The purpose of this policy regarding NRC discretion for citing violations is to encourage and support licensee initiatives for self-identification and correction of problems.³

From July 10 through July 14, 1995, the NRC Staff conducted a safety inspection of several previously identified technical issues at Millstone Units 1, 2, and 3, including the Licensee's refueling offload practices that were reviewed previously. The results of the inspection were documented in NRC IR 50-245/95-28, 50-336/95-28, and 50-423/95-28 issued on September 1, 1995. The Staff noted that during RFOs 12, 13, and 14, the Licensee performed full-core offloads at Millstone Unit 1. The Staff concluded that these outages may have been performed outside the design basis of Millstone Unit 1. The Staff also concluded that the Licensee did not completely and accurately describe in its submittals for License Amendments No. 39 and No. 40 the refueling activities as they were actually conducted. The Licensee was routinely performing full-core offloads during refueling outages, but the amendment submittals stated that "normal" refueling offloads were one-third core offloads. Enforcement action associated with the Staff's findings will be taken, as appropriate, upon final resolution of the Petitioners' contentions regarding possible wrongdoing.

On July 28, 1995, the Licensee requested a license amendment to use full-core offloads as the normal refueling practice at Millstone Unit 1. The Licensee proposed plant modifications to support this license amendment. The Staff granted the Licensee's amendment request on November 9, 1995. The NRC's approval of the Licensee's request was based on design changes, procedure revisions, and enhanced administrative controls that did not exist during prior refueling activities. In the cover letter forwarding the granted license amendment, the Staff noted that NNECO's design and operational practices for full-core offloads were more conservative than NRC recommendations and industry standards.

² "General Statement of Policy and Procedure for NRC Enforcement Actions," at that time contained in Appendix C to 10 C.F.R. Part 2.

³ The NRC Staff, in response to Petitioners' requests, is evaluating possible wrongdoing associated with this violation and will reassess the appropriateness of exercising enforcement discretion when the NRC Staff's review is complete.

On November 4, 1995, the Licensee shut down Millstone Unit 1 for the planned 50-day RFO 15. The Licensee for Millstone Unit 1 has not yet restarted the plant from this shutdown.

In part, in response to the concerns the Petitioners raised, from October 24 to November 10, 1995, the NRC Staff performed an inspection at Millstone Unit 1 to ensure the Licensee's planned refueling operation would be done safely and in accordance with its license, design basis, and plant procedures. The inspection was continued from March 4 to 14, 1996. The results of this Millstone Unit 1 inspection were documented in NRC IR 50-245/95-82, issued July 10, 1996. The NRC Staff concluded that the Licensee could safely offload fuel for RFO 15. However, the inspection identified design control questions related to the SFP cooling system. Consequently, the Staff concluded that additional Licensee efforts were needed to identify and correct deficiencies related to the Licensee's SFP cooling systems and their operation. Two areas of concern involved the Licensee's failure (1) to conduct adequate safety evaluations in accordance with 10 C.F.R. § 50.59 and (2) to take adequate design control measures in accordance with Appendix B of 10 C.F.R. Part 50. These items were cited as apparent violations. NRC is considering enforcement action associated with the Staff's findings.

At a public meeting on December 5, 1995, the NRC's Acting Inspector General stated that, based on an investigation conducted by his office, refueling activities at Millstone Unit 1 may not have been conducted consistent with the Millstone Unit 1 UFSAR.⁴

On December 13, 1995, pursuant to 10 C.F.R. § 50.54(f), the NRC required that NNECO provide the NRC with additional information to describe the actions taken to ensure that future operation of Millstone Unit 1 will be conducted in accordance with the terms and conditions of the Millstone Unit 1 operating license, the Commission's regulations, and the Millstone Unit 1 UFSAR. NRC concerns related to past refueling activities at Millstone Unit 1 were a major impetus for this request. The December 13, 1995 letter required this information to be submitted before the plant's restart.

In January 1996, the NRC placed the Millstone facility on NRC's "Watch List" as a Category 2 facility. Plants in this category have been identified as having weaknesses that warrant increased NRC attention. The NRC Staff based its actions on the numerous problems identified by both the NRC and the Licensee and the repeated failure of the Licensee's corrective action programs to prevent recurrence of these problems.

On February 20, 1996, the Licensee shut down Millstone Unit 2 when both trains of the high-pressure safety injection (HPSI) system were declared

⁴The results of the investigation were documented on December 21, 1995, in Office of Inspector General Event Inquiry, "NRC Failure to Adequately Regulate — Millstone Unit 1," Case No. 95-77L

inoperable due to the potential to clog the HPSI discharge throttle valves during the recirculation phase following a loss-of-coolant accident. The Licensee for Millstone Unit 2 has not yet restarted the plant from this shutdown.

On February 22, 1996, the Licensee issued "ACR 7007 — Event Response Team Report," which describes the underlying causes for numerous inaccuracies contained in Millstone Unit 1's UFSAR. The 7007 Report also acknowledged that because of the nature of the identified causes, the potential existed for the presence of similar configuration management problems at the Haddam Neck Plant and Millstone Units 2 and 3. In response to the 7007 Report and on the basis the NRC's own inspections of Millstone Unit 2 indicating problems such as those described in the 7007 Report, the NRC issued a letter on March 7, 1996, to NNECO, pursuant to 10 C.F.R. § 50.54(f), requiring that the type of information requested for Millstone Unit 1 on December 13, 1995, also be provided for Millstone Unit 2. This information had to be submitted before the plant's restart. In addition, although the NRC's inspection history did not indicate that similar problems existed at Millstone Unit 3 and Haddam Neck Plant, the NRC issued a separate letter on March 7, 1996, pursuant to section 50.54(f) requiring the Licensee to address the applicability of the conclusions of the 7007 Report to these plants.

Following the March 7 letters, the NRC conducted a special inspection at Millstone Unit 3 that identified design and other deficiencies similar to those reported in the 7007 Report. On March 30, 1996, the Licensee for Millstone Unit 3 shut down the plant after it was determined that containment isolation valves for the auxiliary feedwater turbine-driven pump were inoperable because the valves did not meet NRC requirements. The Licensee for Millstone Unit 3 has not yet restarted the plant from this shutdown.

In a letter dated April 4, 1996, to the Licensee pursuant to section 50.54(f), the NRC stated that an NRC special inspection team found programmatic issues and design deficiencies at Millstone Unit 3 that were similar to those at Millstone Units 1 and 2. Thus, by this letter, the NRC required information for Millstone Unit 3 that was similar to that previously required for Millstone Units 1 and 2. This information had to be submitted before the plant's restart.

On April 8, 1996, the NRC Staff held the informal public hearing that the Petitioners requested. Information gained at this hearing was considered in the preparation of this Partial Director's Decision and will be considered in the preparation of the Final Director's Decision.

On May 21, 1996, pursuant to section 50.54(f), the NRC issued a letter to the Licensee requiring specific information regarding design and configuration deficiencies identified at each of the Millstone units, as well as a detailed description of the Licensee's plans for completion of the work required to respond to the NRC's previous letters.

By letters dated June 20 and July 2, 1996, the Licensee responded to the NRC's letter of May 21, 1996. In its letters, the Licensee informed the NRC that Millstone Unit 3 would be the first Millstone unit that the Licensee planned to restart. The Licensee also described its configuration management plan (CMP) that is intended to provide reasonable assurance that the future operation of Millstone Unit 3 will be conducted in accordance with its design basis.

In June 1996, at the direction of the Commission, the Staff informed the Licensee that the Millstone facility had been designated a "Watch List" Category 3 facility. Plants in this category have been identified as having significant weaknesses that warrant keeping the plant shut down until the Licensee can demonstrate to the NRC that adequate programs have been established and implemented to ensure substantial improvement in the plant. This designation also requires the NRC Staff to obtain the Commission's approval before restart of the facility.

During an August 12, 1996 meeting with the Licensee, the Staff informed the Licensee that the NRC Staff believed NNECO should establish an independent corrective action verification program to provide additional assurance that the Licensee has effectively corrected its configuration management problems at all Millstone units. The NRC concluded that the Licensee's CMP was not sufficient to ensure the correction of the problems noted at the Millstone units, given the Licensee's history of poor performance in ensuring complete implementation of the corrective action for both known degraded and nonconforming conditions and past violations of NRC requirements.

In response to the Staff's comments in the August 12 meeting, in a letter dated August 13, 1996, the Licensee submitted its plan for conducting an independent review of the results of the Licensee's CMP regarding establishment of adequate design bases and design controls.

On August 14, 1996, the NRC issued a Confirmatory Order Establishing an Independent Corrective Action Verification Program (Effective Immediately) for Millstone Units 1, 2, and 3 (ICAVP Order). The NRC issued the order because of the Licensee's history of poor performance in ensuring complete implementation of corrective actions for both known degraded and nonconforming conditions and past violations of NRC requirements. In addition, the magnitude and scope of the design and configuration deficiencies identified at the Millstone units indicated ineffective implementation of oversight programs, including the NRC-approved quality assurance program. Thus, the NRC ordered the Licensee to obtain the services of an organization independent of the Licensee and its design contractors to conduct a multidisciplinary review of Millstone Units 1, 2, and 3. The ICAVP is to provide independent verification that, for the selected systems, the Licensee's CMP has identified and resolved existing problems, documented licensing and design bases, and established programs, processes, and procedures for effective configuration management in the future.

Additionally, on the basis, in part, of the UFSAR compliance deficiencies found at Millstone Units 1, 2, and 3, on October 9, 1996, pursuant to section 50.54(f), the NRC issued letters to all operating reactor licensees. The letters required licensees to submit information to provide confidence and assurance that licensees are operating and maintaining their plants within the design bases and that any design-basis deviations are reconciled in a timely manner. Specifically, the NRC Staff required licensees to describe their configuration management processes, provide their rationale for concluding that the design-basis requirements have been translated into procedures, provide their rationale for concluding that the plant configuration and performance are consistent with the design bases, describe their processes for identifying and correcting design-basis problems, and provide their assessment of the effectiveness of their current programs.

On the basis of its review and inspections of the Millstone Unit 1 SFP issues, the NRC Staff has concluded that the design of the SFP and related systems at Millstone Unit 1 was adequate to protect public health and safety during full-core offloads.⁵ The Staff concluded that the probability of reaching boiling conditions in the SFP when there has been a full-core offload would be low.

At Millstone Unit 1, the systems that have an SFP cooling capability (i.e., SFP cooling system (SFPCS) and shutdown cooling system (SDCS)) are designed to receive power from two separate and independent emergency buses that can receive power from either of two onsite power supplies following a loss of normal power. The independence of the systems reduces the probability of an event capable of causing a sustained loss of SFP cooling. Assuming the SFP cooling function is lost despite this feature, there would be a substantial period of time available in which to restore cooling before boiling occurs because of the large volume of water in the SFP and the reactor cavity during refueling outages. In the unlikely event that boiling occurs, the adverse safety impact of a boiling SFP is relatively low because the safety systems subject to adverse environmental conditions from SFP boiling would not have a necessary function when irradiated fuel has been transferred from the reactor vessel to the SFP. The water lost because of boiling can be replaced by the condensate system, which is a seismic Category I safety-related makeup source, or from the fire protection system.

In addition to the design features previously discussed, to support its license amendment request of July 28, 1995, to conduct full-core offloads as the normal refueling practice at Millstone Unit 1, the Licensee further upgraded its SFP

⁵ Based on its inspection and Licensee submittals, the NRC Staff has identified some instances when the Licensee prematurely performed full-core offloads at Millstone Unit 1. Although the safety significance of these offloads was low, there is a regulatory concern associated with this practice and the NRC Staff is considering enforcement action with regard to it.

cooling capability by installing a cross-connect between the SDCS and the SFPCS. This modification provided a redundant train of shutdown cooling for use during full-core offloads.

The Petitioners' supplemental letter of August 28, 1995, contained three allegations regarding core offloading practices at other facilities. The Petitioners noted that the allegations were given to Mr. Galatis and that he had no firsthand knowledge of the veracity of the allegations and did not, himself, allege the conditions exist or existed. However, Mr. Galatis contended that, considering the source, the allegations would appear to have substantial merit. These allegations are addressed in the following paragraphs.

The Petitioners asserted that, at Millstone Unit 2, the Licensee engaged in violations of its Technical Specifications by offloading more than one-third of the core into the SFP during normal end-of-cycle refueling outages.

On the basis of the NRC Staff's review of Licensee documentation, the NRC Staff found that the Licensee routinely, with justified exceptions, conducted one-third core offloads for the Millstone Unit 2 refueling outages in accordance with its licensing basis.

The Petitioners asserted that, at Millstone Unit 3, the Licensee also engaged in full-core offloads during normal refueling outages in violation of the applicable license amendment.

The Staff found that License Amendment No. 60, dated March 31, 1991, was the applicable license amendment for current SFP storage issues. The Licensee requested this amendment in a letter dated November 30, 1990. In this letter, the Licensee stated that, although the design basis had assumed that normal refueling outages would use partial-core offloads, for Millstone Unit 3, a full-core discharge is the actual normal refueling practice. The design-basis analyses limited the allowed number of full-core discharges to six for the 40-year life of the plant. The Licensee stated that, if it decides to continue offloading a full core as a normal event, the design basis would be changed before it exceeded the design-basis limit of six full-core offloads. The Staff did not object to the Licensee's use of full-core offloads when License Amendment No. 60 was issued.

The Staff notes that the practice at Millstone Unit 3 is inconsistent with the original design-basis assumptions regarding normal RFO offloads. As was the case with Millstone Unit 1, the Licensee was routinely performing full-core RFO offloads when the design basis assumed that partial-core offloads would be the normal RFO offload. Since the plant was analyzed for at least six full-core offloads and the Licensee has not exceeded this number of full-core offloads, the safety significance of this issue is low. The Staff, on a generic basis, is considering the appropriate actions for licensees that have been conducting full-core offloads as their routine refueling practice when their design-basis assumptions for normal fuel offloads were based on partial RFO offloads. The

Staff will take appropriate action for Millstone Unit 3 once it makes this generic determination.

The Petitioners asserted that Seabrook Unit 1, which is operated by the North Atlantic Energy Service Corporation, was also operated in violation of the terms of its operating license by discharging the full core to the SFP during routine refueling outages.

The NRC Staff found that all RFOs at Seabrook Unit 1 have involved discharge of the entire core to the SFP. Neither the Seabrook Unit 1 operating license nor the plant Technical Specifications contain a limit on the fraction of the core that may be discharged to the SFP during refueling. The UFSAR originally did not state which type of offload would be performed routinely. However, the UFSAR did contain heat load assumptions. Before the first two RFO offloads, the Licensee verified that these assumptions would not be exceeded during the RFO. Before the third refueling outage, under the provisions of section 50.59, the UFSAR was revised to explicitly state that full-core discharge is routinely performed as part of a normal refueling. On the basis of its review, the Staff found that the Licensee for Seabrook Unit 1 has conducted its core offloads in accordance with the facility's design basis.

The Petitioners requested suspension and revocation of the operating license for Millstone Unit 1. As previously discussed, the relative safety significance of the full-core offloads performed at Millstone Unit 1 is low. However, all three Millstone units have been found to have significant design-basis deficiencies. The NRC has issued letters to NNECO for each Millstone facility requiring that certain information pertaining to actions taken to address design configuration issues be submitted to the NRC and requesting its submittal before the restart of the facilities. Additionally, the NRC has issued the ICAVP Order to the Licensee requiring an independent verification of its broad configuration management corrective actions before restarting of any Millstone units.

These actions taken by the NRC are relevant to the issues raised by the Petitioners regarding adherence by the Licensee to its licensing basis. Further, the actions taken are much broader than those requested by Petitioners in that Petitioners' requests were limited to the SFP design basis at Millstone Unit 1. Thus, the NRC's actions to date constitute a partial grant of the Petitioners' requests regarding suspension and revocation of the operating license for Millstone Unit 1.

B. Request to Perform a Detailed Independent Analysis of the Offsite Dose Consequences of the Total Loss of Spent Fuel Pool Water

The risk of accidents in spent fuel storage pools beyond the design basis was examined in WASH-1400.⁶ In this study, it was concluded that the risks associated with the spent fuel are orders of magnitude below those involving the reactor core because of the simplicity of the SFP.

This issue was reexamined in the late 1980s because (1) spent fuel was being stored on site instead of being reprocessed and (2) some laboratory studies provided evidence of the possibility of fire propagation between assemblies stored in an air-cooled environment. The dose estimate portions of the study were performed by the Brookhaven National Laboratory. The results of this reexamination were published in NUREG-1353.⁷ The NRC Staff concluded that SFP accidents beyond the design basis did not warrant additional regulatory action because of the large inherent safety margins in the design and construction of the SFP.

Additionally, because of SFP safety questions that were first reported to the NRC Staff in November 1992 by two engineers who formerly worked under contract for the Pennsylvania Power & Light Company, the NRC again revisited this issue. The principal safety concern the Staff reviewed involved the potential for a sustained loss of SFP cooling and the potential for a substantial loss of spent fuel coolant inventory that could expose irradiated fuel.⁸

The NRC Staff completed its work under the task action plan in July 1996. The Staff forwarded the results of its review to the Commission on July 26, 1996.⁹ In the report, the Staff concluded that existing SFP structures, systems, and components provide adequate protection for public health and safety. Protection is provided by several layers of defense involving accident prevention (e.g., quality controls on design, construction, and operation), accident mitigation (e.g., multiple cooling systems and multiple makeup water paths), radiation protection, and emergency preparedness. The Staff has reviewed and approved design features addressing each of these areas for spent fuel storage for each operating reactor. In addition, the limited risk analyses available for spent fuel storage suggest that current design features and operational constraints cause issues related to SFP storage to be a small fraction of the overall risk associated with an operating light-water reactor.

⁶ U.S. Nuclear Regulatory Commission (USNRC), "Reactor Safety Study — An Assessment of Accident Risk in U.S. Commercial Nuclear Power Plants," WASH-1400, October 1975.

⁷ U.S. Nuclear Regulatory Commission (USNRC), "Regulatory Analysis for the Resolution of Generic Issue 82, 'Beyond Design Basis Accidents in Spent Fuel Pools,'" NUREG-1353, April 1989.

⁸ "Task Action Plan for Spent Fuel Storage Pool Safety."

⁹ Memorandum to the Commission from J. Taylor, "Resolution of Spent Fuel Storage Pool Action Plan Issues," dated July 26, 1996.

The NRC's actions to date in evaluating SFP accidents beyond the design basis constitute a partial grant of the Petitioners' request to perform analyses of such accidents.

**C. Request for Enforcement Action Pursuant to
10 C.F.R. §§ 50.5 and 50.9**

The NRC Staff is still considering the Petitioners' assertions that the Licensee knowingly, willfully, and flagrantly operated Millstone Unit 1 in violation of License Amendments No. 39 and No. 40 and submitted material false statements to obtain License Amendments No. 39 and No. 40, which will be addressed in a subsequent Director's Decision.

III. CONCLUSION

The Staff has completed its technical review of the full-core offload issue at Millstone Units 1, 2, and 3, and Seabrook Unit 1. The Staff has concluded that Millstone Unit 1 could safely offload a full core. The Staff also found that Millstone Unit 3 and Seabrook Unit 1 could safely offload full cores. Additionally, the Staff found that Millstone Unit 2 was not routinely performing full-core offloads as asserted by the Petitioners. However, the Staff followup of spent fuel pool issues raised by the Petitioners led, in part, to the identification of a broad spectrum of configuration management concerns that must be corrected before the restart of any Millstone unit.

The three Millstone units are currently shut down and the NRC Staff has issued a Confirmatory Order establishing an ICAVP for each Millstone unit to ensure that the plant's physical and functional characteristics are in conformance with its licensing and design basis. The ICAVP shall be performed and completed for each unit, to the satisfaction of the NRC, before restart of any unit. To this extent, Petitioners' requests for suspension and revocation of the Millstone Unit 1 operating license are granted. In addition, the Staff has evaluated spent fuel accidents beyond the design bases and, to this extent, Petitioners' request to perform analyses of such accidents is granted.

A copy of this Partial Director's Decision will be placed in the Commission's Public Document Room, the Gelman Building, 2120 L Street, NW, Washington, D.C., and at the local public document room located at the Learning Resources Center, Three Rivers Community-Technical College, 574 New London Turnpike, Norwich, Connecticut, and at the temporary local public document room located at the Waterford Library, ATTN: Vince Juliano, 49 Rope Ferry Road, Waterford, Connecticut.

A copy of this Partial Director's Decision will also be filed with the Secretary of the Commission for review in accordance with 10 C.F.R. § 2.206(c) of the Commission's regulations. This Partial Decision will become the final action of the Commission (for Petitioners' requests 1, 2, and 3) 25 days after its issuance, unless the Commission, on its own motion, institutes review of the Decision within that time.

**FOR THE NUCLEAR
REGULATORY COMMISSION**

**Frank J. Miraglia, Jr., Acting
Director
Office of Nuclear Reactor
Regulation**

**Dated at Rockville, Maryland,
this 26th day of December 1996.**

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Federal Recycling Program