

NUCLEAR REGULATORY COMMISSION ISSUANCES

OPINIONS AND DECISIONS OF THE NUCLEAR REGULATORY COMMISSION WITH SELECTED ORDERS

January 1, 1986 - June 30, 1986

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PREFACE

This is the twenty-third volume of issuances (1 - 883) of the Nuclear Regulatory Commission and its Atomic Safety and Licensing Appeal Boards, Atomic Safety and Licensing Boards, and Administrative Law Judge. It covers the period from January 1, 1986 to June 30, 1986.

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.

The Commission also has an Administrative Law Judge appointed pursuant to the Administrative Procedure Act, who presides 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 Appeal Boards--ALAB, Atomic Safety and Licensing Boards--LBP, Administrative Law Judge--ALJ, Directors' Decisions--DD, and Denial of 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

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Thomas M. Roberts
James K. Asselstine
Frederick M. Bernthal
Lando W. Zech, Jr.

In the Matter of

Docket No. 50-382-OL

**LOUISIANA POWER & LIGHT
COMPANY**
**(Waterford Steam Electric
Station, Unit 3)**

January 30, 1986

The Commission denies the remaining aspect of Joint Intervenors' motion to reopen the record in this operating license proceeding on management character and competence. The Commission finds that Joint Intervenors' motion to reopen, which is based on the pendency of ongoing investigations of the Office of Investigations, does not meet the heavy burden required to reopen a closed record.

RULES OF PRACTICE: REOPENING OF RECORD

The standards for reopening a closed record require consideration of three factors: (1) whether the motion to reopen is timely; (2) whether the information raises a significant safety (or environmental) concern; and (3) whether the information might have led the Licensing Board to reach a different result. *See, e.g., Metropolitan Edison Co. (Three Mile Island Nuclear Station, Unit 1), CLI-85-2, 21 NRC 282, 311 (1985).*

RULES OF PRACTICE: REOPENING OF RECORD

The burden of satisfying the reopening requirements is a heavy one. *See, e.g., Kansas Gas and Electric Co.* (Wolf Creek Generating Station, Unit 1), ALAB-462, 7 NRC 320, 338 (1978); *Duke Power Co.* (Catawba Nuclear Station, Units 1 and 2), ALAB-359, 4 NRC 619, 620-21 (1976). Bare allegations or the simple submission of new contentions are not enough to meet these standards. *Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), CLI-81-5, 13 NRC 361, 363 (1981).

RULES OF PRACTICE: REOPENING OF RECORD (SPECIFICITY)

At a minimum, the new material in support of a motion to reopen must be set forth with a degree of particularity in excess of the basis and specificity requirements contained in 10 C.F.R. § 2.714(b) for admissible contentions. It must be tantamount to evidence and possess the attributes set forth in 10 C.F.R. § 2.743(c) defining admissible evidence for adjudicatory proceedings. Specifically, the new evidence supporting the motion must be relevant, material and reliable. *Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), ALAB-775, 19 NRC 1361, 1366-67, *aff'd sub nom. San Luis Obispo Mothers for Peace v. NRC*, 751 F.2d 1287 (D.C. Cir. 1984), *vacated in part and reh'g en banc granted on other grounds*, 760 F.2d 1320 (1985). Information that investigations are under way by itself does not meet this standard.

RULES OF PRACTICE: REOPENING OF RECORD

A movant in seeking to meet the heavy burden required to justify reopening a closed record is not entitled to engage in discovery in order to support the motion. Rather, the issue in each case is whether the available information meets the standards for reopening. *Metropolitan Edison Co.* (Three Mile Island Nuclear Station, Unit 1), CLI-85-7, 21 NRC 1104, 1106 (1985). It is not the duty of the adjudicatory boards to search for evidence that might fill in gaps in the moving party's submissions.

RULES OF PRACTICE: RESPONSIBILITY OF PARTIES

The Commission's Policy Statement on Investigations, Inspections, and Adjudicatory Proceedings, 49 Fed. Reg. 36,032 (Sept. 13, 1984), ad-

dresses the conflict between the duty to disclose investigation or inspection information to the boards and parties and the need to protect that information. The provisions of that Policy Statement come into play only when Staff or OI have new information material and relevant to any "issue in controversy in the proceeding." Previously uncontested issues raised in a motion to reopen are not "issues in controversy in a proceeding" unless and until both the motion to reopen is granted and the contention is admitted.

OPERATING LICENSE HEARINGS: *SUA SPONTE* ISSUES

Boards have the authority to examine issues not placed in controversy by the parties only where specific facts are brought to their attention indicating that there is a serious safety, environmental, or common defense and security matter. See 10 C.F.R. § 2.760a; *Texas Utilities Generating Co.* (Comanche Peak Steam Electric Station, Units 1 and 2), CLI-81-24, 14 NRC 614, 615 (1981). The mere pendency of OI investigations by themselves does not raise a serious safety matter.

MEMORANDUM AND ORDER

On July 11, 1985, the Appeal Board issued ALAB-812, which denied the fifth and final motion to reopen filed in this proceeding "in all respects save one: insofar as the motion raises issues that may relate to matters under investigation by OI, we [the Appeal Board] are unable to rule and therefore leave that part of the motion for the Commission's resolution." 22 NRC 5, 13 (1985) (footnote omitted). As explained below, the Commission has decided to deny the remaining portion of the motion to reopen.¹

I.

Joint Intervenors on November 8, 1984, moved the Appeal Board to reopen the record of this proceeding on three new contentions. The Appeal Board denied the motion to reopen on two of the proposed contentions. The third proposed contention sought reopening on the charac-

¹ Joint Intervenors have requested the Commission to review ALAB-812. Neither of the issues raised by Joint Intervenors meets the standard set forth in 10 C.F.R. § 2.786(b)(4) for Commission review. Joint Intervenors' request is therefore denied.

ter and competence of Louisiana Power & Light Company (LP&L). As summarized by the Appeal Board, Joint Intervenors charged that LP&L's lack of character and competence was demonstrated in essentially six ways. The Appeal Board concluded that five of the six charges did not, either individually or collectively, raise a significant safety issue. On the sixth charge — that pending investigations by the NRC's Office of Investigations (OI) into allegations of falsification of records and harassment of quality assurance/quality control (QA/QC) personnel at the site demonstrate a lack of character and competence — the Appeal Board found that the state of the record did not permit a judgment one way or the other. 22 NRC at 45.

The Appeal Board, “[b]ecause of the dearth of publicly available information concerning OI's investigations, . . . [had] solicited more details directly from OI.” *Id.* at 46. The Appeal Board stated that it was unable to obtain “complete, usable information” from OI, and therefore that it “took the unusual step of reviewing some of the investigative documents [itself], in the NRC Regional Office where they are located.” *Id.* at 46-47. The Appeal Board, noting that nothing it had seen had given it “cause for significant concern about the integrity of LP&L's management,” also stated that it could not “rule out all possible grounds for Joint Intervenors' charges.” *Id.* at 47.

In view of OI's opposition to release of information to the parties, the Appeal Board found that it had no expectation of getting adequate information from OI which it could share with the parties within a reasonable period of time. Since it could not rely on information not available to the parties, the Appeal Board found that “neither a denial nor a grant of the motion to reopen would be sustainable or fair.” *Id.* The Appeal Board, concluding that only the Commission could obtain full access to information developed by OI, left the matter for the Commission to resolve.

II.

The Appeal Board's actions in seeking information from OI and then referring one portion of the motion to reopen to the Commission present two issues for the Commission to resolve: (1) Does the remaining portion of Joint Intervenors' motion to reopen meet the Commission's standards for reopening; and (2) did the Appeal Board have the authority to seek additional information from OI before ruling on the motion to reopen? We will address each issue in turn.

The standards for reopening a closed record require consideration of three factors: (1) whether the motion to reopen is timely; (2) whether

the information raises a significant safety (or environmental) concern; and (3) whether the information might have led the Licensing Board to reach a different result. *See, e.g., Metropolitan Edison Co.* (Three Mile Island Nuclear Station, Unit 1), CLI-85-2, 21 NRC 282, 311 (1985). The burden of satisfying the reopening requirements is a heavy one. *See, e.g., Kansas Gas and Electric Co.* (Wolf Creek Generating Station, Unit 1), ALAB-462, 7 NRC 320, 338 (1978); *Duke Power Co.* (Catawba Nuclear Station, Units 1 and 2), ALAB-359, 4 NRC 619, 620-21 (1976). “[B]are allegations or simple submission of new contentions” are not enough to meet these standards. *Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), CLI-81-5, 13 NRC 361, 363 (1981).

At a minimum . . . the new material in support of a motion to reopen must be set forth with a degree of particularity in excess of the basis and specificity requirements contained in 10 C.F.R. 2.714(b) for admissible contentions. Such supporting information must be more than mere allegations; it must be tantamount to evidence . . . [and] possess the attributes set forth in 10 C.F.R. 2.743(c) defining admissible evidence for adjudicatory proceedings. Specifically, the new evidence supporting the motion must be “relevant, material, and reliable.”

Pacific Gas and Electric Co. (Diablo Canyon Nuclear Power Plant, Units 1 and 2), ALAB-775, 19 NRC 1361, 1366-67, *aff'd sub nom. San Luis Obispo Mothers for Peace v. NRC*, 751 F.2d 1287 (D.C. Cir. 1984), *vacated in part and reh'g en banc granted on other grounds*, 760 F.2d 1320 (1985) (footnote omitted).

The only aspect of Joint Intervenors' motion to reopen left before the Commission is the assertion that the existence of OI investigations into allegations of falsification of records and harassment of QA/QC personnel demonstrates a fundamental lack of character and competence in LP&L. The Commission finds that Joint Intervenors' motion to reopen, which is based on the pendency of ongoing OI investigations, does not meet the heavy burden required to reopen a closed record.

OI conducts investigations of licensees and licensees' contractors to determine whether there has been a violation of NRC requirements involving wrongdoing. The bare pendency of an investigation does not indicate that there is a substantive problem, or even that there has been a violation. Nor does it indicate that an allegation raises a significant safety issue. The pendency of an OI investigation indicates only that there is an allegation that is being investigated. The material proffered by Joint Intervenors, i.e., that investigations are under way, certainly is not “tantamount to evidence,” and is not the type of “relevant, material, and relia-

ble” new information required to reopen a record.² See *Diablo Canyon, supra*, ALAB-775, 19 NRC at 1366-67.

Since Joint Intervenors’ motion to reopen by itself does not meet the Commission’s standards for reopening,³ the Commission must address whether the Appeal Board had the authority to look at information developed by OI before ruling on the motion.

A movant in seeking to meet the heavy burden required to justify reopening a closed record “is not entitled to engage in discovery in order to support [the] motion Rather, the issue in each case is whether the available information meets the standards for reopening” *Metropolitan Edison Co.* (Three Mile Island Nuclear Station, Unit 1), CLI-85-7, 21 NRC 1104, 1106 (1985). It is not the duty of the adjudicatory boards to search for evidence that might fill in gaps in the moving party’s submissions. Accordingly, in this sense it is not necessary, as the Appeal Board’s decision may suggest, to “rule out all possible grounds for Joint Intervenors’ charges.” ALAB-812, *supra*, 22 NRC at 47.

Here, rather than a party seeking to engage in discovery, the Appeal Board itself in effect sought discovery. Given what we have said about the movant’s burden to support a reopening motion, there are two possible sources of authority for the Appeal Board’s actions: (1) the Commission’s Policy Statement on Investigations, Inspections, and Adjudicatory Proceedings, 49 Fed. Reg. 36,032 (Sept. 13, 1984); and (2) the

² Joint Intervenors in their motion to reopen refer to a transcript of a meeting between Staff and OI personnel and officers of LP&L and to an article from the *Wall Street Journal*. The transcript of the meeting does not contain probative information regarding OI’s investigations. The claim based on the *Wall Street Journal* that OI is ready to refer “over four cases” to the Department of Justice indicates nothing about how those cases bear on the current management and operation of Waterford. The Appeal Board noted that it is also incorrect. See ALAB-812, *supra*, 22 NRC at 47 n.52. Moreover, hearsay based on a newspaper article does not constitute the kind of evidence that can support a reopening motion.

The Appeal Board also grouped one other Joint Intervenors’ charge — that LP&L took retaliatory action against QA personnel who adhered strictly to QA procedures — with the charges based on OI’s investigations. *Id.* at 45 n.49. The affidavit Joint Intervenors cite to support this charge primarily addresses alleged QA deficiencies. The Appeal Board denied that portion of Joint Intervenors’ motion to reopen which dealt with alleged QA deficiencies. The remaining portion of the affidavit, dealing with the alleged termination, is not sufficient by itself to raise a significant safety concern which might have led the Licensing Board to reach a different conclusion.

The Commission also notes in this regard that the Appeal Board, even after reviewing information developed by OI, stated “[n]othing we have seen gives us cause for significant concern about the integrity of LP&L’s management.” *Id.* at 47. If there was no cause for concern, even after reviewing OI information, then *a fortiori* it follows that the standards for reopening were not met.

³ In addition, Joint Intervenors’ motion to reopen raises previously uncontested issues, and therefore must also satisfy the Commission’s standards for admitting late-filed contentions, which are contained in 10 C.F.R. § 2.714(a)(1). See generally, *e.g.*, *Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), CLI-82-39, 16 NRC 1712, 1714-15 (1982). Since the Commission finds that the remaining portion of Joint Intervenors’ motion does not meet the standards for reopening, it need not address whether the motion meets the standards for late-filed contentions.

Board's authority *sua sponte* to pursue uncontested issues. We will discuss each in turn.

The Commission's Policy Statement on Investigations, Inspections, and Adjudicatory Proceedings addresses the conflict between the duty to disclose investigation or inspection information to the boards and parties and the need to protect that information. The Commission in that Policy Statement provides in certain circumstances for *ex parte in camera* presentations by OI or the NRC Staff "[w]hen staff or OI believes that it has a duty in a particular case to provide an adjudicatory board with information concerning an inspector or investigation, or when a board requests such information. . . ." *Id.* at 36,033. However, these provisions come into play only when Staff or OI have new information "which is considered material and relevant to any *issue in controversy in the proceeding.*" *Id.* at 36,032 (emphasis added). Previously uncontested issues raised in a motion to reopen are not "issues in controversy in a proceeding" such that the Policy Statement would come into play unless and until both the motion to reopen is granted and the contention is admitted.⁴

Nor did the Appeal Board here have the authority *sua sponte* to seek to obtain information relevant to the motion to reopen. Boards have the authority to examine issues not placed in controversy by the parties only where specific facts are brought to their attention indicating that there is a serious safety, environmental, or common defense and security matter. See 10 C.F.R. § 2.760a; *Texas Utilities Generating Co.* (Comanche Peak Steam Electric Station, Units 1 and 2), CLI-81-24, 14 NRC 614, 615 (1981). The Appeal Board made no such finding here, and none could have been made because, as explained above, the mere pendency of OI investigations by themselves here — the basic specific fact brought to the Appeal Board's attention — does not raise a serious safety matter. Accordingly, the Board had no authority to pursue this matter as it did.⁵

⁴ Accordingly, since the motion to reopen in this case involved a previously uncontested issue, the Staff had no "duty" to inform the Appeal Board that OI had information "material and relevant" to the motion to reopen, and the fact that the Staff advised the Appeal Board that OI had information "related to" the motion to reopen did not give the Appeal Board the authority under the Policy Statement to request OI to produce that information.

⁵ At an operating license hearing, a board passes only on issues put in contest. The decision as to all other matters which need to be addressed prior to issuance of the license is the responsibility of the Commission and Staff outside of the adjudicatory context.

The Commission will, of course, outside of this proceeding take whatever action is appropriate once OI completes its investigations, and, if OI develops information impacting on the public health and safety during its investigation, the Commission will take appropriate action at that time.

III.

In conclusion, that portion of Joint Intervenors' motion to reopen which the Appeal Board referred to the Commission fails on its face to meet the standards for reopening a closed record. In addition, the Appeal Board here did not have the authority to seek additional information from OI bearing on the motion to reopen. Accordingly, the remaining portion of the motion to reopen is denied.⁶

Chairman Palladino and Commissioner Asselstine disapproved this Order. The dissenting views of Chairman Palladino, with which Commissioner Asselstine agrees, are attached.

It is so ORDERED.

For the Commission

SAMUEL J. CHILK
Secretary of the Commission

Dated at Washington, D.C.,
this 30th day of January 1986.

DISSENTING VIEWS OF CHAIRMAN PALLADINO

I would have preferred that the Commission postpone ruling on the motion to reopen and request clarification from the Appeal Board in order to determine exactly what type of information the Board wished to obtain from OI. Upon reply from the Board, the Commission then could have determined whether or not to remand the motion to the Appeal Board, with appropriate instructions, or take some other action. In addition, I do not agree with the statement in the Order that the NRC Staff had no duty to inform the Appeal Board of the OI information. I believe that statement is not consistent with the Board Notification policy as implemented by the NRC Staff.

⁶ The Commission, in view of its decision that the standards for reopening are not met, need not address whether the Appeal Board had jurisdiction over this remaining aspect of the motion to reopen.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Administrative Judges:

Alan S. Rosenthal, Chairman
Gary J. Edles
Howard A. Wilber

In the Matter of

Docket No. 50-322-OL-3
(Emergency Planning)

LONG ISLAND LIGHTING
COMPANY
(Shoreham Nuclear Power
Station, Unit 1)

January 9, 1986

The Appeal Board denies the intervenors' request for leave to file a 20-page brief in addition to the 100-page joint brief already filed by them.

RULES OF PRACTICE: BRIEFS

The Commission's regulations impose a 70-page limit on appellate briefs. A motion requesting an increase in this page limit for good cause may be made, but such a motion must be submitted at least seven days in advance of the due date for filing the brief. 10 C.F.R. § 2.762(e).

RULES OF PRACTICE: APPELLATE REVIEW

Not every error of a hearing board justifies an appellate remedy.

RULES OF PRACTICE: APPELLATE REVIEW

Appellate review is not intended to offer losing parties a forum for simply renewing claims presented to, but rejected by, the trial tribunal.

RULES OF PRACTICE: APPELLATE REVIEW

Proceedings on appeal are intended to focus on significant matters, not every colorable claim of error. *See generally Jones v. Barnes*, 463 U.S. 745, 752-53 (1983) (the purpose of an appellate presentation is to select the most promising issues for review). *See also id.* at 761 (Brennan and Marshall, JJ., dissenting) (good appellate advocacy demands selectivity among arguments).

MEMORANDUM AND ORDER

The Commission's regulations impose a 70-page limit on appellate briefs.¹ Intervenor Suffolk County and the State of New York sought leave to file a 165-page consolidated brief in support of their appeals from one of the Licensing Board's partial initial decisions in the emergency planning phase of this operating license proceeding.² In an unpublished May 15, 1985 order, we authorized the County and State to file either a consolidated brief not to exceed 100 pages or separate 70-page briefs in accordance with the regulations. Thereafter, the parties moved for reconsideration of our May 15 order; specifically, they sought leave to file separate briefs not to exceed 100 pages each. We denied that request in an unpublished October 3, 1985 order.

The County and the State, together with the intervenor Town of Southhampton, have filed a 100-page consolidated brief. In a footnote contained in the brief, the intervenors now request leave to file another 20-page brief to address additional issues. We deny the request.

We see no justification for any further enlargement of the page limit. In accordance with our earlier orders, the two intervening parties had the option of filing separate briefs (with an aggregate total of 140 pages) or a consolidated brief not to exceed 100 pages. They selected the latter

¹ 10 C.F.R. § 2.762(e).

² *See* LBP-85-12, 21 NRC 644 (1985).

option and we see no reason why they should not be bound by their election.³

The intervenors aver that, despite their efforts to produce a concise product, the additional issues could not be covered within the 100-page limit.⁴ They argue, in this connection, that "no significant error" in the Licensing Board's decision should escape appellate review. But, contrary to intervenors' apparent belief, not every error justifies an appellate remedy. Our experience, both generally and with respect to earlier appeals in this very case, satisfies us that every assertion of error does not translate into grounds for reversal of Licensing Board determinations.⁵ Equally important, the number of pages contained in the appellate briefs does not bear any necessary relationship to the substance of the issues raised.

Appellate review is not intended to offer losing parties a forum for simply renewing claims presented to, but rejected by, the trial tribunal. To be sure, NRC licensing proceedings ordinarily involve lengthy evidentiary records and present numerous complicated and detailed technical issues for resolution. In recognition of that fact, the Commission, in contrast with many federal agencies, has provided two levels of appellate review, and appeal boards frequently examine in some depth a wide range of technical and legal matters. But that does not alter the fundamental purpose of appellate review. Proceedings on appeal are intended to focus on significant matters, not every colorable claim of error.⁶ We expect advocates to cull the issues and arguments to be pursued on appeal.

³ We note, in addition, that the most recent request for additional pages was not filed seven days in advance of the due date for filing the brief as required by 10 C.F.R. § 2.762(e). The request could be summarily denied on that ground. Moreover, the "motion" is contained in a footnote. There is no indication on the face of the brief, in the Table of Contents, or, indeed, in the Conclusion section that sets out the prayer for relief, that the intervenors seek any enlargement of the page limit. We expect an affirmative request for relief, such as an application for enlargement of the page limit, to be set out prominently. *Cf. Duke Power Co. (Cherokee Nuclear Station, Units 1, 2, and 3)*, ALAB-457, 7 NRC 70 (1978).

⁴ Those issues include the evacuation of the transit-dependent population and the identification and notification of the handicapped and the deaf. Suffolk County, State of New York, and Town of Southampton Brief on Appeal of Licensing Board April 17, 1985 Partial Initial Decision on Emergency Planning (Oct. 23, 1985) at 1 n.1. The intervenors nonetheless appear to have referred to these issues, at least in part, elsewhere in the brief. *Id.* at 79.

⁵ See, e.g., ALAB-788, 20 NRC 1102, 1151 (1984).

⁶ See generally *Jones v. Barnes*, 463 U.S. 745, 752-53 (1983) (the purpose of an appellate presentation is to select the most promising issues for review). See also *id.* at 761 (Brennan and Marshall, JJ., dissenting) (good appellate advocacy demands selectivity among arguments).

Intervenors' request for further enlargement of the page limitation is *denied*.

It is so ORDERED.

FOR THE APPEAL BOARD

C. Jean Shoemaker
Secretary to the
Appeal Board

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Administrative Judges:

Christine N. Kohl, Chairman
Gary J. Edles
Dr. Reginald L. Gotchy

In the Matter of

Docket Nos. 50-352-OL
50-353-OL

PHILADELPHIA ELECTRIC COMPANY
(Limerick Generating Station,
Units 1 and 2)

January 16, 1986

The Appeal Board affirms the Licensing Board's denial of intervenors' request to reopen the record in this operating license proceeding.

RULES OF PRACTICE: REOPENING OF PROCEEDINGS

In ruling on a motion to reopen the record, adjudicatory boards consider three factors: (1) whether the motion is timely; (2) whether it addresses a significant safety or environmental issue; and (3) whether a different result might have been reached had the newly proffered material been considered initially. *Metropolitan Edison Co.* (Three Mile Island Nuclear Station, Unit 1), CLI-85-2, 21 NRC 282, 285 n.3, *reconsideration denied*, CLI-85-7, 21 NRC 1104 (1985).

RULES OF PRACTICE: REOPENING OF PROCEEDINGS

When a motion to reopen seeks to inject an entirely new issue into the proceeding, a board must consider both the criteria for reopening

the record and the standards for admitting late-filed contentions, set forth in 10 C.F.R. § 2.714(a)(1). See *Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), CLI-82-39, 16 NRC 1712, 1714-15 (1982).

RULES OF PRACTICE: ADMISSIBILITY OF CONTENTIONS

Section 2.714(a)(1) sets out the standards for admitting late-filed contentions. They are:

- (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.

RULES OF PRACTICE: INTERLOCUTORY APPEALS

The Appeal Board has consistently applied 10 C.F.R. § 2.714a(b) to appeals from orders that have the effect of completely denying party status to a petitioner. See, e.g., *Puget Sound Power and Light Co.* (Skagit/Hanford Nuclear Power Project, Units 1 and 2), ALAB-712, 17 NRC 81, 82 (1983). The briefing schedule for appeals from all other types of final orders, however, is that found in 10 C.F.R. § 2.762.

RULES OF PRACTICE: RESPONSIBILITIES OF PARTIES

Parties to adjudicatory proceedings have an obligation to monitor publicly available documents with a view toward raising issues in a timely fashion. *Duke Power Co.* (Catawba Nuclear Station, Units 1 and 2), CLI-83-19, 17 NRC 1041, 1048 (1983). This is particularly so with respect to environmental impact statements, which are expressly intended for public scrutiny and, if necessary, litigation.

RULES OF PRACTICE: REOPENING OF PROCEEDINGS

The most important factor of the three-factor test for reopening the record is whether the motion raises a significant safety issue.

APPEAL BOARDS: SCOPE OF REVIEW

Appeal boards generally do not consider matters raised in the first instance on appeal; rather, appeals are decided on the basis of the record developed below. ALAB-819, 22 NRC 681, 720 n.51 (1985); *Houston Lighting and Power Co.* (Allens Creek Nuclear Generating Station, Unit 1), ALAB-582, 11 NRC 239, 242 (1980); *Tennessee Valley Authority* (Hartsville Nuclear Plant, Units 1A, 2A, 1B and 2B), ALAB-463, 7 NRC 341, 348 (1978).

RULES OF PRACTICE: BRIEFS

Issues that a party fails to brief on appeal are considered waived. See *Public Service Electric and Gas Co.* (Salem Nuclear Generating Station, Unit 1), ALAB-650, 14 NRC 43, 49-50 (1981), *aff'd sub nom. Township of Lower Alloways Creek v. Public Service Electric and Gas Co.*, 687 F.2d 732 (3d Cir. 1982).

RULES OF PRACTICE: ADMISSIBILITY OF CONTENTIONS

An appeal board will not overturn a licensing board's determination weighing the five factors specified in 10 C.F.R. § 2.714(a)(1) absent a showing that the board has abused its discretion. *Detroit Edison Co.* (Enrico Fermi Atomic Power Plant, Unit 2), ALAB-707, 16 NRC 1760, 1763 (1982).

RULES OF PRACTICE: SHOW-CAUSE PROCEEDINGS

In a request under 10 C.F.R. § 2.206, any person may seek the suspension, modification, or revocation of a license, or other appropriate action, for alleged regulatory violations or potentially hazardous conditions. See 10 C.F.R. §§ 2.206(a), 2.202(a).

RULES OF PRACTICE: ADMISSIBILITY OF CONTENTIONS

A petition for relief from the Director of Nuclear Reactor Regulation under 10 C.F.R. § 2.206 will not always provide adequate other means to protect a petitioner's interest, so as to satisfy the second factor of section 2.714(a)(1). Whether alternative protective means are, in fact, available depends on the issues sought to be raised, the relief requested, and the stage of the proceeding. In some circumstances, this may well require the equivalence of an adjudicatory hearing. But in other cases, a 10

C.F.R. § 2.206 petition could provide a sufficient vehicle to protect one's interest.

RULES OF PRACTICE: ADMISSIBILITY OF CONTENTIONS

In considering the admissibility of a late-filed contention, the fifth factor of 10 C.F.R. § 2.714(a)(1) requires an adjudicatory board to determine, inter alia, the extent to which the proceeding — not license issuance or plant operation — will be delayed. *Fermi*, 16 NRC at 1766.

APPEARANCES

Robert L. Anthony, Moylan, Pennsylvania, intervenor pro se and for intervenor Friends of the Earth.

Troy B. Conner, Jr., Mark J. Wetterhahn, and Robert M. Rader, Washington, D.C., for applicant Philadelphia Electric Company.

Ann P. Hodgdon for the Nuclear Regulatory Commission staff.

MEMORANDUM AND ORDER

We have before us an appeal from the Licensing Board's ruling denying a request by intervenors Robert L. Anthony and Friends of the Earth (Anthony/FOE) to reopen the record in this operating license proceeding.¹ As explained below, we affirm the Board's determination.

I.

On April 30, 1985, Anthony/FOE filed a one-page petition with the Licensing Board to reopen this proceeding for consideration of three matters: (1) the supposedly improper use of the plant site boundaries by applicant Philadelphia Electric Company (PECo) in determining the public's exposure to gaseous and liquid effluent releases during routine

¹ See Licensing Board Memorandum and Order of June 4, 1985 (unpublished).

plant operation;² (2) the claimed underestimation of radiation exposure to the public due to assertedly improper calculations regarding the fish ingestion pathway; and (3) the alleged degradation in standards for protecting the public occasioned by a revision of PECO's Offsite Dose Calculation Manual (ODCM). Anthony/FOE rely on information in PECO's Semi-Annual Effluent Releases Report No. 1 (hereafter, "Releases Report"), in particular, Attachment D (Revision 1 to the ODCM). PECO submitted this report to the Commission on February 28, 1985, in compliance with the Technical Specifications of its operating license and other staff-imposed requirements. After considering responses from PECO and the NRC staff, as well as an unauthorized reply by Anthony/FOE and a further responsive pleading filed by PECO, the Board denied Anthony/FOE's request.

In ruling on a motion to reopen the record, adjudicatory boards consider three factors: (1) whether the motion is timely; (2) whether it addresses a significant safety or environmental issue; and (3) whether a different result might have been reached had the newly proffered material been considered initially.³ When a motion to reopen seeks to inject an entirely new issue into the proceeding, a board must also consider the standards for admitting late-filed contentions, 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.⁴

² Anthony/FOE contend that the dosages should be calculated at the closest, publicly accessible approaches to the plant (a railroad right-of-way and the Schuylkill River), rather than at the more distant site boundaries.

³ *Metropolitan Edison Co. (Three Mile Island Nuclear Station, Unit 1)*, CLI-85-2, 21 NRC 282, 285 n.3, *reconsideration denied*, CLI-85-7, 21 NRC 1104 (1985). The Commission's use of this test has received judicial approval. *Three Mile Island Alert, Inc. v. NRC*, 771 F.2d 720, 732 (3d Cir. 1985), *citing San Luis Obispo Mothers for Peace v. NRC*, 751 F.2d 1287, 1316-18 (D.C. Cir. 1984), *vacated in part and reh'g en banc granted on other grounds*, 760 F.2d 1320 (1985).

⁴ See *Pacific Gas and Electric Co. (Diablo Canyon Nuclear Power Plant, Units 1 and 2)*, CLI-82-39, 16 NRC 1712, 1714-15 (1982).

In reaching its decision, the Licensing Board examined both the criteria for reopening the record and the standards for admitting late-filed contentions. It concluded that Anthony/FOE failed to satisfy either set of requirements, prompting the instant appeal.⁵ PECO and the staff urge affirmance of the Licensing Board's decision.⁶

II.

A. Under the test for reopening the record, a petitioner must first demonstrate that it could not have presented its information at an earlier time. The Licensing Board found that the particular material in PECO's Releases Report on which Anthony/FOE base their request to reopen the record was not new or previously unavailable.⁷ Indeed, both the Draft and Final Environmental Statements for Limerick, issued in June 1983 and April 1984, respectively, state that dose calculations are performed at the site boundary.⁸ The Commission has made clear that parties have an obligation to monitor publicly available documents with a view toward raising issues in a timely fashion.⁹ That is particularly so with respect to environmental impact statements, which are expressly intended for public scrutiny and, if necessary, litigation. Anthony/FOE thus could and should have voiced their concern about the calculation of doses from routine radiological releases at the plant site boundary much earlier. The Licensing Board therefore correctly concluded that, insofar

⁵ The Licensing Board also determined, at the threshold, that it had jurisdiction to rule on Anthony/FOE's petition to reopen. The Board took note of an earlier appeal board decision in this proceeding, suggesting a pragmatic approach in deciding this type of jurisdictional question, in "the absence of any clear administrative guidance." See ALAB-726, 17 NRC 755, 758 (1983). Although no party pursues the jurisdictional issue on appeal, we agree with the Licensing Board's judgment in this regard and affirm its assertion of jurisdiction.

⁶ PECO argues that Anthony/FOE's brief was untimely under the Commission's Rules of Practice and that their appeal should therefore be dismissed. It contends that the abbreviated schedule for briefing certain appeals set forth in 10 C.F.R. § 2.714a should pertain here, rather than the usual schedule found in 10 C.F.R. § 2.762. Applicant's Brief (July 17, 1985) at 13-14.

Although neither regulation addresses the exact situation here, we believe that section 2.762 is more applicable and that, accordingly, Anthony/FOE's brief was timely. As pertinent here, section 2.714a(b) specifically applies to appeals from board orders "wholly denying a petition for leave to intervene and/or request for a hearing" (emphasis added). We have consistently applied this provision to appeals from orders that have the effect of completely denying party status to a petitioner. See, e.g., *Puget Sound Power and Light Co. (Skagit/Hanford Nuclear Power Project, Units 1 and 2)*, ALAB-712, 17 NRC 81, 82 (1983). That is not the intent or the effect of the Licensing Board's order at issue here. In this circumstance, the briefing schedule for routine appeals from final orders in section 2.762 is appropriate. (PECO does not dispute that the order in question is "final" for appeal purposes.)

⁷ Memorandum and Order of June 4 at 5-6.

⁸ See, e.g., NUREG-0974, Draft Environmental Statement (June 1983) at 5-47, D-5, D-9; *id.*, Final Environmental Statement (April 1984) at 5-47, D-5, D-9.

⁹ *Duke Power Co. (Catawba Nuclear Station, Units 1 and 2)*, CLI-83-19, 17 NRC 1041, 1048 (1983).

as it concerns dose calculations performed at the site boundary, the motion to reopen is not timely.¹⁰

The most important factor to consider, however, is whether the motion to reopen raises a significant safety issue. The Licensing Board concluded that Anthony/FOE's petition does not raise such an issue. Relying on staff affidavits, the Board found that Anthony/FOE's arguments are premised on factual inaccuracies and unwarranted assumptions.¹¹

We find no basis for overturning the Board's conclusion that nothing in the petitioners' presentation raises a genuinely significant safety issue. With respect to Anthony/FOE's complaint about doses determined at the site boundary, Dr. Edward F. Branagan, Jr. (a Section Leader in the Radiological Assessment Branch of the Division of Systems Integration, Office of Nuclear Reactor Regulation), states that, although individuals could be exposed at the closer points of access urged by Anthony/FOE, it is "unlikely that these locations would be more limiting in dose calculations than the site boundary."¹² Dr. Branagan explains that the dose to an individual is the product of the concentration of the radionuclide *and* the occupancy time (as well as other factors). Thus, the slightly greater concentration of the radionuclide at the nearer locations identified by Anthony/FOE would be offset by the very small occupancy time there; that is, there are no permanent residences, gardens, or food-source animals at the closer locations.¹³ In the staff's view, PECO's use of the site boundaries is therefore appropriate.

Anthony/FOE's rather sketchy argument that PECO's revision of its Offsite Dose Calculation Manual somehow violates the Commission's radiation protection standards is similarly without safety significance. As the Licensing Board noted, another staff affidavit — that of Marie T. Miller, a Radiation Specialist and inspector in Region I, where Limerick is located — states that the changes to the ODCM are in accordance with both the NRC's regulations (10 C.F.R. Part 20) and PECO's existing Technical Specifications and "do not increase the radiation risk to

¹⁰ As we point out at note 18, *infra*, Anthony/FOE do not pursue their argument about the fish ingestion pathway on appeal; therefore, we need not decide if the motion to reopen is timely in that regard. With respect to their argument that PECO's recent (February 1985) changes to its ODCM will lead to a degradation of radiation protection standards, the record is not clear as to when Anthony/FOE actually received PECO's entire filing. In the circumstances, however, we will assume arguendo that Anthony/FOE's April 30 motion is timely, to the extent it is based on any *entirely* new information in PECO's February 1985 Releases Report.

¹¹ Memorandum and Order of June 4 at 7-9.

¹² NRC Staff Response to Anthony/FOE Petition to Reopen (May 28, 1985), Affidavit of Edward F. Branagan, Jr., at 3.

¹³ *Ibid.*

the public.”¹⁴ Miller explains that PECO has simply revised some calculations so that it can determine “more efficiently” certain radiation alarm setpoints.¹⁵

On appeal, Anthony/FOE attempt to bolster their arguments with the affidavit of Dr. Bruce Molholt, an Adjunct Associate Professor of Health Education at Temple University. This document was not presented to the Licensing Board, and it touches on subjects that are largely beyond those Anthony/FOE sought to raise initially in their April 30 petition to reopen.¹⁶ Like the courts, we generally do not consider matters raised in the first instance on appeal; rather, appeals are decided on the basis of the record developed below.¹⁷ Even if Dr. Molholt’s affidavit were properly before us, however, nothing in it casts doubt on the Licensing Board’s conclusion concerning the lack of safety significance in Anthony/FOE’s newly proposed contention.¹⁸

Inasmuch as Anthony/FOE have failed to establish the safety significance of the new matter they seek to raise, it follows that a different result would not have been reached had their arguments been considered initially. Consequently, the Licensing Board correctly concluded that the standards for reopening have not been satisfied.

B. Even if Anthony/FOE prevailed in meeting the reopening criteria, they must also show that the balancing of the five factors in 10 C.F.R. § 2.714(a)(1) justifies the admission of their new contention. The Licensing Board concluded that Anthony/FOE’s petition failed in this regard as well. We will not overturn a board’s determination weighing

¹⁴ *Id.*, Affidavit of Marie T. Miller at 1-2.

¹⁵ *Id.* at 2. See Memorandum and Order of June 4 at 8-9.

¹⁶ Anthony/FOE also refer for the first time in their appellate brief to several NRC Inspection Reports, Notices of Civil Penalties, and Licensee Event Reports. Anthony/FOE Brief (July 2, 1985) at 2-3. Most of these items are totally irrelevant to their motion to reopen and/or involve matters that have been subsequently resolved.

¹⁷ ALAB-819, 22 NRC 681, 720 n.51 (1985); *Houston Lighting and Power Co.* (Allens Creek Nuclear Generating Station, Unit 1), ALAB-582, 11 NRC 239, 242 (1980); *Tennessee Valley Authority* (Hartsville Nuclear Plant, Units 1A, 2A, 1B, and 2B), ALAB-463, 7 NRC 341, 348 (1978).

¹⁸ For example, Dr. Molholt states that “[i]here is no reason to assume that a given individual would spend more time” at the site boundary than at the closer access points identified by Anthony/FOE. Anthony/FOE Brief, Affidavit of Bruce Molholt at 1-2. Dr. Branagan, however, has already explained the occupancy factor underlying the site boundary assumption. See p. 19, *supra*.

Dr. Molholt’s affidavit also refers to radiation exposure through the fish ingestion pathway — a matter that Anthony/FOE *did* raise before the Licensing Board but have *not* pursued in their brief on appeal. Anthony/FOE have therefore waived further arguments on this score. See *Public Service Electric and Gas Co.* (Salem Nuclear Generating Station, Unit 1), ALAB-650, 14 NRC 43, 49-50 (1981), *aff’d sub nom. Township of Lower Alloways Creek v. Public Service Electric and Gas Co.*, 687 F.2d 732 (3d Cir. 1982). We note, nonetheless, that Dr. Branagan’s affidavit and the Licensing Board’s decision both adequately address Anthony/FOE’s concern about the fish ingestion pathway. See Memorandum and Order of June 4 at 7, 9.

the five factors absent a showing that the board has abused its discretion.¹⁹ Plainly, no such showing has been made here.

As noted above, the site boundary information on which Anthony/FOE predicate their request to reopen has been publicly available for some time and could have been used to formulate a contention at a much earlier stage. The Licensing Board correctly determined that Anthony/FOE have not established good cause for failure to tender their new contention in a more timely fashion.²⁰

With regard to the second factor — the availability of other means to protect a petitioner's interest — the Licensing Board found no such other means exist and that Anthony/FOE prevail on this point.²¹ Petitioners therefore do not contest that Board determination on appeal. PECO, however, in defending the result reached below, contends that this factor weighs against Anthony/FOE. Conceding that it is not equivalent to the admission of a contention in an adjudicatory hearing, PECO argues that a petition for relief from the Director of Nuclear Reactor Regulation (NRR) under 10 C.F.R. § 2.206 is nevertheless an adequate "other means" to protect a petitioner's interest.²²

We cannot conclude that a section 2.206 petition will always provide adequate other means to protect a petitioner's interest. To do so would effectively write factor two out of the regulations. On the other hand, section 2.714(a)(1) does not specify what the term "other means" encompasses — thereby providing us with some flexibility in its interpretation.²³ Whether alternative protective means are, in fact, available depends on the issues sought to be raised, the relief requested, and the stage of the proceeding. In some circumstances, this may well require the equivalence of an adjudicatory hearing. But in other cases — like that here — a section 2.206 petition could provide a sufficient vehicle to protect one's interest.²⁴

Anthony/FOE's request to reopen for hearing on their proposed new contention is based on a routine report submitted to the NRC staff by

¹⁹ *Detroit Edison Co.* (Enrico Fermi Atomic Power Plant, Unit 2), ALAB-707, 16 NRC 1760, 1763 (1982).

²⁰ See Memorandum and Order of June 4 at 11.

²¹ *Ibid.*

²² Applicant's Brief at 10 n.28. In a request under section 2.206, any person may seek the suspension, modification, or revocation of a license, or other appropriate action, for alleged regulatory violations or potentially hazardous conditions. See 10 C.F.R. §§ 2.206(a), 2.202(a).

²³ The origin of this language does not aid in its interpretation. See 37 Fed. Reg. 9331, 9333 (1972) (notice of proposed rulemaking); 37 Fed. Reg. 15,127, 15,129 (1972) (final rule); 43 Fed. Reg. 17,798, 17,799 (1978) (final rule in existing form).

²⁴ See *Florida Power & Light Co.* (St. Lucie Nuclear Power Plant, Unit No. 2), ALAB-420, 6 NRC 8, 23 (1977), *aff'd*, CLI-78-12, 7 NRC 939 (1978) ("The rule does not say that the 'other means' must be equivalent in every respect to the intervention sought").

PECo pursuant to the requirements of the low-power operating license that had already been issued. In this limited circumstance, it is not unreasonable to view a party's right under section 2.206 to solicit more formal staff review of the concerns triggered by such a routine filing as an adequate other means for protecting its interest.²⁵ Indeed, it might well be argued that formal adjudication before a hearing board is an inappropriate and inferior vehicle for policing the scores of detailed filings routinely submitted pursuant to staff-enforced regulatory requirements.²⁶

The Licensing Board next determined that Anthony/FOE failed to show their ability to contribute to the development of a sound record on the new matter they seek to raise. Anthony/FOE had advised the Board that they would produce a witness — Dr. Molholt — but the Board found the subject areas of his likely testimony to be lacking in the requisite specifics.²⁷ The Board's conclusion is reasonable and in accordance with past precedent.²⁸ On appeal, however, Anthony/FOE have tendered Dr. Molholt's affidavit to lend some detail to his proposed presentation. But as we noted above, Anthony/FOE cannot properly supplement on

²⁵ This is not inconsistent with our prior decisions. In *Washington Public Power Supply System* (WPPSS Nuclear Project No. 3), ALAB-747, 18 NRC 1167, 1175-76 (1983), we rejected the section 2.206 remedy as "an adequate substitute for participation in an adjudicatory proceeding concerned with the grant or denial *ab initio* of an application for an operating license." But that case involved a four-month late petition to intervene at the very outset of the proceeding; indeed, but for that single petition, there was to be no hearing at all. Given the incipient stage of the case, the contentions sought to be raised were typical of those litigated in operating license proceedings and were not, of course, triggered by routine post-license issuance filings with the staff. See *id.*, Licensing Board Memorandum and Order of September 27, 1983 (unpublished), Appendix A. Thus, in those circumstances, a section 2.206 petition could not reasonably be construed as an adequate other means to protect the petitioner's interest.

Similarly, in *Fermi*, we agreed that factor two weighed in a petitioner's favor because, in the absence of admission to the proceeding, it could not be "assured of an adjudicatory hearing." 16 NRC at 1767. But the particular emergency planning issues that petitioner sought to raise there also did not arise from any routinely filed, post-licensing reports by the applicant. In any event, we went on to describe a section 2.206 petition as a "real" remedy, explaining the thorough review and written response accorded to such filings. *Id.* at 1767-68. Compare *Nuclear Fuel Services, Inc.* (West Valley Reprocessing Plant), CLI-75-4, 1 NRC 273, 276 (1975) (availability of other means to protect petitioner's interest can depend on the circumstances of particular case); ALAB-806, 21 NRC 1183, 1190-91 (1985) (informal negotiation among parties at board-sponsored conference is not adequate other means to protect petitioner's interest); *Houston Lighting & Power Co.* (South Texas Project, Units 1 and 2), ALAB-799, 21 NRC 360, 384 n.108 (1985) (NRC staff's normal nonadjudicatory review of a license application is not adequate other means to protect petitioner's interest); *Duke Power Co.* (Amendment to Materials License SNM-1773 — Transportation of Spent Fuel from Oconee Nuclear Station for Storage at McGuire Nuclear Station), ALAB-528, 9 NRC 146, 150 & n.7 (1979) (submitting limited appearance statement or making witnesses available to another intervenor is not adequate other means to protect petitioner's interest).

²⁶ Unlike *Fermi*, 16 NRC at 1768-69, however, we will not refer Anthony/FOE's petition to the Director of NRR. As discussed at pp. 19-20, *supra*, the petition does not raise any significant safety issues. In addition, Anthony/FOE apparently have already filed a section 2.206 petition with the Director concerning some of the same matters they raise here.

²⁷ Memorandum and Order of June 4 at 12.

²⁸ Compare ALAB-806, 21 NRC at 1191-92, with *Mississippi Power and Light Co.* (Grand Gulf Nuclear Station, Units 1 and 2), ALAB-704, 16 NRC 1725, 1730 (1982).

appeal the information that was before the Licensing Board at the time of its decision.²⁹

The Licensing Board found no other existing party that could represent Anthony/FOE's interest and thus weighed the fourth factor in their favor.³⁰ We agree.

Finally, the Board concluded that the introduction of any new contention at this stage of the case would broaden the issues and delay the proceeding.³¹ But Anthony/FOE argue that reopening the record for hearing on the issues they raise here is essential to the protection of the public health and safety and overrides any possible delay in issuance of a full-power license.

At the outset, we note that the Commission's regulations require a licensing board to determine whether the proceeding — not license issuance or plant operation — will be delayed.³² We agree with Anthony/FOE, however, that the public health and safety must be a preeminent concern where significant issues have been raised. But as shown above, the matters involved here do not rise to that level.³³

In sum, Anthony/FOE have not demonstrated that a balancing of the five factors in 10 C.F.R. § 2.714(a)(1) favors the admission and litigation of their new contention based on PECO's Semi-Annual Effluent Releases Report.

The Licensing Board's Memorandum and Order of June 4, 1985, is *affirmed*.

It is so ORDERED.

FOR THE APPEAL BOARD

C. Jean Shoemaker
Secretary to the
Appeal Board

²⁹ See p. 20, *supra*.

³⁰ Memorandum and Order of June 4 at 12.

³¹ *Ibid*.

³² *Fermi*, 16 NRC at 1766. In any event, since the time the petition to reopen was filed, the Licensing Board has completed all hearings and issued its final partial initial decision resolving in PECO's favor the remaining contested issues and authorizing issuance of a full-power operating license. The Commission made the Board's decision effective, and the plant is in operation. See CLI-85-15, 22 NRC 184 (1985).

³³ See pp. 19-20, *supra*.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

**Robert M. Lazo, Chairman
Gustave A. Linenberger
David R. Schink**

In the Matter of

**Docket No. 50-133-OLA
(ASLBP No. 77-357-07-LA)
(Amendment to Facility
Operating License)**

**PACIFIC GAS AND ELECTRIC
COMPANY
(Humboldt Bay Power Plant,
Unit 3)**

January 14, 1986

The Licensing Board grants Licensee's motion to withdraw its license amendment application and dismisses the proceeding.

**MEMORANDUM AND ORDER TERMINATING
PROCEEDING**

On October 11, 1985, the NRC Staff (Staff) filed a motion with the Licensing Board seeking an order dismissing the above-identified proceeding. In its motion the Staff argued that (1) the matter was moot because the Pacific Gas and Electric Company (Licensee) had sought to withdraw its application for a license amendment which was the subject of this proceeding and had submitted an application for decommissioning

pursuant to which the Staff had recently amended the operating license to authorize "possession only" of the facility and (2) the Board did not have jurisdiction to consider the decommissioning application, but rather a separate proceeding and opportunity for a hearing on the decommissioning would be available when the Staff noticed for consideration the decommissioning application.

The Licensee filed a response on October 28, 1985, in support of the Staff's motion. No opposition and indeed no other response to the Staff's motion have been filed by any of the other parties to the proceeding.¹

The Licensing Board has carefully considered the "NRC Staff Motion to Terminate Proceeding" and the response filed by Licensee and for the reasons set forth therein agrees that this proceeding should be dismissed. The submission of Licensee's decommissioning plan renders moot the amendment application which is the subject of this proceeding and any issue pertaining to the contested application. As a result, there are now no issues in dispute which are within the Licensing Board's jurisdiction to decide. Moreover, there will be an opportunity for interested persons to request a hearing on the decommissioning application submitted by Licensee. Accordingly, there is no reason to hold a hearing in this proceeding or for the Licensing Board to retain jurisdiction.

ORDER

For the foregoing reasons and in consideration of the entire record in this matter, it is, this 14th day of January 1986,

ORDERED

1. Licensee's motion of December 31, 1980, to withdraw its application for an amendment to permit resumption of power operation and to terminate further action on the application is hereby *granted*;

¹ The other parties to this proceeding are the Joint Intervenors, Thomas K. Collins, Dr. Elmont Honea, Frederick P. Cranston, Wesley Chesbro, Demetrios L. Mitsanas, Six Rivers Branch of Friends of the Earth, and the Sierra Club.

2. The NRC Staff's motion of October 11, 1985, seeking an order dismissing this proceeding is hereby *granted*; and
3. This license amendment proceeding is *dismissed*.

FOR THE ATOMIC SAFETY AND
LICENSING BOARD

Robert M. Lazo, Chairman
ADMINISTRATIVE JUDGE

Dated at Bethesda, Maryland,
this 14th day of January 1986.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Before Administrative Judge:

Dr. Jerry R. Kline

In the Matter of

Docket No. 30-22063
(ASLBP No. 85-512-02-ML)

**PRECISION MATERIALS
CORPORATION**
(Mine Hill, New Jersey
Irradiator Facility)

January 28, 1986

MEMORANDUM AND ORDER
(Dismissing the Case)

The Presiding Officer was notified by letter dated January 21, 1986, from Mine Hill's representative that the Township of Mine Hill withdraws its previously filed request for a hearing regarding the issuance of a license to Precision Materials Corporation to operate an irradiator facility in Mine Hill Township. Mine Hill's withdrawal of its request for hearing results in there being no disputed issues to be resolved in this case.

The NRC Staff previously conducted a safety review of Precision Materials' Irradiator Facility. That review resulted in the issuance of an NRC Materials License to Precision Materials Corporation permitting it to possess and use byproduct materials under conditions specified in the license.

In the absence of disputed issues, the presiding officer may rely on the Staff safety review and the licensing conditions imposed by the Staff for reasonable assurance that the facility will be operated in a manner consistent with the protection of public health and safety and in accordance with NRC regulations. For these reasons, it is concluded that an in-

formal hearing is now unnecessary and that the case should be dismissed.

Accordingly, for all of the foregoing reasons and in consideration of the entire record, it is, on this 28th day of January 1986,

ORDERED

1. This case is dismissed because there are no disputed issues to be resolved.

2. No changes in any license provision or licensing condition are imposed or approved as a result of this proceeding. Precision Materials Corporation materials license, as amended August 2, 1985, remains in effect.

3. This is the final decision by the presiding officer in this case. In accordance with the Commission Order of July 24, 1985, this decision will become final agency action 30 days after the date of issuance, unless the Commission on its own motion undertakes a review of the decision. No petition for review will be entertained by the Commission regarding the presiding officer's decision.

Jerry R. Kline
ADMINISTRATIVE JUDGE

Dated at Bethesda, Maryland,
this 28th day of January 1986.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ADMINISTRATIVE LAW JUDGE

Ivan W. Smith

In the Matter of

Docket No. 55-60575
(ASLBP No. 86-515-01-SP)
(Senior Operator License for
Millstone Nuclear Power
Station, Unit 3)

KENNETH L. BURTON

January 27, 1986

ORDER TERMINATING PROCEEDING

Kenneth L. Burton's application for a senior reactor operator's license for the Millstone Nuclear Power Station Unit 3 was denied by the NRC Staff on the asserted basis that he had failed the simulator portion of his May 23, 1985 licensing examination. Mr. Burton requested a hearing on the denial. The Commission, by order of October 10, 1985, granted the request. Subsequently, on October 15, 1985, the NRC Staff informed Mr. Burton that the simulator examination of May 23 was invalid as "a determination of either successful performance or failure." Mr. Burton participated in another simulator examination on October 30, 1985, which he passed. His senior reactor operator's license has since been issued.

Now Mr. Burton and the NRC Staff, by joint motion dated January 2 and 7, 1986, move that the proceeding be terminated as unnecessary

and unwarranted. I agree. There is no issue to be decided. The joint motion is granted.

IT IS THEREFORE ORDERED that this proceeding be terminated.

Ivan W. Smith
Administrative Law Judge

Bethesda, Maryland
January 27, 1986

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

OFFICE OF NUCLEAR REACTOR REGULATION

Harold R. Denton, Director

In the Matter of

**ARKANSAS POWER AND LIGHT
COMPANY** Docket No. 50-313
(Arkansas Nuclear One, Unit 1)

**SACRAMENTO MUNICIPAL UTILITY
DISTRICT** Docket No. 50-312
(Rancho Seco Nuclear Generating
Station)

FLORIDA POWER CORPORATION Docket No. 50-302
(Crystal River Unit No. 3
Nuclear Generating Plant)

DUKE POWER COMPANY, et al. Docket Nos. 50-269
(Oconee Nuclear Station, 50-270
Units 1, 2, and 3) 50-287

**GENERAL PUBLIC UTILITIES
NUCLEAR CORPORATION** Docket No. 50-289
(Three Mile Island Nuclear
Station, Unit 1) January 29, 1986

The Director of the Office of Nuclear Reactor Regulation denies the petition of Mr. John Doherty requesting institution of proceedings to

*This Decision was originally issued on December 4, 1985, but later withdrawn. It was replaced with the Decision of January 29, 1986.

show cause why the operating licenses for certain named facilities should not be suspended or revoked until alleged problems associated with operation of control rod drive mechanisms at the facilities are resolved.

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

INTRODUCTION

On June 11, 1985, Mr. John Doherty (Petitioner) filed his Petition/Request for Show Cause Order (Petition) requesting issuance of an order under 10 C.F.R. § 2.202 to the licensees of Arkansas Nuclear One, Unit 1; Rancho Seco Nuclear Generating Station; Crystal River Unit No. 3 Nuclear Generating Plant; Oconee Nuclear Station, Units 1, 2, and 3; and Three Mile Island Nuclear Station, Unit 1, to show cause why the operating licenses for those facilities should not be suspended or revoked until the problem identified in IE Information Notice No. 85-38 is resolved.¹ The IE Notice concerned loose parts which had been found to obstruct certain control rod drive mechanisms (CRDMs) at the Davis-Besse facility of the Toledo Edison Company. The CRDMs at Davis-Besse are manufactured by the Babcock and Wilcox Co. (B&W) as are those at the other facilities identified above.

On July 17, 1985, I acknowledged receipt of Mr. Doherty's petition. I informed him that his petition would be treated under 10 C.F.R. § 2.206 of the Commission's regulations and that I would issue a decision within a reasonable amount of time. My decision in this matter follows. I have also considered in my decision the Response of the Arkansas Power and Light Co. dated September 10, 1985.

DISCUSSION

The events which prompted the IE Notice occurred at Davis-Besse. On June 25, 1981, CRDM C-7 failed to withdraw. It was found that a leaf spring which is used to hold an antirotation key for the central screw shaft in place had broken. A piece of the spring became jammed in the CRDM after several cycles of raising and lowering and prevented the

¹ IE Information Notice No. 85-38, "Loose Parts Obstruct Control Rod Drive Mechanism," dated May 24, 1985 (hereinafter referred to as the IE Notice).

raising of the rod from the fully inserted position. It has since been discovered that the leaf spring can break if the antirotation key is not inserted in its slot and if all dimensional tolerances are stacked in the most adverse direction. In that circumstance, the tip of the spring will hit the torque tube cap when the CRDM is fully withdrawn (*see* Enclosure). If the leaf spring then breaks and if the right size of debris is generated, i.e., not too large or too small, either immediately or due to exercising the CRDM, then such a loose part can cause either improper functioning of the CRDM, or prevent the rod from being inserted, or prevent the rod from being withdrawn.

On March 16, 1985, CRDM E-3 at Davis-Besse did not drop into the core on demand. The rod was inserted using the roller nuts.² It was discovered that the cause of the failure to drop was the presence of a piece of a set screw from an inspection tool. In addition, it was discovered that the leaf spring for CRDM E-3 had broken due to the mechanism described above and part of it was in the CRDM mechanism. The leaf spring part did not cause the failure of the CRDM to drop. It is evident that a potential common-mode failure mechanism exists for B&W CRDMs if the antirotation keys are not properly placed in their slots in the lead screws.³ However, if the antirotation keys are positively verified to be properly in place, there is no physical mechanism or procedure which will displace the leaf springs and thus no common-mode failure potential. All B&W plants now use a procedure for removal of CRDM components which allows the springs to remain in place during disassembly or installation.

In summary, the only identified cause of leaf spring failure is improper installation of the spring. There is no identified mechanism by which a properly installed spring will back out to the position where it could be broken. Therefore, a completed inspection of leaf spring installation adequately resolves this issue.

² The control rod drive mechanisms at B&W plants all utilize a similar design. Essentially it consists of a central screw shaft which does not rotate. A motorized rotor mechanism with four roller nuts engages the shaft and, when this rotor mechanism turns, the central screw shaft, to which the control rods are attached, is lifted or lowered for normal plant operation. In the event of a reactor scram, or if power is lost, the roller nuts, which are held in place against the central screw shaft by a magnetic clutch, disengage from the central screw shaft and the control rod bundle drops by gravity into the core. The system is failsafe because loss of power disengages the magnetic clutch. In the accident scenarios, no credit is taken for the ability to lower the control rod into the core against an opposing force by use of the roller nuts. The ability of the roller nuts to disengage from the central screw shaft and thus cause the rod to drop by gravity is the only safety-related function of the roller nut mechanism. As demonstrated at Davis-Besse, the roller nut mechanism is capable of being used to drive the control rods into the core against an opposing force.

³ The introduction of a loose part into the CRDM from a handling tool as also occurred at Davis-Besse is considered a unique occurrence and not a common-mode failure.

At Davis-Besse, Crystal River, Oconee 2, and Rancho Seco, the CRDM leaf springs were positively verified to be in place during recent outages. Oconee 3 will be entering an outage imminently and will verify the position of its CRDM leaf springs during the outage. Oconee 1, TMI-1, and Arkansas will verify the position of their leaf springs at the next refueling outage for each plant. This will take place within the next 6 and 10 months at Oconee 1 and Arkansas, respectively, and within about 6 months after startup at TMI-1. This is acceptable for the following reasons:

1. Rod drop times have been verified to be within acceptable limits for the plants which have not inspected leaf springs during recent outages. Thus, there is no present indication that CRDMs at these facilities would fail.
2. By Technical Specifications, control rods which are not fully inserted are exercised periodically during operation by moving each rod slightly (2 to 3%) to be sure that they respond to control and are free to move. If any one control rod were to be found inoperable as the result of excessive friction or mechanical interference, the plant would have to be shut down to hot standby within 6 hours. In no case would a plant continue to operate with even one control rod inoperable due to excessive friction or mechanical interference.
3. The presence of loose parts would likely give warning of potential interference during either rod drop tests, periodic rod motion tests, or, for rods in the control group, during normal operation. Only a loose part of a very specific size can cause an interference. If the part is too large or too small, it will not interfere with dropping or insertion of the rods. If the part is too large, it will remain above the roller nuts and will not interfere with them disengaging. If the part is too small, it will drop to the bottom of the CRDM tube and cause no interference. If the part is of a size which might cause interference, it is likely to slow down the drop time before causing the rod to jam. This will be detected during the testing prior to starting up in most cases. Further, if the failure occurred during operation, it is likely that the mechanism would not function properly during periodic rod motion tests or, for rods in the control group, during normal rod motion. If an inoperable rod is detected during operation, the plant is required to shut down. Though it is theoretically possible for the fragment to lodge in the mechanism in such a way that it would not interfere with normal operation yet would prevent the mechanism from unlatching, a

careful analysis of the mechanism design shows this to be extremely unlikely.

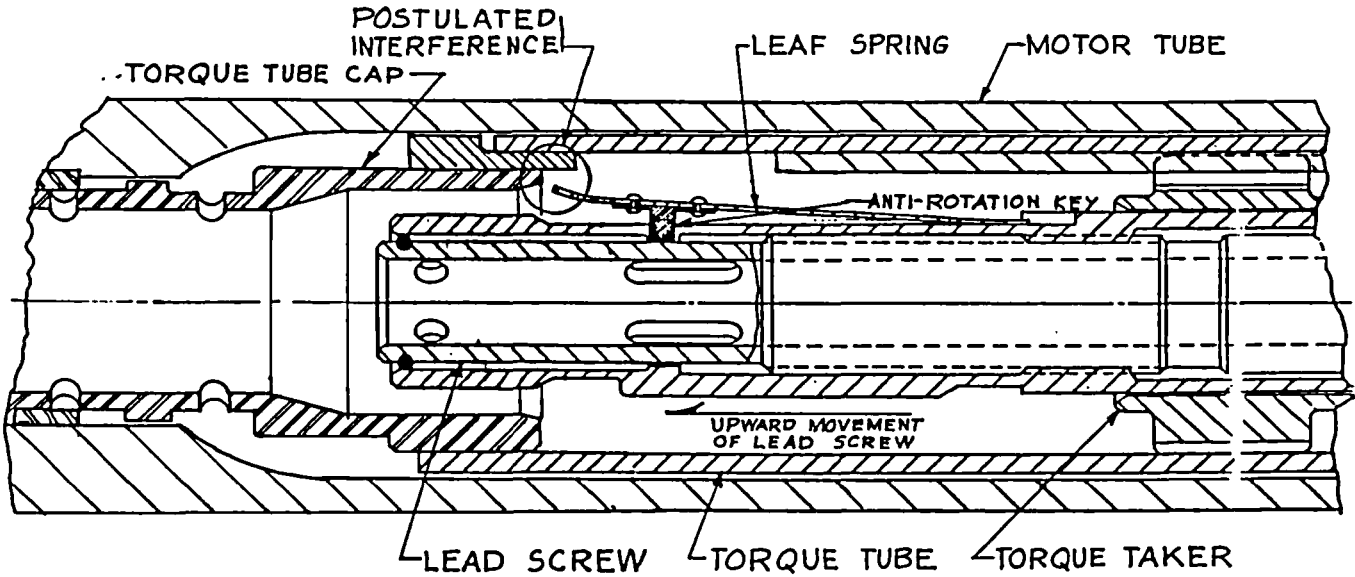
With the procedural controls now in place to ensure proper positioning of the leaf springs, CRDMs which have been inspected and verified are ensured to operate properly. As for those plants operating now without having completed the inspection, the risk from short-time operation is considered adequately low. First, from the rod drop test run at startup, there is a reasonable basis for believing the mechanism was not jammed at that time. Second, periodic rod motion tests are likely to identify any mechanism failure occurring since startup. Third, there is a general requirement that all reactors be designed such that no fuel damage occurs for any scram event if the single most reactive rod fails to insert. Therefore, in order for any damage of the core to occur, at least two, and in most situations considerably more than two, rods must fail to insert. Given the improbability of a mechanism failure occurring and not being detected by rod drop or rod motion tests, it is considered extraordinarily unlikely that, in the relatively short period of operation prior to the inspection of the leaf springs, two rods would fail to drop or to be inserted into the core when required because of previously undetected failures. Therefore, continued operation until the inspection of the leaf springs is acceptable.

CONCLUSION

For the reasons stated above, there is adequate assurance that CRDMs at B&W facilities will operate properly when needed. Consequently, initiation of show cause proceedings as requested by Petitioner is not appropriate. Accordingly, Petitioner's request for action pursuant to 10 C.F.R. § 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 for the Commission's review.

Harold R. Denton, Director
Office of Nuclear Reactor
Regulation

Dated at Bethesda, Maryland,
this 29th day of January 1986.



ENCLOSURE

Cross-section of lead screw assembly with leaf spring in unlatched position. (NOTE: Interference of the leaf spring at the torque tube cap was the result of the antirotation key on the leaf spring not being properly positioned in the slot on the lead screw.)

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

OFFICE OF NUCLEAR REACTOR REGULATION

Darrell G. Eisenhut, Acting Director

In the Matter of

Docket No. 50-352
(10 C.F.R. § 2.206)

PHILADELPHIA ELECTRIC COMPANY
(Limerick Generating Station,
Unit 1)

January 21, 1986

The Acting Director of Nuclear Reactor Regulation denies petitions filed by Robert L. Anthony and Frank R. Romano which sought revocation of certain exemptions from NRC regulations issued by the NRC Staff for operation of Limerick Generating Station, Unit 1. The petitioners had not identified any safety or environmental information that would warrant a change in the Staff's previous conclusions regarding the exemptions.

RULES OF PRACTICE: PETITIONS UNDER 10 C.F.R. § 2.206

In the absence of an adequate factual basis for a petition or a nexus between the issues raised in the petition and the request for relief, no action need be taken on a petition under 10 C.F.R. § 2.206. Matters which are before the Board in a licensing proceeding are not the appropriate subject of a § 2.206 petition.

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

INTRODUCTION

On July 26, 1985, Robert L. Anthony on behalf of himself and Friends of the Earth filed with the Commission an "appeal" seeking Commission revocation of certain exemptions from NRC regulations issued by the NRC Staff to the Philadelphia Electric Company (PECo or the Licensee) for the Limerick Generating Station, Unit 1. Mr. Anthony also appealed the NRC Staff's determination, as set forth in the Staff's environmental assessment report dated June 27, 1985, that an environmental impact statement was not required for these actions and that the actions will not have a significant effect on the quality of the human environment. The Commission, by Order dated August 8, 1985 (unpublished), noted that NRC regulations do not provide for an appeal from the issuance of exemptions and referred the matter to the Director of Nuclear Reactor Regulation for appropriate action. By letter dated August 30, 1985, to Mr. Anthony, I acknowledged receipt of the petition and informed him that it would be reviewed. The Staff has treated Mr. Anthony's "appeal" as a request for action pursuant to 10 C.F.R. § 2.206.

On August 8, 1985, Mr. Frank R. Romano, on behalf of himself and Air and Water Pollution Patrol (AWPP), filed a document with the Atomic Safety and Licensing Appeal Board which also addresses the same subjects as Mr. Anthony's July 26, 1985 letter. By Order dated August 12, 1985 (unpublished), the Appeal Board referred Mr. Romano's comments to the Office of Nuclear Reactor Regulation for appropriate action. In my acknowledgment letter to Mr. Anthony of August 30, 1985, I also noted that I would consider Mr. Romano's comments when responding to these matters. A notice was published in the *Federal Register* stating that Mr. Anthony's and Mr. Romano's requests were under consideration. See 50 Fed. Reg. 36,934 (Sept. 10, 1985). My decision in this matter follows.

DISCUSSION

Petitioners seek the revocation of eight specific exemptions from NRC regulations that were granted with the issuance of the operating

license¹ for the Limerick Generating Station, Unit 1. Petitioners also disagree that the NRC Staff's environmental assessment² of the effects of these exemptions is sufficient and seek to have the NRC Staff prepare an environmental impact statement on these issues.

The eight exemptions have previously been addressed at length in submittals by the Licensee, by the NRC Staff in the Safety Evaluation Report (SER) and Supplements (SSERs) thereto, and in the NRC Staff's environmental assessment mentioned above. All but one of them were addressed in a previous Director's Decision³ pursuant to § 2.206 in response to a petition by Mr. Anthony and others. A summary of the exemptions is provided below:

- A. An exemption from General Design Criterion (GDC) 61 for the standby gas treatment system would allow a delay until the first refueling outage for installation of the portion of the system serving the refueling floor area. The principal basis for the exemption was an absence of irradiated fuel in the refueling zone area prior to the first refueling and the demonstrated leak-tight integrity of the Unit 1 secondary containment zone which interfaces with the refueling zone.
- B. Further provisions for automatic containment isolation of the hydrogen recombiner lines, the reactor enclosure cooling water lines, and the drywell chilled water lines are allowed to be completed prior to completion of the first refueling outage. This exemption from GDC 56 was based principally on the limited time of its effectiveness and the already existing features of the designs which provide isolation of these lines.
- C. An exemption from the requirements of GDC 19 for the remote shutdown system would allow reliance on manual actions in accordance with established procedures to control three pumps in the redundant (backup) train of remote shutdown system equipment until completion of the first refueling outage. This exemption was based principally on the currently existing features of the design, which provide an interim alternate means of using both trains of the remote shutdown equipment if required, and the low probability of demand for use of

¹ The initial operating license (License No. NPF-27) for Limerick Unit 1, restricted to 5% of rated power, was issued on October 26, 1984. The current full-power operating license (License No. NPF-39), which supercedes the previously issued license, was issued on August 8, 1985.

² Letter, Walter R. Butler, NRC, to E.G. Bauer, Jr., PECo, "Notice of Preparation of Environmental Assessment," dated June 27, 1985, and subsequently published in the *Federal Register*, 50 Fed. Reg. 27,388 (July 2, 1985).

³ Director's Decision Under 10 C.F.R. § 2.206, DD-85-11, 22 NRC I49, 153-58 (1985). The Commission did not overturn the Director's Decision.

the remote shutdown systems during the period of the exemption.

- D. The exemption from Appendix J for the containment airlock testing allows substitution of an airlock door seal test for an airlock chamber pressure test while the reactor is in a shutdown or refueling mode. The exemption was based principally on the adequacy of other testing required by Appendix J and the Unit 1 Technical Specifications which will ensure adequate containment leaktight integrity when required.
- E. Exemptions from Appendix J for the main steam isolation valve (MSIV) leakage testing allow the test to be conducted on the specific Unit 1 MSIV design in a manner which produces meaningful data. The exemption was based principally on facilitating a meaningful test and on the conclusion that the consequences of MSIV leakage at rates verified by testing in this manner have been acceptably analyzed and bounded in the Unit 1 safety analyses.
- F. The exemption from Appendix J for the traversing incore probe guide tube shear valves allows reliance upon surveillance provisions in lieu of in-place testing of the explosively actuated shear valves. The exemption was based principally on the adequacy of the surveillance measures as included in the Unit 1 Technical Specifications to provide assurance of containment isolability when required.
- G. The exemption from Appendix J for the residual heat removal system relief valves allows the initial local leak rate test on seven valves to be delayed until the first refueling outage. The principal bases for the exemption were several features of the design which provided reasonable assurance against undue valve leakage during the period of the exemption.
- H. The exemption from 10 C.F.R. § 50.44 for containment inerting allows the initial inerting of the containment to be postponed from 6 months after initial criticality until a later milestone associated with the progress of the initial power ascension test program (PATP). The bases for the exemption were the provision of improved safety measures for personnel entering the containment during the PATP and maintenance of the same degree of protection against combustible gas inside containment as otherwise required by § 50.44.

Petitioners' Challenge to the Bases for the Exemptions

Petitioners raise two central issues, the adequacy of the technical basis for the exemptions and whether an environmental impact statement should have been prepared for the issuance of the exemptions. As noted above, the exemptions were previously addressed in the Licensee's submittals and the Staff's SER, SSERs, environmental impact appraisals, and the earlier § 2.206 decision on this subject. I shall respond here to the brief comments of the petitioners on these issues.

Routine Releases

Mr. Anthony states that the impact from routine releases due to these exemptions has been overlooked, and he makes reference to other documents⁴ in support of this allegation. The features of the plant design and operation which are the subject of these exemptions are provided to mitigate the consequences of accidents. These features, as addressed by the exemption, are not employed in the day-to-day operation of the plant to control routine releases of effluents. No further basis for this allegation, other than reference to the two documents cited in note 4, is provided. The other documents which Mr. Anthony references, were submitted to the Licensing Board and the Appeal Board and addressed the Licensee's semiannual effluent release report and the offsite dose calculation manual, including the method used to calculate doses at the site boundaries. None of these matters bears any cognizable significance to the subject of the eight exemptions, and Mr. Anthony provides no information to connect them. In the absence of a specific factual basis, I need take no further action with respect to Mr. Anthony's claims concerning routine releases.⁵ The matters raised in Mr. Anthony's April 30th and July 2nd filings are still before the Appeal Board for its consideration and, therefore, no further action by me pursuant to § 2.206 is appropriate on these matters.⁶ Accordingly I will not consider this issue further.

⁴ Robert L. Anthony, "Petition by Anthony/FOE to Reopen the Record on the Basis of New Information in Phila. Elec. Co.'s Semi-Annual Effluent Release Report, Feb. 1985," April 30, 1985, before the Atomic Safety and Licensing Board; Robert L. Anthony, "Anthony/FOE Brief in Support of Our Appeal of 6/7/85 from ASLB Mem. Order of 6/4/84," July 2, 1985, before the Atomic Safety and Licensing Appeal Board. The Licensing Board denied the April 30th petition in a Memorandum and Order dated June 4, 1985 (unpublished). The Board's action was followed by the filing of an appeal and the supporting July 2, 1985 brief by Mr. Anthony. The Appeal Board has not yet rendered a decision on the appeal.

⁵ See *Philadelphia Electric Co.* (Limerick Generating Station, Units 1 and 2), DD-82-13, 16 NRC 2115, 2121 (1982) and cases there cited; see also DD-85-11, *supra* note 3, 22 NRC at 154.

⁶ *General Public Utilities Nuclear Corp.* (Three Mile Island Nuclear Station, Units 1 and 2; Oyster Creek Nuclear Generating Station), CLI-85-4, 21 NRC 561 (1985); *Pacific Gas and Electric Co.* (Diablo
(Continued)

Effect of Exemptions on Accident Analyses

Mr. Anthony makes several brief assertions regarding the effect of the exemptions on accident analyses. He argues that, with respect to the standby gas treatment system (SGTS), a path is left open for the escape of radioactivity. However, this argument does not reflect the true circumstances of the situation, namely that there will be no irradiated fuel in the refueling area during the period of the exemption. Thus, the exemption permits no increased risk to the public of radioactive release which would require mitigation by the SGTS.

Mr. Anthony also asserts that waiting until the first refueling outage to install the redundant isolation valves in the hydrogen recombiner lines that penetrate the primary containment would also contribute to the risk of leakage to the refueling floor. This suggestion that the isolation provisions are inadequate for these lines during the period of the exemption does not recognize the basis for the Staff's conclusions as presented in Supplement 1 to the Safety Evaluation Report (SSER). SSER No. 1 included a discussion of the capability of the existing single isolation valve in each line, the closed nature of the recombiner and its piping outside the containment boundary, the pressure and temperature rating of the recombiner system components, and other aspects of the design which support granting the exemption until the first refueling outage. Mr. Anthony provides no further information beyond a mere assertion that the recombiner system, in its present design configuration, could contribute to leakage to the refueling floor. For the reasons discussed above there would be no increased risk, and thus, I see no basis to withdraw the exemption.

The Petition also makes several brief unsupported assertions that the use of the interim measures to control equipment in the redundant train of remote shutdown equipment and the containment airlock testing provisions are not allowed by NRC regulations. The bases reviewed by the NRC Staff for the applicable exemptions are discussed at length in the SER and in SSER No. 3.⁷ Mr. Anthony provides no information regarding those bases to support his assertions and provides no information regarding why the requirements of the NRC regulations in 10 C.F.R. § 50.12, which provides for the granting of exemptions, have not been met in these instances. In the absence of any specific factual basis for these assertions, they will not be considered further.⁸

Canyon Nuclear Power Plant, Units 1 and 2), CLI-81-6, 13 NRC 443, 444 (1981). In all events the NRC Staff responded on May 28 and August 16, 1985, to the substance of Mr. Anthony's filings in the operating license proceeding and concluded that they fail to raise any significant safety issue.

⁷ See also DD-85-11, *supra* note 3, 22 NRC at 154-57.

⁸ DD-82-13, *supra* note 5, 16 NRC at 2121, and cases cited therein.

Basis for the Environmental Assessment

Both petitioners assert that there was no basis for issuing the exemptions on the assumption of no environmental harm and that NRC must revoke the exemptions and require an environmental impact statement.

NRC regulations in 10 C.F.R. Part 51 specify the nature of the environmental review, if any, that must be conducted for a given licensing or regulatory action. Under 10 C.F.R. § 51.21 all licensing and regulatory actions subject to Part 51 require an environmental assessment, except those specifically identified in 10 C.F.R. § 51.20(b) as requiring an environmental impact statement and those identified in 10 C.F.R. § 51.22(c) as categorical exclusions. The requested exemptions for the Limerick plant do not fall within the criteria for a required environmental impact statement under § 51.20(b) and are not explicitly included under the categorical exclusions in § 51.22(c). Therefore, an environmental assessment of the exemptions was prepared to determine whether to prepare an environmental impact statement or to find no significant environmental impact.

In assessing the appropriate action for the eight subject exemptions, I note that the characteristics of these actions are consistent with those characteristics of categorical exclusions for which no further environmental evaluation would be necessary. For example, all of the eight exemptions are expected to affect portions of the plant only within the restricted area, as defined in 10 C.F.R. Part 20, to involve no significant hazards consideration, to involve no significant change in effluent releases off site and to involve no significant change in occupational radiation exposure. *See* 10 C.F.R. § 51.22(c)(9). Apart from Mr. Anthony's assertion (rebutted above) that certain exemptions increase the risk of accidental releases, neither petitioner provides support for his disagreement with the Staff's conclusions that the exemptions will have no significant impact on the human environment and that an environmental impact statement was not required.

Mr. Anthony also asserts that alternatives were not considered but provides no information regarding what alternatives he believes should have been considered. Contrary to the assertion, alternatives to granting the exemption were considered. Relief from the specific requirements of the regulations was granted in each case in conjunction with the finding that other features of the plant design or administrative actions would exist or would be required which would compensate substantially for the relief granted by the exemption. This approach provides a comparable level of protection of the public health and safety and results in an insignificant difference in the environmental impacts such that granting of

the exemptions under § 50.12 and the decision not to prepare an environmental impact statement under Part 51 were appropriate.

As noted in the environmental assessment, the principal alternative would have been to deny the exemptions which, given the comparable protection provided by the exemptions, would not have resulted in a significantly greater level of safety over the life of the plant and would not have resulted in a significant reduction in environmental impacts. Denial of the exemptions would have contributed to delays in completion and final readiness testing of systems according to the Licensee's assessment, would have resulted in some unnecessary testing requirements, and would have increased the hazard to personnel entering the containment during the startup test program. As noted in the environmental assessment, denial of the exemptions would have resulted in reduced operational flexibility and unwarranted delays in power ascension in view of the negligible environmental impacts engendered by the exemptions. Under § 50.12, the Commission may give appropriate consideration to the effect on the public interest of any delay from not granting an exemption, including power needs and delay costs to the applicant and to the consumer. In sum, the discussion in the environmental assessment of the exemptions was appropriate to the circumstances, and no more detailed examination or balancing of alternatives was required.⁹

In his request Mr. Romano briefly mentions, without any particular nexus to the exemptions at issue, several issues previously raised and decided before the Licensing Board concerning asbestos and vinyl chloride contamination of the Schuylkill River. This issue has been raised before the Licensing Board and was discussed by the Board in the operating license proceeding.¹⁰ No further action on my part with respect to this issue is appropriate here.¹¹

CONCLUSION

With respect to the bases for and the environmental evaluation of eight specific exemptions issued with the operating license for the Limerick Generating Station, Unit 1, the petitioners have not identified any

⁹ See *Duke Power Co. (Amendment to Materials License SNM-1773 — Transportation of Spent Fuel from Oconee Nuclear Station for Storage at McGuire Nuclear Station)*, ALAB-651, 14 NRC 307, 317 (1981); *Virginia Electric and Power Co. (North Anna Power Station, Units 1 and 2)*, ALAB-584, 11 NRC 451, 457 (1980).

¹⁰ "Memorandum and Order Rejecting Late-Filed Contentions from FOE and AWPP, Denying AWPP's Second Request for Reconsideration of Asbestos Contention, Denying AWPP's Motion to Add a PVC Contention and Commenting on an Invalid Inference in Del-Aware's May 17, 1984 Filing," August 24, 1984 (unpublished).

¹¹ *Three Mile Island*, CLI-85-4, *supra* note 6.

information which warrants a change in the Staff's previous conclusions regarding these matters. Accordingly, the petitioners' requests for action, which have been treated by the Staff pursuant to § 2.206, are denied. As provided in 10 C.F.R. § 2.206(c), a copy of this Decision will be filed with the Secretary for the Commission's review.

Darrell G. Eisenhut, Acting
Director
Office of Nuclear Reactor
Regulation

Dated at Bethesda, Maryland,
this 21st day of January 1986.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

COMMISSIONERS:

Nunzio J. Palladino, Chairman
Thomas M. Roberts
James K. Asselstine
Frederick M. Bernthal
Lando W. Zech, Jr.

In the Matter of

Docket No. 50-289
(Restart)

METROPOLITAN EDISON COMPANY,
et al.

(Three Mile Island Nuclear
Station, Unit 1)

February 6, 1986

The Commission decides that review of ALAB-826, 22 NRC 893 (1985), is unwarranted. The Commission reaches no judgment on whether the Licensing Board statement regarding INPO's compliance with its own criteria is correct.

ORDER

The Nuclear Regulatory Commission has decided that review of ALAB-826, 22 NRC 893 (1985) is unwarranted. Although the Commission is not taking review, comment on one issue is appropriate.

In its decision on the adequacy of Licensees' training program, the Licensing Board concluded that the INPO Accreditation Board failed to comply with its own criteria in evaluating the TMI-1 training program, and that INPO's accreditation of the TMI-1 training program was, therefore, inaccurate. LBP-85-15, 21 NRC 1409, 1508 (1985).

The Licensing Board's statement is not a necessary element of its decision rationale. The deficiencies perceived by the Board in INPO's accreditation program do not require further consideration because the Board had adequate alternative grounds for concluding that Licensees' training program is adequate. Therefore, the Commission reaches no judgment whether that Licensing Board statement on INPO is correct, and does not believe that the issue needs to be resolved within the context of the TMI-1 restart proceeding.

With the issuance of this Order, the Three Mile Island Unit 1 restart administrative proceeding comes to a close.

For the Commission

Samuel J. Chilk
Secretary of the Commission

Dated at Washington, D.C.,
this 6th day of February 1986.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

COMMISSIONERS:

Nunzio J. Palladino, Chairman
Thomas M. Roberts
James K. Asselstine
Frederick M. Bernthal
Lando W. Zech, Jr.

In the Matter of

Docket No. LRP

**INQUIRY INTO THREE MILE ISLAND
UNIT 2 LEAK RATE DATA
FALSIFICATION**

February 13, 1986

The Commission denies a request to modify the December 18, 1985 Notice of Hearing on leak rate falsifications at TMI-2.

MEMORANDUM AND ORDER

On January 14, 1986, various former employees of Metropolitan Edison Company "who will be involved in this proceeding" ("Petitioners") filed a motion requesting that the Commission make several modifications to its December 18, 1985 Notice of Hearing on leak rate falsifications at TMI-2, CLI-85-18, 22 NRC 877 (1985).

Before turning to Petitioners' specific requests, the Commission wishes to make it clear that this proceeding is discretionary; it is not being conducted because the law requires it. The proceeding will be used as an information base for decisions on whether enforcement or other licensing action should be initiated. It will not be used to deprive any individual of any statutory hearing rights he or she may have if

formal enforcement or licensing action is initiated. With this as background, we will address each request in turn.

1. Petitioners first request that the order be revised to refer to "alleged" leak rate falsifications. This request is denied. Information developed in federal court proceedings and investigations by GPU Nuclear and the NRC support the proposition that some falsification of leak rate data occurred at TMI-2. However, the Commission has not prejudged this issue and the Presiding Board may reach a contrary conclusion if additional evidence is developed and the record so dictates.

2. Petitioners next request that the Commission make clear that the information developed in this hearing will not be used to deny, suspend, or revoke an operator's license without prior notice and the opportunity for an adjudicatory hearing. The introductory paragraph of this Order explains the purpose of this proceeding and makes clear that individuals will not be deprived of statutory hearing rights. Accordingly, unless the public health, safety, or interest requires otherwise, the Commission will not condition, suspend, or revoke an operator's license without prior notice and opportunity for hearing. Denial of an initial or renewal application would also give Petitioners a right to a hearing.

3. Petitioners also request that the Commission expand the scope of the hearing to include whether the requirements for reactor coolant system ("RCS") unidentified leakage in Technical Specification 3.4.6.2 were reasonably promulgated, whether they had safety significance, and whether anyone knew of a method in 1978-1979 that would have produced a reasonably accurate measure of unidentified leakage from the RCS. The focus of this hearing relates to whether Metropolitan Edison Company employees followed requirements, not whether the requirements were properly imposed. Accordingly, the request is denied, except to the extent Petitioners' issues are already within the scope of the hearing under CLI-85-18 (*see*, for example, 22 NRC at 880, ¶ B.2(b)).

4. Finally, Petitioners request that the Commission grant the Presiding Board the authority to permit discovery and cross-examination of witnesses. This request is denied. The Commission continues to believe the procedures set forth in CLI-85-18 should be sufficient to develop an adequate record. As we noted in that Order, if the Presiding Board determines that use of additional procedures is warranted, it may request authorization from the Commission to use such procedures.

Commissioner Asselstine disapproved this Order.
It is so ORDERED.

For the Commission*

SAMUEL J. CHILK
Secretary of the Commission

Dated at Washington, D.C.,
this 13th day of February 1986.

*Chairman Palladino and Commissioner Bernthal were absent for the affirmation of this item. Had they been present they would have voted to approve it.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Administrative Judges:

**Christine N. Kohl, Chairman
Dr. W. Reed Johnson
Howard A. Wilber**

In the Matter of

Docket No. 50-382-OL

**LOUISIANA POWER & LIGHT
COMPANY
(Waterford Steam Electric
Station, Unit 3)**

February 5, 1986

The Appeal Board directs that an order it had entered earlier in this proceeding be published in the NRC Issuances. That order directed the NRC staff and the Commission's Office of Investigations (OI) to provide the Board with information gathered in certain OI investigations, which had been described in several Board notifications as potentially relevant to two motions then pending before the Board.

BOARD NOTIFICATION: RESPONSIBILITIES OF STAFF

As a general rule, the NRC staff has a responsibility to disclose to adjudicatory boards and the parties all information that is potentially relevant and material to a pending adjudication. 49 Fed. Reg. 36,032 (1984).

**NUCLEAR REGULATORY COMMISSION: POLICY
STATEMENT ON INVESTIGATIONS, INSPECTIONS, AND
ADJUDICATORY PROCEEDINGS**

In the event of a conflict between the board notification responsibility and the need to protect investigative material from premature public disclosure, Commission policy authorizes adjudicatory boards to conduct a preliminary ex parte, in camera inspection of the material at issue. Of course, information presented to a board ex parte cannot serve as the basis for an adjudicatory decision. The authority for deciding if and when disclosure of the disputed information will occur is retained by the Commission. 49 Fed. Reg. at 36,033-34.

NOTICE

For the sake of completeness in our published decisions, the attached order (dated December 19, 1984, and previously unpublished) will now be reported in the NRC Issuances.

**C. Jean Shoemaker
Secretary to the
Appeal Board**

ATTACHMENT TO ALAB-829
UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Administrative Judges:

Christine N. Kohl, Chairman
Dr. W. Reed Johnson
Howard A. Wilber

In the Matter of

Docket No. 50-382-OL

**LOUISIANA POWER & LIGHT
COMPANY**
**(Waterford Steam Electric
Station, Unit 3)**

December 19, 1984

ORDER

Pending before us are two motions to reopen the record, filed in this proceeding by Joint Intervenors. One concerns the adequacy of the concrete basemat on which the Waterford facility rests, and the other seeks to raise three new contentions relating to quality assurance, the integrity of applicant's management, and the adequacy of the NRC staff's inspection and investigation efforts in connection with the plant. *See* ALAB-786, 20 NRC 1087 (1984); ALAB-792, 20 NRC 1585 (1984).

Within the last several weeks we have received two Board Notifications from the staff informing us that the Commission's Office of Investigations (OI) has recently initiated two new investigations that assertedly have some bearing on matters raised by both motions to reopen. Board Notification Nos. BN-84-184 (Dec. 5, 1984) and BN-84-187 (Dec. 13, 1984). These investigations are in addition to nine others under way since early 1984. *See* NUREG-0787, Supplement No. 7, Safety Evaluation Report (Sept. 1984), at 2, 15. Because of the subject matter involved, neither the staff nor OI has provided us or the parties

with any details of these investigations. We have been advised, however, that OI is prepared to brief us on each of its ongoing investigations in an ex parte, in camera session. BN-84-187, *supra*.

The Commission has a policy and procedures for handling conflicts between the agency's need to protect investigative material from premature public disclosure, on the one hand, and, on the other, the duty of all parties (including the NRC staff) to disclose to adjudicatory boards and parties information that may be relevant and material to a pending proceeding. See 49 Fed. Reg. 36,032 (1984).¹ The present situation compels us to invoke those procedures. The staff has acknowledged the relevance of information obtained during two of the eleven OI investigations, and it is fair to assume, at least at this point, that some or all of the other nine investigations are related to management integrity or quality assurance.

We therefore direct both the staff and OI, as pertinent, to provide us with information gathered in these investigations that is potentially relevant and material to the two motions pending before us, as well as a *written* "explanation of the basis of [their] concern about disclosure." *Id.* at 36,034. The staff and OI should also indicate what, if any, information might be disclosed to the parties under a suitable protective order. The staff and OI should submit this material to us, in camera, by *January 14, 1985*. After we have reviewed the written submissions, we may request further information to be presented orally during an in camera hearing.² Subsequent to our review of all the information submitted and in accordance with Commission policy, we will notify the staff and OI of our views concerning the need for disclosure. *Ibid.*

It is so ORDERED.³

FOR THE APPEAL BOARD

C. Jean Shoemaker
Secretary to the
Appeal Board

¹ The Commission's policy emphasizes the general rule that all potentially relevant and material information should be disclosed to the boards and parties. It nonetheless recognizes that conflicts are inevitable and that a means to resolve them is necessary. It therefore has determined that preliminary ex parte, in camera inspection of the material at issue, by the board, is the most effective way of dealing with the problem. The Commission policy also stresses that information presented to a board ex parte cannot serve as the basis for an adjudicatory decision. Finally, the Commission itself has retained the authority for deciding if and when disclosure of the disputed information with occur. 49 Fed. Reg. at 36,033-34.

² Under the Policy Statement, a verbatim transcript of any in camera proceeding will be made. *Id.* at 36,034.

³ Because OI is not a party to this proceeding, we are requesting the Commission's Secretary to serve the Director of OI with a copy of this order.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Administrative Judges:

**Christine N. Kohl, Chairman
Gary J. Edles
Dr. Reginald L. Gotchy**

In the Matter of

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

**PHILADELPHIA ELECTRIC COMPANY
(Limerick Generating Station,
Units 1 and 2)**

February 7, 1986

In this operating license proceeding, the Appeal Board dismisses intervenor's contention dealing with medical arrangements for the treatment of individuals contaminated and injured onsite, per the stipulation of the parties. The Board also vacates the Licensing Board decision that, despite the stipulation, contained findings of fact and conclusions of law on this matter.

LICENSING BOARDS: DELEGATED AUTHORITY

Except for significant safety, environmental, and security issues raised sua sponte pursuant to 10 C.F.R. § 2.760a, the Commission regulations do not authorize boards in operating license proceedings to "decide" matters not in controversy.

LICENSING BOARDS: DISMISSAL OF PROCEEDINGS

Once previously contested issues are no longer in dispute, whether before or after the hearing, the proceeding should be dismissed. *Portland General Electric Co.* (Trojan Nuclear Plant), ALAB-796, 21 NRC 4, 5 (1985).

MEMORANDUM AND ORDER

In ALAB-819, 22 NRC 681, 711-16 (1985), we reversed and remanded a limited part of the Licensing Board's second partial initial decision insofar as it concerned intervenor Limerick Ecology Action's (LEA) contention VIII-12(a). Specifically, we found that there were not adequate backup medical arrangements for the treatment of individuals contaminated and injured onsite. Under the auspices of the Licensing Board, the involved parties (applicant Philadelphia Electric Company (PECo), LEA, the Commonwealth of Pennsylvania, and the NRC staff) acted in accordance with our remand and reached an agreement on the resolution of this issue. This agreement is embodied in a stipulation, signed by all four parties, permitting the Licensing Board to "enter an appropriate order dismissing LEA's contention [VIII-12(a)] for lack of controversy." See Stipulation at 3, attached to letter to Licensing Board from A.P. Hodgdon (January 17, 1986).

The Licensing Board, however, has issued a "partial initial decision" with findings of fact and conclusions of law on this matter. See LBP-86-3, 23 NRC 69 (1986). But under the Commission's regulations, a board in an operating license proceeding is not authorized to "decide" matters not in controversy. 10 C.F.R. § 2.760a.¹ Thus, the Board should have simply entered an order dismissing the contention, as all the parties stipulated. See *Portland General Electric Co.* (Trojan Nuclear Plant), ALAB-796, 21 NRC 4, 5 (1985).

¹ Section 2.760a does authorize boards to raise sua sponte significant safety, environmental, and security issues, but that provision is not invoked in the circumstances here.

Accordingly, LEA contention VIII-12(a) is *dismissed* per the stipulation of the parties, and LBP-86-3 is *vacated*.

It is so ORDERED.

FOR THE APPEAL BOARD

C. Jean Shoemaker
Secretary to the
Appeal Board

Mr. Edles did not participate in this memorandum and order.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Administrative Judges:

Alan S. Rosenthal, Chairman
Dr. W. Reed Johnson
Howard A. Wilber

In the Matter of

Docket Nos. 50-440-OL
50-441-OL

CLEVELAND ELECTRIC ILLUMINATING
COMPANY, et al.
(Perry Nuclear Power Plant,
Units 1 and 2)

February 27, 1986

The Appeal Board denies in part and dismisses in part, without prejudice, an intervenor's motion to reopen the record for the purpose of permitting the submission of new contentions.

RULES OF PRACTICE: REOPENING OF PROCEEDINGS

When seeking to reopen an evidentiary record to consider new evidence, a movant must satisfy a tripartite test: (1) is the motion timely; (2) does it address a significant safety or environmental issue; and (3) might a different result have been reached had the newly proffered material been considered initially. *Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), ALAB-598, 11 NRC 876, 879 (1980), *cited with approval in Metropolitan Edison Co.* (Three Mile Island Nuclear Station, Unit 1), CLI-85-2, 21 NRC 282, 285 n.3 (1985).

OPERATING LICENSE: CRITERIA

Each operating nuclear power plant is required to have a fire protection plan that satisfies General Design Criterion 3 in Appendix A to 10 C.F.R. Part 50. *See* 10 C.F.R. 50.48(a).

OPERATING LICENSES: TECHNICAL SPECIFICATIONS (SCOPE)

Operating license technical specifications are meant to be limited in scope to "those items that are directly related to maintaining the integrity of the physical barriers designed to contain radioactivity." 33 Fed. Reg. 18,610 (1968).

OPERATING LICENSES: TECHNICAL SPECIFICATIONS (SCOPE)

The Atomic Energy Act and the regulations which implement it contemplate that technical specifications are to be reserved for those matters as to which the imposition of rigid conditions or limitations upon reactor operation is deemed necessary to obviate the possibility of an abnormal situation or event giving rise to an immediate threat to the public health and safety. *Portland General Electric Co.* (Trojan Nuclear Plant), ALAB-531, 9 NRC 263, 271-74 (1979).

RULES OF PRACTICE: REOPENING OF PROCEEDINGS

Mere allegations are not enough to satisfy the standard for reopening an evidentiary record. *Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), CLI-81-5, 13 NRC 361, 363 (1981).

RULES OF PRACTICE: ADMISSIBILITY OF CONTENTIONS

Among the 10 C.F.R. 2.714(a)(1) factors that determine the acceptability of late contentions, a particularly important one is the extent to which the participation of the contention's submitter "may reasonably be expected to assist in developing a sound record."

APPEARANCES

Susan L. Hiatt, Mentor, Ohio, for the intervenor, Ohio Citizens for Responsible Energy.

Jay E. Silberg and Harry H. Glasspiegel, Washington, D.C., for the applicants, Cleveland Electric Illuminating Company, *et al.*

Colleen P. Woodhead for the Nuclear Regulatory Commission staff.

MEMORANDUM AND ORDER

This operating license proceeding involving the Perry nuclear facility is currently before us on appeals by intervenors Ohio Citizens for Responsible Energy (OCRE) and Sunflower Alliance from the Licensing Board's concluding partial initial decision.¹ OCRE has now moved to reopen the record for the purpose of permitting its submission of new contentions. These contentions relate to two matters that were not the subject of prior Licensing Board consideration: (1) the deletion of elements of the applicants' fire protection program from the facility's technical specifications; and (2) the applicants' request that they be permitted to operate the facility for protracted periods at 70% of rated power with only one of two primary coolant recirculation loops operable.²

OCRE maintains that it has satisfied the well-established tripartite test governing the reopening of an evidentiary record to consider new evidence:

- (1) Is the motion timely?
- (2) Does it address significant safety (or environmental) issues?
- (3) Might a different result have been reached had the newly proffered material been considered initially?³

¹ See LBP-85-35, 22 NRC 514 (1985).

² Motion to Reopen the Record and to Submit New Contentions (December 12, 1985) ("Motion"). On February 3, 1986, OCRE filed a second motion to reopen the record, based upon the earthquake that occurred in the vicinity of the Perry facility a few days earlier. That motion remains under consideration and will be decided in a subsequent order.

³ *Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), ALAB-598, 11 NRC 876, 879 (1980), cited with approval in *Metropolitan Edison Co.* (Three Mile Island Nuclear Station, Unit 1), CLI-85-2, 21 NRC 282, 285 n.3 (1985). The Commission's use of this test has received judicial approval. *Three Mile Island Alert, Inc. v. NRC*, 771 F.2d 720, 732 (3d Cir. 1985), petition for cert. filed sub nom. *Aamodt v. NRC*, 54 U.S.L.W. 3463 (U.S. Dec. 18, 1985) (No. 85-1095), citing *San Luis Obispo Mothers for Peace v. NRC*, 751 F.2d 1287, 1316-18 (D.C. Cir. 1984), vacated in part and reh'g en banc granted on other grounds, 760 F.2d 1320 (1985).

Because its motion seeks to inject new issues into the proceeding, OCRE also addressed the five factors set forth in 10 C.F.R. 2.714(a)(1), which control the acceptance or rejection of late-filed contentions. See *Duke Power Co.* (Catawba Nuclear Station, Units 1 and 2), CLI-83-19, 17 NRC 1041 (1983). As will later appear, however, it is unnecessary for us to consider here the sufficiency of OCRE's showing on those factors.

In opposing the motion, however, both the applicants and the NRC staff insist that the test has not been met because the matters on which reopening is sought lack safety significance.⁴

For the reasons that follow, the motion is denied in part and dismissed in part.

A. Fire Protection

Each operating nuclear power plant is required to have a fire protection plan (i.e., program) that satisfies General Design Criterion 3 in Appendix A to 10 C.F.R. Part 50.⁵ OCRE does not dispute that the Perry facility has such a program. Nor does it challenge the adequacy of any particular provision of the program. Rather, OCRE seeks to reopen the record to litigate what is essentially a legal question having nothing to do with the quality of the fire protection arrangements for Perry: whether Commission regulations require that all elements of a facility's fire protection program be incorporated in the technical specifications for that facility. The question arises here because, in a November 29, 1985 letter to the lead applicant, the staff agreed that some of the Perry fire protection program elements could be deleted from the technical specifications and, "in lieu thereof," documented in the Final Safety Analysis Report (FSAR).⁶ According to OCRE, this consent violated the provisions of 10 C.F.R. 50.36(c)(2) with respect to the required content of technical specifications.⁷

The short answer is that OCRE's interpretation of section 50.36(c)(2) is wide of the mark. Not only does the section make no specific reference to fire protection programs, but, more important, the Statement of Consideration accompanying its revision in 1968 contains a clear indication of a Commission purpose to limit the scope of operating license technical specifications to "those items that are directly related to maintaining the

⁴ See Applicants' Answer to OCRE Motion to Reopen the Record and to Submit New Contentions (December 30, 1985); NRC Staff Response to Motion to Reopen the Record Filed by Ohio Citizens for Responsible Energy (January 2, 1986) ("Staff Response"). The applicants, but not the staff, also argue that the motion was untimely. Intervenor Sunflower Alliance did not respond to the motion.

⁵ See 10 C.F.R. 50.48(a).

⁶ See letter from Walter R. Butler to Murray E. Edelman, reproduced as Attachment 3 to OCRE's motion. The letter went on to state that the administrative control elements of the fire protection program were to be retained in the technical specifications.

⁷ Motion at 1-2. Section 50.36(c) provides that technical specifications are to include items in several enumerated categories. For its part, subsection (2) is concerned with one of those categories: limiting conditions for operation. It explains that such conditions

are the lowest functional capability or performance levels of equipment required for safe operation of the facility. When a limiting condition for operation of a nuclear reactor is not met, the licensee shall shut down the reactor or follow any remedial action permitted by the technical specification until the condition can be met. . . .

integrity of the physical barriers designed to contain radioactivity.”⁸ Manifestly, a fire protection program is not such an item.⁹

We need only add that, even were the application of section 50.36(c)(2) to fire protection programs a closer question, we would still be disinclined to reopen the record on that question. For, in all events, OCRE has failed to demonstrate that the exclusion of certain portions of the Perry fire protection program from the technical specifications has serious safety implications. Nor could it. The staff informs us that, consistent with a recommendation of the NRC Chairman, it has imposed an actual license condition requiring Unit 1 of the Perry facility to comply with its fire protection program.¹⁰ Thus, there is no room for any claim that the enforceability of the applicants’ commitment to carrying out the program has been impaired by the transfer of portions of it from the technical specifications to the FSAR.¹¹

B. Single Loop Operation

The other contentions that OCRE would inject into the proceeding at this late date are rooted in the applicants’ request that they be permitted to operate the Perry facility at up to 70% of rated thermal power with only one of the two primary coolant recirculation loops operable. In OCRE’s view, significant safety problems will attend upon a grant of the request.

The staff, however, tells us that it has not as yet “evaluated the request, nor reached a conclusion on its merits.”¹² The staff further notes that in no event will any low-power license that may be issued for Perry

⁸ 33 Fed. Reg. 18,610 (1968). See, in this connection, *Portland General Electric Co.* (Trojan Nuclear Plant), ALAB-531, 9 NRC 263, 271-74 (1979) (“as best we can discern it, the contemplation of both the [Atomic Energy] Act and the [Commission] regulations is that technical specifications are to be reserved for those matters as to which the imposition of rigid conditions or limitations upon reactor operation is deemed necessary to obviate the possibility of an abnormal situation or event giving rise to an immediate threat to the public health and safety”).

⁹ It is worthy of passing note that, in a subsequent discussion of certain proposed changes to its regulations pertaining to technical specifications for nuclear power reactors, the Commission stressed the distinction between functions considered of “immediate importance to safety” and “[o]ther functions, such as those associated with the mitigation of the effects of natural or man-made phenomena (fires, floods, earthquakes, etc.).” 47 Fed. Reg. 13,369, 13,371 (1982).

¹⁰ Staff Response.

¹¹ It is of little moment here that, as the staff’s response observes (*ibid.*), fire protection requirements have been included in the technical specifications of other operating licenses. For it does not follow from that fact that such inclusion is required by Commission regulation. Cf. *Long Island Lighting Co.* (Shoreham Nuclear Power Station, Unit 1), ALAB-824, 22 NRC 776, 781 (1985).

¹² Staff Response at 8.

permit single loop operation (i.e., should the applicants' request be granted, only the full-power license will be affected).¹³

Clearly, should the staff eventually turn down the applicants' request,¹⁴ OCRE's concerns respecting single loop operation will be totally academic. This being so, no good reason appears for deciding, in advance of staff action on the request, whether the record should be reopened to ventilate those concerns — i.e., for rendering what would be essentially an advisory opinion on the merits of OCRE's contentions embodying the concerns. Accordingly, we dismiss those contentions at this juncture, without prejudice to their possible renewal if and when the staff allows single loop operation.¹⁵

Motion *denied, in part, and dismissed, in part, without prejudice.*
It is so ORDERED.

FOR THE APPEAL BOARD

C. Jean Shoemaker
Secretary to the
Appeal Board

¹³ *Id.* at 8-9. Because, as of this writing, Perry has not received even a fuel loading authorization, the possible issuance of a full-power license is not imminent and thus the staff is not under severe time pressure to act upon the request. Indeed, in response to a telephone inquiry, counsel for the staff advised the Secretary to this Board that it will likely be several more months before a decision is reached. According to counsel, the staff will require additional information from the applicants, at least some of which will not be available until after the applicants receive a low-power license for Perry.

¹⁴ It is by no means certain that the request will be honored. Some similar requests have been granted and others denied. *Id.* at 9 n.8.

¹⁵ Despite the facts that the staff has not as yet decided whether to allow single loop operation and may deny the applicants' request, the OCRE motion apparently prompted the staff to consider the precise concerns set forth in the motion. Each of those concerns is addressed in a joint affidavit of two members of the branch in the Office of Nuclear Reactor Regulation responsible for the review of boiling water reactor systems, which was attached to the staff's response to OCRE's motion. Those reviewers concluded that none of OCRE's concerns raises a significant safety issue. Joint Affidavit of Laurence E. Phillips and George Thomas Concerning Single Loop Operation Contentions Raised by "OCRE" (December 24, 1985).

Although we need not now appraise the reasons assigned in the affidavit for that conclusion, one thing is clear: there is nothing now before us that would bring those reasons into question. In the event that the staff should ultimately approve single loop operation, any attempt by OCRE to challenge that approval perforce will have to explain why the staff analysis is wrong (i.e., why such operation does pose a significant safety threat). Mere allegations to that effect will not be enough to satisfy the standard for reopening an evidentiary record. *Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), CLI-81-5, 13 NRC 361, 363 (1981). Nor, absent a concrete demonstration of probable staff error, would OCRE stand much chance of surviving a balancing of the five section 2.714(a)(1) lateness factors that determine the acceptability of eleventh-hour contentions. See note 3, *supra*. This is because a particularly important factor is the extent to which the participation of the contention's submitter "may reasonably be expected to assist in developing a sound record."

Opinion of Dr. Johnson, dissenting in part:

OCRE's motion to reopen sets forth objections to several specific aspects of applicants' request for single loop operation at 70% power. On the basis of information contained in the responses to the motion by the applicants and staff, the Perry FSAR, and the applicants' FSAR Amendment 22,¹ it is entirely possible to conclude that there is no safety significance to the issues raised by OCRE. I believe we should deny the second portion of OCRE's motion on its merits now, without regard to the staff's ultimate resolution of applicants' request.

¹ Attachment (FSAR Appendix 15F, "PNPP Single Loop Operation Analysis") to a letter from Murray R. Edelman to Harold R. Denton (November 20, 1985).

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

**Helen F. Hoyt, Chairperson
Dr. Richard F. Cole
Dr. Jerry Harbour**

In the Matter of

**Docket Nos. 50-352-OL
50-353-OL
(ASLBP No. 81-465-07-OL)**

**PHILADELPHIA ELECTRIC COMPANY
(Limerick Generating Station,
Units 1 and 2)**

February 4, 1986

In this Partial Initial Decision, the Licensing Board finds that the Licensee's onsite emergency plans demonstrate that adequate provisions have been made for medical services for contaminated injured individuals, and concludes that the issue remanded by the Atomic Safety and Licensing Appeal Board has been resolved.

FIFTH PARTIAL INITIAL DECISION

**(On Remand from Atomic Safety and Licensing Appeal Board to
Consider Alternative Options for Additional Backup Medical
Services for Onsite Contaminated Injured Persons)**

I. INTRODUCTION

This Fifth Partial Initial Decision (PID) issued by this Atomic Safety and Licensing Board ("Licensing Board" or "Board") is in response to a

reversal and remand¹ from the Atomic Safety and Licensing Appeal Board (ASLAB) contained in ALAB-819, 22 NRC 681, 715 n.47 (1985). The remand required further proceedings to consider alternative options for additional backup medical services for onsite contaminated injured persons. The issue of whether Licensee's onsite emergency plans provided adequate arrangements for medical services for contaminated injured individuals had been raised by intervenor Limerick Ecology Action, Inc. (LEA) in its Contention VIII-12(a) admitted by the Board on June 17, 1983.

In accordance with the ASLAB remand requirement of further action consistent with its ALAB-819, the Board issued an Order (unpublished) establishing procedures for resolution of the remanded issue on October 28, 1985. The Board also required in its Order that the nineteen hospitals referred to in its Second PID and by the ASLAB² be plotted on a map of the area with the distances of each hospital from the Limerick Generating Station noted.

"Licensee's Proposal for Resolution of Remanded Issue Regarding Licensee's Medical Arrangements for Contaminated Injured Onsite Personnel" was submitted on November 18, 1985. The Licensee represented that it had pursued available options with regard to a second backup hospital for onsite personnel who might be contaminated and injured in the event of an accident at Limerick. As a result of its review of area hospitals, Licensee determined that the Montgomery Hospital in Norristown, Pennsylvania, is its choice. Licensee also cited an affidavit submitted by Dr. Linneman in connection with a contention raised by the inmates at the State Correctional Institution at Graterford in which the Montgomery Hospital had been evaluated as suitable for treating radiation exposure cases as well as radioactively contaminated and injured persons. Attached to the proposal was a map of the area showing twenty hospitals (including Pottstown Memorial Medical Center) and the distance from the Limerick Generating Station. In addition, a copy of an agreement with Montgomery Hospital was attached in which the Hospital stated its agreement to provide hospital treatment for victims.

"LEA Response to Licensee's Proposal for Resolution of Remanded Issue Regarding Licensee's Medical Arrangements for Contaminated Injured Onsite Personnel," dated November 27, 1985, opposed the Licensee's proposal and requested an opportunity to conduct discovery and to participate in an adjudicatory hearing.

¹ The Atomic Safety and Licensing Appeal Board reversed and remanded in part this Board's 1984 Second Partial Initial Decision (LBP-84-31, 20 NRC 446).

² ALAB-819, *supra*, 22 NRC at 713.

In "Commonwealth of Pennsylvania's Comments on Licensee's Proposal to Use Montgomery Hospital as a Backup Facility to Treat Contaminated Injured Onsite Personnel," dated December 2, 1985, the Commonwealth concluded that the Licensee's submissions established Montgomery Hospital as an appropriate facility, outside the EPZ and suitable for treatment of contaminated injured onsite personnel.

"NRC Staff Response to Licensee's Proposal for Resolution of Remanded Issue Regarding Licensee's Medical Arrangements for Contaminated Injured Onsite Personnel," dated December 12, 1985, reviewed the issues in the ALAB-819 remand, the Licensee's proposal, the Commonwealth of Pennsylvania's response and the LEA objections to the Licensee's proposed resolution and comments. The Staff concluded that the Board should grant LEA's request for a hearing on whether the backup arrangements made by the Licensee for treatment of contaminated injured onsite personnel are adequate, or in the alternative treat the Applicant's Proposed Resolution of November 18, 1985, as a motion for summary disposition of the remanded issue.

On December 18, 1985, the Board conducted a telephone conference call with the four parties³ (Tr. 21,090-116) in which the parties were provided with an opportunity to state concerns. The parties agreed to attempt to meet the terms of the ALAB-819 remand by stipulation among the interested parties.

By letter to counsel for LEA, Charles Elliott, a copy of *Decontamination and Treatment of the Radioactively Contaminated Patient at Montgomery Hospital*, Procedure No. M 1-18, Revision 0 (December 1985) was served on the parties by Licensee.

By letter dated January 17, 1986, NRC Staff transmitted a stipulation reached by the parties⁴ in which it was agreed that there was "a lack of controversy" in regard to LEA's contention remaining after

1. Licensee entered into an agreement with Montgomery Hospital, Norristown, Pennsylvania for the hospital to provide hospital treatment for Limerick Generating Station onsite contaminated injured persons, and for Philadelphia Electric Co. to provide specialized training equipment, and procedures for treatment of contaminated injured persons;

³ Troy B. Conner, Jr./Robert M. Rader for Philadelphia Electric Co.; Charles W. Elliott for LEA; Zori G. Ferkin for Commonwealth of Pennsylvania; and Joseph Rutberg/Stephen L. Levin for NRC Staff.

⁴ Charles W. Elliott (1/14/86); Zori G. Ferkin for Commonwealth of Pennsylvania (1/16/86); Troy B. Conner, Jr., for Licensee (1/17/86); and Joseph Rutberg for NRC Staff (1/17/86).

2. Licensee's counsel provided intervenor LEA's counsel with the draft procedures, a list of specialized equipment for use at Montgomery Hospital, and a plan of instruction for the hospital emergency department physicians and nurses;
3. LEA counsel conferred with Montgomery Hospital administrator who confirmed that the Montgomery Hospital and Licensee are in the process of implementing the provisions of the agreement reached by Montgomery Hospital and Licensee on November 15, 1985;
4. LEA finds that there are now arrangements for a reasonable option addressed to the concerns raised by LEA Contention VIII-12(a); and
5. LEA's concerns stated by its Contention VIII-12(a) are no longer in controversy between LEA and the Licensee.

II. FINDINGS OF FACT

LEA Contention VIII-12(a) as filed by the intervenor on June 17, 1983, states as follows:

The on-site plans fail to demonstrate that adequate arrangements have been made, or will be made, for medical services for contaminated injured individuals on-site, as required by 10 C.F.R. § 50.47(b) (2) and (12), in that:

(a) While medical services and facilities are described in sections 5.3.2.1-5.3.2.5 of the Plan, it has not been demonstrated that these services and facilities are adequate for the potential number of persons contaminated by the spectrum of credible accident scenarios for which planning is required, including some core melt sequences (see NUREG-0396). The plans contain an agreement with Pottstown Memorial Hospital, a facility only two miles from the site, to provide emergency treatment to contaminated patients. In a general emergency, the hospital will be required to evacuate its own patients, which will preclude acceptance and treatment of radiation victims coming from the site. The status of medical support from the Hospital of University of Pennsylvania is unclear as well (see contention VIII-9(b), above). These are the only two hospitals listed in the Plan as available for medical services to on-site contaminated victims. See NUREG-0654, Criteria B.9 and L.1.

The Board finds:

1. Adequate arrangements have been made for designated Montgomery Hospital for treatment of contaminated injured onsite persons as required by 10 C.F.R. § 50.47(b) by an agreement entered into by Montgomery Hospital, Norristown, Pennsylvania, on November 15, 1985, and reaffirmed by Vincent S. Boyer, Senior Vice President, Philadelphia Electric Co., in an Affidavit dated January 2, 1986. See also Tr. 21,110-111.

2. The Montgomery Hospital, Norristown, Pennsylvania (Montgomery County), is located 14.5 miles from the Limerick Generating Station, just outside the EPZ (Map and Hospitals Listed in Risk County Plans of Licensee's Proposal for Resolution of Remanded Issue, November 15, 1985, and Tr. 21,094), and hence, not subject to evacuation.

3. Licensee has provided *Decontamination and Treatment of the Radioactively Contaminated Patient at Montgomery Hospital*, Procedure No. M 1-18 Revision 0 (December 1985), which establishes the basic procedures, a list of medical supplies and equipment and a training outline for the handling and treatment of radioactively contaminated and injured individuals who may be admitted by Montgomery Hospital. (Letter with attachment, Licensee to Charles Elliott, Esq., dated December 23, 1985.) *See also* Stipulation at 2.

4. LEA Counsel Elliott has conferred with Montgomery Hospital and confirms that Montgomery Hospital and Licensee are in the process of implementing the provisions of the November 15, 1985 agreement reaffirmed by Licensee's Senior Vice President Boyer in an Affidavit dated January 2, 1986. (*See also* Stipulation of the parties accepted by LEA's Elliott on January 14, 1986.)

III. CONCLUSIONS OF LAW

In reaching this decision, the Board has considered all pleadings filed by the parties; the conference call with the four interested parties on December 18, 1985; and the Stipulation entered into by the interested parties. Based on a review of that record, the foregoing Findings of Fact which are supported by reliable, probative and substantial evidence, the Board, with respect to the issue in controversy remanded to the Board by ASLAB in ALAB-819, reaches the following conclusion pursuant to 10 C.F.R. § 2.760a:

The Licensee's onsite emergency plans demonstrate that adequate arrangements have been made for medical services for onsite contaminated injured individuals and that the plans meet the requirement of 10 C.F.R. § 50.47(b)(2) and (12) as well as NUREG-0654 Criteria B.9 and L.1 and provide reasonable assurance that adequate medical arrangements for contaminated injured individuals on site can and will be taken in the event of a radiological emergency.

IV. ORDER

In accordance with the provisions of the ASLAB in ALAB-819, the requirements of that remand have been met and the Board by this Order transmits its Findings of Fact and Conclusions of Law to the ASLAB for further action as deemed appropriate.

IT IS SO ORDERED.

**THE ATOMIC SAFETY AND
LICENSING BOARD**

**Helen F. Hoyt, Chairperson
ADMINISTRATIVE JUDGE**

**Richard F. Cole
ADMINISTRATIVE JUDGE**

**Jerry Harbour
ADMINISTRATIVE JUDGE**

**Dated at Bethesda, Maryland,
this 4th day of February 1986.**

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

**John H Frye, III, Chairman
Dr. James H. Carpenter
Dr. Peter A. Morris**

In the Matter of

**Docket No. 40-2061-ML
(ASLBP No. 83-495-01-ML)**

**KERR-McGEE CHEMICAL
CORPORATION
(West Chicago Rare Earths
Facility)**

February 10, 1986

The Licensing Board grants motions by Kerr-McGee and NRC Staff to dismiss the People of the State of Illinois Contention AG-1 for their failure to comply with earlier board discovery rulings (LBP-85-38, 22 NRC 604 (1985), and LBP-85-46, 22 NRC 830 (1985)). The Board also denies the People's motion for an extension of time to comply with their discovery obligations as the decision to impose the sanction renders that request moot.

RULES OF PRACTICE: SANCTIONS

In determining whether to impose a sanction, and what that sanction should be, licensing boards are guided by NRC regulation 10 C.F.R. § 2.707, the Commission's *Statement of Policy on Conduct of Licensing Proceedings*, CLI-81-8, 13 NRC 452 (1981), and NRC cases containing other Boards' rulings on requests for sanctions. See *Commonwealth Edison Co.* (Byron Nuclear Power Station, Units 1 and 2), ALAB-678,

15 NRC 1400 (1982); *Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), LBP-83-20A, 17 NRC 586 (1983); *Duke Power Co.* (Catawba Nuclear Station, Units 1 and 2), LBP-83-29A, 17 NRC 1121 (1983); *Northern States Power Co.* (Tyrone Energy Park, Unit 1), LBP-77-37, 5 NRC 1298 (1977).

RULES OF PRACTICE: SANCTIONS

The NRC *Statement of Policy on Conduct of Licensing Proceedings*, CLI-81-8, 13 NRC 452, 454 (1981) puts participants in NRC proceedings on notice that they must meet their obligations or sanctions may be imposed. In selecting a proper sanction to impose on parties who disregard their obligations, a board must consider specific factors:

the relative importance of the unmet obligation, its potential for harm to other parties or the orderly conduct of the proceeding, whether its occurrence is an isolated incident or a part of a pattern of behavior, the importance of the safety or environmental concerns raised by the party, and all of the circumstances.

Id.

RULES OF PRACTICE: RESPONSIBILITIES OF PARTIES; DISCOVERY

Parties have a responsibility to respond to discovery to enable other parties to gain an understanding of the bases of their contentions in order to properly prepare their own cases, and because thorough discovery minimizes the possibility for surprise at hearing, focusses testimony and cross-examination, and leads to a fully developed record.

RULES OF PRACTICE: SANCTIONS

Of the several factors considered in imposing a sanction, those addressing the relative importance of the unmet obligations and potential harm to other parties or to the orderly conduct of the proceeding may be heavily weighted, as discovery is crucial to the conduct of a fair proceeding.

RULES OF PRACTICE: DISCOVERY

A party may not delay in answering interrogatories even if such delay will not affect the timing of the proceeding in its later stages.

RULES OF PRACTICE: SANCTIONS

A Licensing Board may be justified in imposing sanctions on a party for failure to meet discovery obligations because discovery provides the other parties to the proceeding with factual information undergirding the admitted contentions. *Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), LBP-83-20A, 17 NRC 586 (1983); *Duke Power Co.* (Catawba Nuclear Station, Units 1 and 2), LBP-83-29A, 17 NRC 1121 (1983).

RULES OF PRACTICE: LATE-FILED CONTENTIONS; SANCTIONS

If a party upon whom sanctions have been imposed files new or revised contentions out of time, the sanction will be considered in evaluating whether the petitioner sponsoring the contention can be expected to assist in developing the record. *See* 10 C.F.R. § 2.714(a)(1)(i-v); *Duke Power Co.* (Catawba Nuclear Station, Units 1 and 2), CLI-83-19, 17 NRC 1041 (1983).

MEMORANDUM AND ORDER

(Ruling on Kerr-McGee's Request for Sanctions and the People's Motion for an Extension of Time)

Last June, Kerr-McGee filed a motion to compel answers to interrogatories from the People of the State of Illinois (People). In LBP-85-38, 22 NRC 604 (1985), issued following a prehearing conference of September 11, we granted the bulk of Kerr-McGee's requests for relief. Despite that ruling, this dispute continues. We now must rule on Kerr-McGee's request for sanctions against the People and the People's motion for an extension of time to June 1 to comply with portions of LBP-85-38.

BACKGROUND

We begin with a discussion of the events following the issuance of LBP-85-38 on September 26. On November 14, 1985, we denied on the merits an untimely motion from the People to stay this proceeding (LBP-85-46, 22 NRC 830). The People's motion sought to delay until this Spring any need to comply with LBP-85-38. In denying the motion,

we provided the People with an additional 3-week period to comply with earlier discovery orders.

In the same order we denied Kerr-McGee's motion for sanctions against the People for failure to comply with our discovery orders. The denial was without prejudice to the motion's resubmission if compliance was not forthcoming.

On December 5, the People filed responses to some of Kerr-McGee's discovery requests, an untimely motion to reconsider LBP-85-38, and a request for an extension of time to January 15, 1986, to supplement their response to Kerr-McGee's Interrogatory 35, document their claims of privilege, and provide the affidavits of the directors of the Illinois Department of Nuclear Safety (IDNS) and Environmental Protection Agency (IEPA). We granted the request for an extension of time on December 10 and denied as untimely the motion to reconsider on December 19.¹ On January 15, the People filed two short affidavits and moved for a further extension of time to June 1 to file the remaining material. The People cited the federal court litigation brought by Kerr-McGee to enjoin the People's action in state court,² preparation for the state court trial, and illness of counsel in support of the motion. Kerr-McGee vigorously opposes this motion. Staff also opposes.

On December 12, Kerr-McGee renewed its motion for sanctions. Kerr-McGee maintains that the interrogatory answers provided by the People on December 5 do little more than restate previous answers and objections. Consequently, Kerr-McGee asserts that the People should be dismissed as a party or, at a minimum, their Contention AG-1 should be dismissed. The People's December 27 response states that "[w]hile the People will not dignify with an extended response the unsupported allegations of which Kerr-McGee's motion entirely consists . . .," they nonetheless oppose it.

In its response to Kerr-McGee's motion, Staff assumes that Kerr-McGee can support its assertions that the People's December 5 responses are for the most part nothing more than a repetition of their original objections and that the People have not indicated which agency files were searched in response to document requests. On the basis of that assumption, Staff concludes that we should issue an order to show cause why Contention AG-1 should not be dismissed.

In reaching that conclusion, Staff has analyzed a number of cases in which sanctions were imposed for failure to comply with discovery

¹ The latter motion, pursuant to 10 C.F.R. § 2.752(c), should have been filed no later than October 7, 1985.

² The state court proceeding seeks an injunction requiring the removal of the thorium mill tailings here in question from the West Chicago site.

orders. Staff's pleading addressed each of the factors to be considered in imposing sanctions, which are identified in the Commission's *Statement of Policy on Conduct of Licensing Proceedings*, CLI-81-8, 13 NRC 452 (1981). We find Staff's analysis to be most helpful, and, with some modification, follow its recommendation.

STATUS OF COMPLIANCE WITH LBP-85-38

The Board is persuaded that the People have not met their obligation with respect to the earlier orders on discovery. A review of LBP-85-38³ and the subsequent responses submitted by the State in an effort to comply, confirms Kerr-McGee's allegation that there are an unacceptable number of interrogatories not properly answered. We note that responses were provided for interrogatories 4, 26, 27, 64(c), 64(j), 64(q), 65(e), and 65(q) in the People's December 5 filing. The Board finds these responses adequate. However, a greater number of interrogatories are either answered unsatisfactorily (52, 105(a), 105(c), 105(d), 106, 107, 114); not answered at all (8, 9(a), 9(b), 9(e), 9(f), 20(c), 20(e), 20(f), 20(g), 20(h), 103(b), 103(c), 103(d), 103(e), 109(b), 109(c), 109(d), 113(a), 113(b), 113(c), 113(d)); or objected to for the reasons initially stated in the People's opposition to Kerr-McGee's motion to compel, or on a basis different than that originally asserted (7, 8, 12, 13, 14, 15, 16, 17, 18, 28, 44, 50, 54, 56, 63, 64(e), 64(f), 64(h), 64(i), 64(k), 64(l), 64(o), 64(p), 65(h), 65(i), 65(j), 65(l), 65(m), 93, 94, 95, 96, 98, 99, 100, 101, 102, 117).

Moreover, the majority of the interrogatories which remain to be answered concern matters which are basic to an understanding of the People's positions on their contentions. For example, interrogatories 7, 8, 9, 12, and 20 enquired after details of the People's position on alternate sites; 93-96 and 99-102 enquired after the People's position on specific matters covered in the FES; and 52, 105-107, and 114 enquired after details of the People's position on compliance of Kerr-McGee's disposal plan with the Uranium Mill Tailings and Radiation Control Act and applicable EPA and NRC regulations.

Kerr-McGee also cited the inadequacy of the People's document production in its motion to compel, but accepted the People's response that all responsive unprivileged documents had been produced. In LBP-85-38, we directed the People to indicate "precisely which files of which

³ The Board found a few errors and typographical errors in our order: On page 32 (22 NRC at 626), 64(g) and 65(g) should read 64(q) and 65(q). Affidavits have been filed by the People in response to these interrogatories.

agencies were searched for each document request and when they were searched.” (22 NRC at 624.) In a letter to the Board of December 5, counsel for the People indicated which individuals were asked to search their files and the approximate time of the searches. The letter does not indicate which of these individuals’ files were searched or whether these individuals’ files are the official agency files as opposed to personal files maintained by agency employees. In this respect it fails to fully comply with our order. We weigh this failure in considering sanctions.⁴

CONSIDERATION OF SANCTIONS

In making a determination whether to impose a sanction, and what that sanction should be, we are guided by NRC regulation 10 C.F.R. § 2.707, the Commission *Statement of Policy*⁵ and NRC cases containing other Boards’ rulings on requests for sanctions. Section 2.707 states

On failure of a party . . . to comply with any discovery order entered by the presiding officer pursuant to § 2.740, the . . . presiding officer may make such orders in regard to the failure as are just[Footnote omitted.]

It empowers a Licensing Board to sanction a party for the kind of infractions Kerr-McGee alleges. The *Statement of Policy* further specifies the Commission’s intent to have licensing boards take an active role in managing discovery so as to ensure efficient conduct of the proceeding. CLI-81-8, *supra*, 13 NRC at 456. The issuance of the *Statement of Policy* put parties to NRC proceedings on notice that they may not disregard their obligations with impunity:

When a participant fails to meet its obligations, a board should consider the imposition of sanctions against the offending party. A spectrum of sanctions from minor to

⁴ A subissue in the document production dispute is the question of which Illinois agencies are to be considered parties who must respond to document requests. This was decided adversely to Kerr-McGee in LBP-85-1, 21 NRC 11 (1985), where we held that, because the People’s petition to intervene was filed at the request of the Illinois Department of Nuclear Safety (IDNS) and on the Attorney General’s motion, the IDNS is the only state agency which is a party. We noted the availability of subpoenas which could be directed to other agencies. Kerr-McGee did not seek reconsideration of that ruling.

Nonetheless, in its motion to compel filed in the *Kress Creek* proceeding, it again raised this issue. It was addressed at the September 11, 1985, prehearing conference (see Tr. 339-57). We indicated that, were we to rule in Kerr-McGee’s favor in *Kress Creek*, we would reverse LBP-85-1 entered in *West Chicago* (see Tr. 339). This issue is now moot so far as *Kress Creek* is concerned. In LBP-85-48, 22 NRC 843 (1985), we dismissed the People’s only contentions admitted in that proceeding. Consequently, document production in *Kress Creek* is unnecessary. Because Kerr-McGee did not file a timely motion for reconsideration of LBP-85-1, we will not reconsider that ruling. We note, however, that the People have produced documents not only from the Attorney General’s office and its client, the Illinois Department of Nuclear Safety, but from the Illinois Environmental Protection Agency and the Illinois Water and Geological surveys.

⁵ CLI-81-8, *supra*.

severe is available to the boards to assist in the management of proceedings. For example, the boards could warn the offending party that such conduct will not be tolerated in the future, refuse to consider a filing by the offending party, deny the right to cross-examine or present evidence, dismiss one or more of the party's contentions, impose appropriate sanctions on counsel for a party, or, in severe cases, dismiss the party from the proceeding.

Id. at 454.

The factors designated in the *Policy Statement* which we must consider in selecting a proper response to the People's unwillingness to discharge their discovery obligations are:

the relative importance of the unmet obligation, its potential for harm to other parties or the orderly conduct of the proceeding, whether its occurrence is an isolated incident or a part of a pattern of behavior, the importance of the safety or environmental concerns raised by the party, and all of the circumstances.

Id.

1. *Relative Importance of the Unmet Obligation and Potential Harm to Other Parties or Orderly Conduct of the Proceeding*

All parties have a responsibility to respond to discovery so that their opponents may gain an understanding of the bases of their contentions in order to properly prepare their own case. This process minimizes the possibility for surprise at hearing, focusses the testimony and cross-examination, and leads to a fully developed record. We heavily weigh this factor; it is crucial to the conduct of a fair proceeding. The People's recalcitrance results in an inadequate understanding of their case that prejudices Kerr-McGee and Staff. See *Commonwealth Edison Co.* (Byron Nuclear Power Station, Units 1 and 2), ALAB-678, 15 NRC 1400, 1417 (1982); *Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), LBP-83-20A, 17 NRC 586, 590 (1983); *Duke Power Co.* (Catawba Nuclear Station, Units 1 and 2), LBP-83-29A, 17 NRC 1121, 1123 (1983); *Northern States Power Co.* (Tyrone Energy Park, Unit 1), LBP-77-37, 5 NRC 1298, 1301 (1977).

The potential harm stemming from the People asserting allegations but not producing answers to questions concerning those allegations is manifest. For example, it impedes Kerr-McGee from fully preparing its case to rebut the People's Contention AG-2 that the company "has not demonstrated that its decommissioning plan will protect public health and safety, will comply with all applicable state law, and will meet the requirements of the Atomic Energy Act ... and regulations thereun-

der. . . .”⁶ Similarly, the People’s failure to respond to certain of Kerr-McGee’s interrogatories related to the People’s Contention AG-1, which alleges that the Staff’s FES is deficient, conceals their position on NEPA issues.⁷

The People argue in their January 15 motion for an extension of time that little harm can result to the parties or the public interest by deferring their obligation to respond. The Staff’s draft supplement to the FES is now scheduled for September 1986. As the People point out, this document may well prompt revised or additional contentions, and, if admitted, discovery on those contentions would be necessary. Thus the People argue that deferring their obligation to respond would not delay the conclusion of this proceeding.

However, a review of the interrogatories in question reveals that the majority of them ask for information which is basic to an understanding of the People’s position in this proceeding. We agree with the proposition put forward by counsel for Kerr-McGee at the September 11 pre-hearing conference (see Tr. 324-28) that, having raised these important issues, the People have an obligation to participate meaningfully in their resolution. Obfuscation of the People’s position on these issues is a substantial impediment to their resolution. The fact that a delay in answering these interrogatories may not delay the timing of the ultimate resolution of this proceeding does not furnish good reason why Kerr-McGee should not be advised of the People’s position now. The People raised the issues; Kerr-McGee is entitled to know where the People stand on them now.

We are guided by *Seabrook*, LBP-83-20A, *supra*, which presents facts similar to those presented here. The Board in *Seabrook* had admitted intervenor HBACC and accepted three of its contentions into the proceeding. Applicants and Staff filed interrogatories a few months thereafter. When answers were not forthcoming within a relatively short period of time,⁸ Applicants and Staff each moved for an order to compel HBACC to answer the interrogatories. Staff requested that as an alternative remedy, the Board dismiss HBACC’s contentions. The Board granted the motion to compel but denied the motion for sanctions. The *Seabrook*

⁶ Interrogatories 50, 52, 54, 56, 103, 105-107, 109, and 113 all relate to AG-2 and were ordered to be answered. The People’s December 5 filing contained objections to interrogatories 50, 54, and 56. No responses have yet been provided for interrogatories 103, 109, and 113.

⁷ Interrogatories 7, 17, 18, 93-96, and 98-100 involve issues relevant to that contention. The People’s Further Responses and Motion for Reconsideration set forth objections to these questions so that they, too, remain unanswered.

⁸ Applicants submitted their first set of interrogatories on December 8, 1982, and moved for an order to compel answers on January 14, 1983. Staff filed its interrogatories November 10, 1982, and moved for an order to compel answers or alternatively to dismiss HBACC’s three contentions February 4, 1983.

Board clearly stated that failure to comply with the order compelling answers would result in the dismissal of the contentions. 17 NRC at 588. Thus, the intervenor in *Seabrook* was notified in advance that sanctions would ensue for noncompliance. In response HBACC filed a pleading admitting its lack of expertise in NRC proceedings and its intention to participate in the hearing only through cross-examination of Applicants' and Staff's experts. Applicants responded with a motion to dismiss HBACC's contentions and the intervenor group as a party for failure to meet discovery obligations.⁹

The *Seabrook* Board's analysis in support of its decision to dismiss from the proceeding HBACC and its contentions emphasized the established rule that an intervenor may not simply submit an acceptable contention and do nothing further to pursue its case or to enlighten the other parties about its position on various issues. The Board found that an intervenor must reveal the evidence in support of its contentions, to the extent not privileged or otherwise protected. Although the Commission's *Policy Statement* is oriented toward imposing sanctions in response to tactics causing delay in a proceeding, here delay seems to have been a secondary consideration in comparison to the significance attached to the need to provide other parties with the factual information undergirding contentions. The *Seabrook* Board, as well as the *Catawba* Board in a subsequent Memorandum and Order ruling on a motion for sanctions¹⁰ both found justification for imposing sanctions in the failure of the accused party to meet its discovery obligations thereby making it virtually impossible for the opposing parties to prepare for hearing on those contentions.

The *Policy Statement* also expresses the Commission's concern that Boards not allow parties to disrupt the orderly conduct of the proceeding by tactics leading to delay or by other means calculated to distract the Board from the issues set for litigation. To promote the efficient progress of this proceeding and after careful consideration, we ruled in LBP-85-38 that the People had not met their discovery obligations. Rather than complying with LBP-85-38, the People have submitted various motions and responses which have the effect of continuing to conceal their position. Such conduct disrupts this proceeding.

The Board has a responsibility to require all parties to comply with our orders. If we were to allow one party to selectively ignore NRC regula-

⁹ HBACC did provide a response to the interrogatories but Applicants argued at the prehearing conference that "they had 'received no discovery whatsoever as to the nature of the evidence that [HBACC] intends to offer in support of its contentions, nor of the points of fact or law that [HBACC] intends to urge in support thereof" 17 NRC at 588.

¹⁰ LBP-83-29A, *supra*.

tions or our rulings, this proceeding would be reduced to an exercise of chaotic mismanagement.

2. *Pattern vs. Isolated Incident*

The motion for sanctions against the People is but a recent event in the history of this dispute. As recited in the Background, this is not the first time we must address these disagreements. In the Summer months of 1985, the parties found themselves unable to resolve the dispute without Board guidance. Kerr-McGee and the People each submitted motions to compel the other to respond to certain of their propounded questions.¹¹ We carefully evaluated these pleadings and convened a prehearing conference on September 11 to provide the parties with an opportunity to articulate their positions. We ruled from the bench in order to avoid delay and to provide the greatest time for the parties to cure the deficiencies in those interrogatory answers where each motion to compel had been granted, and explained our decision in LBP-85-38 issued 2 weeks later. However, instead of filing the responses we ordered or a timely motion for reconsideration, the People filed an untimely motion to stay the proceeding. Although we were urged to deny this motion as untimely, we considered it on the merits and, in denying it, provided the People an additional 3 weeks to comply with our discovery order. We also denied without prejudice a Motion for Sanctions filed by Kerr-McGee. We admonished the People to discharge their discovery obligations, and warned that otherwise we would consider imposing sanctions.¹²

The People's latest submission includes a letter indicating which files were searched and when the search was conducted, a motion to reconsider our September 26 Order and further answers to Kerr-McGee's second set of interrogatories. The motion to reconsider was denied because it presented an extreme case of untimeliness without any attempt to show good cause. Additionally, the requests for guidance contained in the motion for reconsideration are, in many cases, challenges to our rulings or expressions of disagreement with our decisions. Interposing further objections to interrogatories already ruled answerable is not proper at this point in the process. When we ruled initially, we did so after

¹¹ Kerr-McGee's Motion to Compel Answers to Interrogatories and Production of Documents, June 21, 1985; People's Motion to Compel Certain Discovery Responses, June 28, 1985. Motion by Kerr-McGee Chemical Corporation to Compel Production of Documents and Answers to Interrogatories by the State of Illinois, July 3, 1985. See also People's Answer to Motion to Compel, August 8, 1985; Kerr-McGee Chemical Corporation's Response to State's Motion to Compel Certain Discovery Responses, August 8, 1985.

¹² LBP-85-46, *supra*.

giving careful consideration to each matter brought to our attention by the parties. It is no longer permissible to voice objections as the People have done in their motion for reconsideration and in the further answers recently filed. The Appeal Board stated in *Byron*, ALAB-678, *supra*, 15 NRC at 1414, that when a Board grants a motion to compel, the party to whom it is directed has no option but to answer the interrogatories or file for a protective order. Doing neither is not an alternative course of action.

Despite its tardiness, we reviewed the People's motion for reconsideration along with the further answers to interrogatories. In this review, we critically evaluated our rulings on the arguments advanced by the People and Kerr-McGee with respect to the motion to compel. That review leaves us convinced that our rulings in LBP-85-38 were not only correct, but clear and unambiguous. The People's motion and further objections seek out areas where the basis for a ruling was not articulated or an argument not specifically addressed. Our rulings consume thirty printed pages in the NRC Issuances. We did not spell out each and every ruling in detail. To do so would needlessly state the obvious. The People's charge that we have not addressed their arguments or adequately explained our rulings is unfounded, and, we fear, designed to divert attention from the principal issues presented. Plainly, the People have utilized their filings following the issuance of LBP-85-38 to continue to conceal their positions on the basic issues raised by their intervention. Their most recent motion for an extension of time to June 1 to file further answers is but another example of this effort. Equally plainly, the interrogatories in question could have been adequately answered with less effort than has been expended in avoiding the answers.

The foregoing makes clear that the People's behavior constitutes a pattern within the meaning of the Commission's *Policy Statement*. The distinction between a single instance of noncompliance, or even a few instances of varying factual circumstances and the continued resistance to Board orders, as seen here, is precisely that which the Commission intended Boards to consider when determining whether a pattern exists sufficient to support the imposition of a sanction.

3. Importance of the Safety or Environmental Issues Raised by the Party

The safety and environmental issues raised by the People are of great importance to the citizens of West Chicago and may be of substantial precedential importance for future disposal plans elsewhere. We must determine whether the disposal plan proposed by Kerr-McGee for the

mill tailings produced at its West Chicago facility adequately protects the health of the residents in the surrounding suburban area and accounts for the possible detriment to the environment. The NRC Staff evaluated some of these concerns in the draft and final environmental impact statements (FES).¹³ The People successfully challenged the Staff's conclusion in the FES approving storage of the mill tailings in an engineered cell at the West Chicago site for a period of at least 5 years on the basis that it amounted to an illegal segmentation of a proposed federal action.¹⁴ Among the issues which Staff is to consider is permanent disposal of the mill tailings on site as proposed by Kerr-McGee and at alternative sites.¹⁵ These are important issues to the local citizens, the resolution of which may have implications for future disposal plans elsewhere.

However, after raising these basic and important issues and causing their thorough evaluation in a supplement to the FES, the People now conceal their position. Such conduct invites the inference that the People have nothing of importance to add. Thus this factor must be weighed against the People.

4. Consideration of All the Circumstances

In sum, we find that the People's unmet obligation is of great weight and potential harm to the other parties and the orderly conduct of the proceeding, and is part of a pattern of conduct. While the issues raised by the People are of great importance, the People's recalcitrance leads to the inference that they do not have anything of importance to contribute to the resolution of these issues. Thus, on balance, we conclude that sanctions are appropriate.

SANCTION

Kerr-McGee has urged that the People be dismissed as a party or, alternatively, that their Contention AG-1 be dismissed. Staff concurs that Contention AG-1 should be dismissed.

We decline to dismiss the People from this proceeding. We agree with Staff that that sanction is too severe in the circumstances presented

¹³ See NUREG-0904, "Environmental Statement Related to the Decommissioning of the Rare Earths Facility, West Chicago, Illinois," May 1982 and May 1983.

¹⁴ LBP-84-42, 20 NRC 1296, 1331 (1984).

¹⁵ *Id.*

here.¹⁶ However, we will dismiss Contention AG-1. In taking this action, we recognize that Contention AG-1 presents many issues which will be addressed in the Staff's supplement to the FES. To this extent it is fair to say that the People have already prevailed on Contention AG-1 and that its dismissal may not be an effective sanction.

Nonetheless this sanction has teeth. The People have pointed out that the draft supplement to the FES may well prompt new or revised contentions. These contentions will be admitted only if they qualify under the late-filing criteria set out at 10 C.F.R. § 2.714(a)(1)(i-v). *Duke Power Co.* (Catawba Nuclear Station, Units 1 and 2), CLI-83-19, 17 NRC 1041 (1983).

The third factor set out in § 2.714(a)(1) requires a ruling on the extent to which the participation of the petitioner sponsoring the late-filed contention may reasonably be expected to assist in developing a sound record. Our evaluation of this criterion must necessarily take into account the People's participation in the proceeding thus far. While we recognize that the People may be able to provide substantial technical expertise and offer qualified expert witnesses to support their position, considerations which ordinarily would facilitate a favorable finding on this factor, our discretion is not limited to this consideration alone. *Virginia Electric and Power Co.* (North Anna Power Station, Units 1 and 2), ALAB-342, 4 NRC 98, 107 (1976). The People's record of noncompliance as it presently stands might well overcome the favorable implications of their ability to provide technical expertise and perhaps result in this factor weighing heavily against them. Conversely, if the People cure the default occasioning the sanction, they would enhance their case for admitting new or revised contentions. So long as their default continues, the value of their further participation is subject to question.

THE JANUARY 15 MOTION FOR AN EXTENSION OF TIME

Our decision to impose a sanction for the People's failure to respond to discovery as ordered in LBP-85-38 moots the People's motion for an extension of time. Many of the arguments made by the People in support of that motion have been addressed in our ruling on sanctions. Nonetheless, we wish to note the People's assertion in that motion that the infor-

¹⁶ Staff also recommended that we issue an order to show cause why Contention AG-1 should not be dismissed, pointing out that we followed that course in *Kress Creek*. We do not believe that course is necessary here. In *Kress Creek* we acted *sua sponte*, no motion for sanctions having been filed. In contrast, here such a motion has been filed and answered. We see no benefit to yet another round of filings on this issue.

mation gained from Kerr-McGee's witnesses during depositions taken over the last several months may necessitate that they revise or supplement their contentions. We agree with Staff that the People have an obligation to do this promptly. (See Staff's Response of February 4, 1986, at 6.) To further delay the submission of new or revised contentions based on information presently at hand would greatly diminish the probability that such contentions would be accepted, particularly in light of the sanction entered herein.

ORDER

In consideration of the foregoing, it is, this 10th day of February 1986, ORDERED:

1. Kerr-McGee's motion for sanctions is granted insofar as it seeks dismissal of Contention AG-1;
2. Contention AG-1 is dismissed; and
3. The People's January 15, 1986, motion for an extension of time is denied as moot.

THE ATOMIC SAFETY AND LICENSING BOARD

**Dr. James H. Carpenter
ADMINISTRATIVE JUDGE**

**Dr. Peter A. Morris
ADMINISTRATIVE JUDGE**

**John H Frye, III
ADMINISTRATIVE JUDGE**

**Bethesda, Maryland
February 10, 1986**

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

**Charles Bechhoefer, Chairman
Dr. James C. Lamb
Frederick J. Shon**

In the Matter of

**Docket Nos. STN 50-498-OL
STN 50-499-OL
(ASLBP No. 79-421-07-OL)**

**HOUSTON LIGHTING AND
POWER COMPANY, *et al.*
(South Texas Project,
Units 1 and 2)**

February 14, 1986

The Licensing Board grants an intervenor's motion to withdraw one of its contentions. Since the contention involved a previously unresolved generic safety issue, the Board examined the Staff's resolution of that issue and determined that such resolution represented a plausible method for dealing with the issue.

**LICENSING BOARD: CONSIDERATION OF GENERIC
SAFETY ISSUES**

A licensing board in an operating license proceeding must examine unresolved generic safety issues, even when they become uncontested, to determine whether the Staff's resolution of the issue is "plausible."

TECHNICAL ISSUE DISCUSSED

Overpressurization.

MEMORANDUM AND ORDER (Permitting Withdrawal of CCANP Contention 3)

On January 17, 1986, CCANP, the intervenor in this operating license proceeding, filed a motion to withdraw its Contention 3. That contention concerned overpressurization of Westinghouse reactors (such as those used at the South Texas Project). The Applicants support the withdrawal motion and the Staff offers no objection.

When the contention was originally accepted in 1979, overpressurization of Westinghouse reactors represented an unresolved generic safety issue. At the same time, we pointed to a new report on this subject (NUREG-0224, "Final Report on Reactor Vessel Pressure Transient Protection for Pressurized Water Reactors," September 1978), to which no party or petitioner had drawn our attention, which purported to resolve the generic issue. LBP-79-10, 9 NRC 439, 449-51 (1979). In their response to the withdrawal motion, the Applicants advise that, as stated in NUREG-0224, Task Action Plan (TAP) A-26 was designed to develop acceptance criteria for overpressurization protection systems for low-temperature events, and was completed by the Staff's adoption of Branch Technical Position (BTP) RSB 5-2, "Overpressurization Protection of Pressurized Water Reactors While Operating at Low Temperatures." In NRC's "Unresolved Safety Issues Summary" (NUREG-0606, August 16, 1985, at 8), the overpressurization issue (A-26) is included among the generic issues for which technical resolution is complete. The Applicants further advise that BTP RSB 5-2 has been incorporated into the NRC Standard Review Plan (NUREG-0800, Rev. 0 (July 1981), at 5.2.2-7) and that STP is committed to comply with BTP RSB 5-2.

We have examined BTP RSB 5-2, as incorporated into the Standard Review Plan; and, while not exploring its substance in any detail, we find that it represents a "plausible" method for resolving the overpressurization problem. See *Virginia Electric and Power Co.* (North Anna Power Station, Units 1 and 2), ALAB-491, 8 NRC 245, 248-49 n.7 (1978); *Louisiana Power and Light Co.* (Waterford Steam Electric Station, Unit 3), ALAB-732, 17 NRC 1076, 1110-13 (1983); *Pennsylvania Power and Light Co.* (Susquehanna Steam Electric Station, Units 1 and 2), LBP-79-6, 9 NRC 291, 311 (1979). Since the Applicants have com-

mitted to follow that methodology, we find no basis for further exploration of whether additional limitations on operation of STP to account for overpressurization should be imposed. We accordingly *grant* CCANP's motion to withdraw Contention 3 and *dismiss* that contention.

IT IS SO ORDERED.

FOR THE ATOMIC SAFETY AND
LICENSING BOARD

Charles Bechhoefer, Chairman
ADMINISTRATIVE JUDGE

Dated at Bethesda, Maryland,
this 14th day of February 1986.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

Robert M. Lazo, Chairman
Oscar H. Paris
Frederick J. Shon

In the Matter of

Docket Nos. 50-295-OLA
50-304-OLA
(ASLBP No. 84-500-06-LA)

COMMONWEALTH EDISON COMPANY
(Zion Station, Units 1 and 2)

February 19, 1986

The Licensing Board denies petitioner's petition to intervene and dismisses the proceeding.

**MEMORANDUM AND ORDER DISMISSING
PROCEEDING**

The Board has reviewed its docket in this proceeding and notes that on November 13, 1985, Samuel J. Chilk, Secretary of the Commission, informed Dr. Zinovy V. Reytblatt that the Commission had declined any review of Director's Decision DD-85-10, 22 NRC 143 (1985), in which the Director of the Office of Nuclear Reactor Regulation denied Dr. Reytblatt's petition pursuant to 10 C.F.R. § 2.206 concerning containment leak rate tests performed for all light-water reactors.

There being no other matter outstanding it is now appropriate to terminate this proceeding.

BACKGROUND

On January 12, 1984, the NRC published in the *Federal Register* (49 Fed. Reg. 1584) a Notice of Consideration of Issuance of Amendments to the Operating Licenses for the Zion Station, Units 1 and 2, and an Opportunity for Prior Hearing. The proposed amendments would revise the provisions in the Zion Technical Specifications regarding the acceptance criteria for containment leakage tests. On February 13, 1984, a timely petition to intervene and request for hearing was filed by Citizens Against Nuclear Power (CANP). The petition asserted that "substantial numbers" of CANP members live within ten miles of the Zion facility and that the health and safety of CANP members would be directly threatened by the proposed amendments increasing the allowable containment leak rate, and specified three specific aspects of the subject matter of the proceeding as to which CANP proposed to intervene.

By letter dated February 28, 1984, from Dennis Farrar, Director of Nuclear Licensing for Commonwealth Edison Company (Licensee) to Harold Denton, Director of NRC's Office of Nuclear Reactor Regulation, the Licensee formally requested permission to withdraw its application for the license amendments at issue in this proceeding.

In its March 5, 1984 response to the CANP petition the NRC Staff made note of Licensee's February 28th letter and suggested that the Licensing Board hold CANP's request for a hearing in abeyance pending Staff action on Licensee's request to withdraw its application for license amendments. Thereafter, Counsel for the NRC Staff informed the Board by letter dated April 27, 1984, that the Director of the NRC's Division of Licensing had on April 18, 1984, granted Licensee's request to withdraw its amendment application and accordingly, CANP's petition should be denied.

On June 5, 1984, CANP submitted to the Commission a Petition for Emergency Relief (Petition). The Petition contended that the Licensee's document "Zion Unit 1 Reactor Containment Building Integrated Leak Rate Test Report," dated April 24, 1981, revealed that repeated efforts were made to obtain a satisfactory verification test to validate the performance and reliability of the basic test performed on March 12, 1981, at Zion Nuclear Power Station Unit 1. The Affidavit of Dr. Zinovy V. Reytblatt, attached to the Petition, contended that these repeated efforts to obtain a satisfactory verification test demonstrated that the basic test had been deficient. Consequently, it was alleged that the American National Standards Institute ANSI N45.4-1972 specified in Appendix J to 10 C.F.R. Part 50 was not met and, accordingly, Zion Nuclear Power Station Unit 1 was not in compliance with the Commission's regulations

regarding containment leak rate testing. Based on the above allegation, the Petition requested the following relief: (1) that the NRC act immediately to remove the threat posed by this situation; (2) that the NRC immediately order Licensee to perform a scientifically valid Containment Integrated Leak Rate Test on Zion Power Station Unit 1; (3) that the NRC supervise and review this test, and certify both that this test is scientifically valid and performed in accordance with ANSI N45.4-1972; (4) that a copy of all documents containing actual test data, test logs, calculations, graphs, etc., collected by Licensee or the NRC in the course of this test or its review, be provided on a timely basis to the Petitioner; and (5) that if (1) through (4) are not or cannot be accomplished, that Zion Nuclear Power Station Unit 1 operating license be suspended.

As a result of the Petition, the NRC Region III Office investigated the various allegations contained in the Petition. The regional inspectors performed a special inspection of the 1981 and 1983 Containment Integrated Leak Rate Tests (CILRT) performed for the Zion Nuclear Power Station Unit 1.

The inspection identified discrepancies in the above-mentioned CILRTs and, on July 19, 1984, the Region III Office notified Licensee that Zion Nuclear Power Station Unit 1 was not in compliance with Appendix J to 10 C.F.R. Part 50 and the Zion Nuclear Power Station Unit 1 Technical Specifications. A copy of the Region's notification was sent to CANP as an enclosure to the Director's letter dated July 30, 1984, acknowledging receipt of the Petition. The Inspection Reports documenting the Region III Office's inspection findings (50-295/84-11 and 50-305/84-11) were also sent to CANP, along with twenty-seven other documents in NRC's possession relevant to the CILRTs performed at Zion Nuclear Power Station Unit 1, by letter dated September 27, 1984.

Upon notification by the Region III Office, Licensee voluntarily shut down Zion Nuclear Power Station Unit 1 and performed a valid CILRT, portions of which were witnessed by Region III inspectors. The results of that inspection are also contained in Inspection Reports 50-295/84-11 and 50-304/84-11.

The CILRT showed Zion Nuclear Power Station Unit 1 containment integrity. Consequently, Zion Nuclear Power Station Unit 1 containment has been demonstrated to be in compliance with Commission regulations in 10 C.F.R. Part 50, Appendix J.

The Director's Decision under 10 C.F.R. § 2.206 (DD-85-2, 21 NRC 270) was issued on January 23, 1985. CANP's Petition was granted in part and denied in part.

To the extent that the Petition sought immediate NRC action to remove any threat posed by unacceptable CILRTs at Zion Nuclear Power Station Unit 1, such actions were taken and the relief requested by the Petition was granted. To the extent that the Petition sought NRC review of the CILRT conducted at Zion Unit 1 and copies of all documents in the possession of the NRC regarding that CILRT, those portions of the Petition were also granted.

The remainder of the Petition was denied. It was not necessary for the NRC to issue an order in this matter, because Licensee agreed to take remedial measures similar to those requested upon notification that the plant did not comply with Appendix J.

The Director's Decision (DD-85-2) became the final agency action on March 29, 1985, when the time provided for Commission review expired.

Meanwhile, by letters dated March 6 and March 8, 1985 (Petition), Dr. Reytblatt requested an immediate postponement of containment leak rate tests for all light-water reactors and debugging and revalidation of certain computer software used in determining leak rates. The Petition further alleged that the Zion Unit 1 containment leak rate test performed in July 1984 was in error and, therefore, the Petitioner concluded that the Zion Unit 1 leak rates were in excess of regulatory limits.

The Director's Decision Under 10 C.F.R. § 2.206 (DD-85-10) was issued on July 3, 1985. CANP's Petition was denied and the Director's Decision became the final agency action on November 8, 1985, when the time provided for Commission review expired.

ORDER

For the foregoing reasons and in consideration of the entire record in this matter, it is, this 19th day of February 1986,

ORDERED:

1. The Petition to Intervene filed by Citizens Against Nuclear Power is *denied*, and
2. This operating license amendment proceeding is *dismissed*.

FOR THE ATOMIC SAFETY AND
LICENSING BOARD

Robert M. Lazo, Chairman
ADMINISTRATIVE JUDGE

Dated at Bethesda, Maryland,
this 19th day of February 1986.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

OFFICE OF INSPECTION AND ENFORCEMENT

James M. Taylor, Director

In the Matter of

Docket No. 50-483
(10 C.F.R. § 2.206)

UNION ELECTRIC COMPANY
(Callaway Plant, Unit 1)

February 10, 1986

The Director of the Office of Inspection and Enforcement denies a petition filed by Alan S. Nemes on behalf of the Missouri Coalition for the Environment and Kay Drey. The petition requested action with respect to the Callaway Plant Unit 1, based upon issues concerning the certification and qualification of quality assurance inspectors to conduct inspections at the Callaway facility.

ATOMIC ENERGY ACT: SAFETY FINDINGS

The granting of an NRC operating license does not hinge upon a demonstration of error-free construction. Rather, what is required is simply a finding of reasonable assurance that, as built, the facility can and will be operated without endangering the public health and safety.

RULES OF PRACTICE: SECTION 2.206 PETITIONS

Section 2.206(a) requires petitioners to set forth the facts that constitute the basis for their request.

TECHNICAL ISSUE DISCUSSED: QUALIFICATION OF INSPECTION PERSONNEL

The requirements of Regulatory Guides 1.8 and 1.58 for qualification of inspection personnel are discussed.

RULES OF PRACTICE: SHOW-CAUSE PROCEEDING

Not every violation compels the suspension or revocation of an operating license. Such action could be appropriate if there has been a pervasive breakdown of quality assurance.

TECHNICAL ISSUE DISCUSSED: QUALITY ASSURANCE PROGRAM

Acceptability of the licensee's quality assurance program under 10 C.F.R. Part 50, Appendix B, is discussed.

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

INTRODUCTION

On March 27, 1985, Alan S. Nemes, Esq., on behalf of the Missouri Coalition for the Environment and Kay Drey ("Petitioners") filed a Petition with the Directors of the Office of Nuclear Reactor Regulation and the Office of Inspection and Enforcement requesting that an order be issued to the Union Electric Company (Licensee) to show cause why License No. NPF-30, issued on October 18, 1984, authorizing full-power operation for the Callaway Plant Unit 1, should not be suspended or revoked pending a full investigation of the "violations of law" described in the Petition, and why other actions requested in the Petition should not be taken.¹ The issues raised in the Petition concern the certification

¹ In addition to undertaking a full investigation of the issues raised in the Petition, the Petitioners request that the Nuclear Regulatory Commission:

- (a) undertake an independent investigation of all quality assurance and quality control personnel during construction and operation of the Callaway Plant to determine whether such personnel have met and continue to meet the prescribed qualifications for their level of responsibility;
- (b) conduct an audit of all testing and inspections undertaken by unqualified quality control personnel;
- (c) independently inspect all work inspected or reviewed by unqualified personnel; and
- (d) implement other actions and remedies deemed appropriate.

and use of unqualified personnel to conduct quality assurance inspections at the Callaway Plant, which the Petitioners contend cast doubt on the adequacy of the inspection process and the actual safety of the plant. In addition, Petitioners contend that the Licensee's failure to identify these problems, which had existed for at least 4 years, demonstrates that the Licensee violated its "legal obligation to monitor safety inspections continually at the plant and to provide inspectors with direct access to levels of management sufficient to assure prompt reaction to safety violations." Three newspaper articles² concerning the Licensee's investigation ("prompted by internal complaints") into the qualifications of quality control inspectors, review of completed work orders, and communication problems within the quality control department provide the factual basis for the Petition.

On May 10, 1985, I acknowledged receipt of the Petition and indicated to the Petitioners that, as provided by 10 C.F.R. § 2.206 of the Commission's regulations, appropriate action would be taken within a reasonable time. In accordance with my request, the Licensee responded to the Petition in a submittal dated June 6, 1985. The Petitioners responded to the Licensee's submittal on July 5, 1985, and at that time renewed their request for the NRC to suspend the operating license for the Callaway Plant pending an investigation of the matters raised in the Petition. The Licensee filed a supplemental response on August 2, 1985. I have now completed my evaluation of the Petition, as supplemented, and the Licensee's responses. For the reasons set forth in the discussion below, the Petitioners' request for action is denied.

DISCUSSION

The Petitioners allege that during both the construction and operational phases of the Callaway Plant, the Licensee permitted an "undetermined number" of quality control inspectors to conduct inspections and testing for which they were unqualified by Nuclear Regulatory Commission (NRC) requirements, Union Electric Company's policy, and industry standards. The Petitioners note that the Licensee admitted to the improper certification of some of these inspectors, and subsequently decertified these inspectors. According to the Petitioners, the disqualification of these inspectors casts doubt upon the validity of "at least 12,000" work inspections conducted throughout the plant. Furthermore,

² *UE Targets Unqualified Plant Inspectors*, Columbia Daily Tribune, Mar. 7, 1985, at 1; *Yearlong Workers' Rift Revealed in UE Safety Assurance Problems*, Columbia Daily Tribune, Mar. 8, 1985, at 1; *UE Identifies Unqualified Inspectors*, St. Louis Post Dispatch, Mar. 26, 1985.

the Petitioners allege that although quality inspectors repeatedly registered complaints to supervisors about unqualified inspectors, the Licensee failed to identify the lack of qualification of quality control personnel over an extended period of time. Furthermore, according to the Petitioners, quality control management instituted procedures to discourage access to higher levels of management. Petitioners charge that these actions by the Licensee constitute a failure to comply with those aspects of 10 C.F.R. Part 50, Appendix B, concerning:

- (1) the proper training of quality assurance personnel;
- (2) verification that the quality assurance program is functioning effectively in accordance with Nuclear Regulatory Commission regulations;
- (3) organizational freedom to identify quality assurance problems and to initiate and implement solutions; and
- (4) access by QA personnel to levels of management necessary to effectively provide quality assurance at the Callaway Plant.

The information relied on by the Petitioners involved an operations quality assurance program problem which the Licensee was investigating. The Petitioners, however, raise the possibility that similar problems with respect to inspector certification may have possibly occurred during construction of the Callaway Plant.

In considering this allegation, it is important to recognize that the construction and preoperational testing quality assurance program was a different program from that which is now being implemented for facility operation. The construction quality assurance program developed by the Licensee was based on the Standardized Nuclear Unit Power Plant System (SNUPPS) quality assurance program. The program was implemented by the prime construction contractor, Daniel International Corporation ("Constructor"), using the Constructor's personnel with oversight and audit by the Licensee. The Constructor used the ASME Code-required quality assurance manual and interfacing procedures, documents that were approved by the Licensee. The preoperational testing program was managed and implemented by Licensee personnel under the controls of its construction quality assurance program. In contrast, the operations quality assurance program was developed and is being implemented by the Licensee.³ Given these differences between quality assurance program development and implementation during construction and operation of the Callaway Plant, there is no reason to

³ The operations quality assurance program has been applied to systems since 1983 as they were turned over to Union Electric Nuclear Operations.

assume that quality assurance deficiencies such as the inspector qualification problem discovered under the operations quality assurance program occurred when the construction and preoperational testing quality assurance program was being implemented. In all events, the construction and preoperational testing quality assurance program at Callaway was inspected a number of times by the Nuclear Regulatory Commission, and at no time during these inspections did it appear that the program was being implemented other than in a satisfactory manner. *See, e.g.*, Inspection Report 50-483/82-03 (Region III special construction team assessment inspection report) dated June 15, 1982, at 5, ¶ A (“the overall QA program at the Callaway Plant is functioning in a satisfactory manner”).

The issue of quality assurance was fully litigated in the operating license proceeding, resulting in the determination that there was no general breakdown in quality assurance and that there was reasonable assurance the Callaway Plant could be operated safely. *See* LBP-82-109, 16 NRC 1826 (1982), *aff'd*, ALAB-740, 18 NRC 343 (1983). As the Appeal Board noted, in evaluating contentions similar to those raised by the Petitioners, the granting of an NRC operating license does not hinge upon a demonstration of error-free construction, nor do the Atomic Energy Act of 1954, as amended, and the Commission’s regulations mandate such a result. Rather, what is required is simply a finding of reasonable assurance that, as built, the facility can and will be operated without endangering the public health and safety. *See* ALAB-740, *supra*, 18 NRC at 346. That standard was met at Callaway.

Section 2.206(a) of 10 C.F.R. requires Petitioners to set forth the facts that constitute the basis for their request. The Petition provides no facts that support the assertion that there could have been an inspector qualification problem during construction of the Callaway Plant. Absent such facts, and in view of the finding that the construction quality assurance program at Callaway was found to have functioned in a satisfactory manner, there is no basis to take the action requested by Petitioners with regard to the construction of the Callaway Plant.

The Petitioners’ allegations concerning operations quality assurance focus on the discovery at Callaway of the questionable certification of quality assurance inspection personnel in early 1985, as described in the newspaper articles attached to the Petition. Using this information as a factual basis for their Petition, Petitioners assert that the Licensee violated not only regulations and their Final Safety Analysis Report commitments regarding inspector qualifications, but possibly regulations⁴ pertaining to:

⁴ 10 C.F.R. Part 50, Appendices A and B.

- (1) ensuring conformance of materials and systems to specifications;
- (2) ensuring accurate inspection of materials and systems;
- (3) identifying and correcting defective material and equipment;
- (4) documenting tests and inspections;
- (5) providing sufficient organizational freedom of persons and organizations performing quality assurance functions or providing direct access of such personnel to levels of management as may be necessary to identify quality problems, initiate, recommend, or provide solutions, and to verify implementation of solutions;
- (6) verifying the proper functioning of the quality assurance program by auditing;
- (7) assuring testing of structures, systems, and components important to safety to quality standards commensurate with the importance of the safety function to be performed; and
- (8) establishing a quality assurance program to provide adequate assurance that structures, systems, and components important to safety will satisfactorily perform their safety functions.

These arguments seek to bring the adequacy of the Licensee's entire operations quality assurance program into question.

The Commission was aware of inspector certification problems at Callaway prior to submission of the Petition. During the periods January 20 through March 9, 1985, and March 10 through May 27, 1985, the Nuclear Regulatory Commission's resident inspector at Callaway conducted routine unannounced safety inspections, including followup on an allegation he received on February 5, 1985, concerning the Licensee's failure to follow procedures for certification of Level III quality control inspectors. The inspector's inquiries into the allegation included examination of the problem covered in the newspaper articles and the Licensee's investigation of the problem and its corrective action, and are documented in Inspection Reports 50-483/85002 (DRP) dated April 1, 1985, and 50-483/85012 (DRP) dated October 3, 1985. As will be discussed *infra*, these inspection reports document two violations of 10 C.F.R. Part 50, Appendix B requirements related to inspector certification which have been corrected by the Licensee. It is necessary, however, to address the Petitioners' major concerns to determine whether, taken individually or as a whole, they constitute a pervasive breakdown in the Licensee's operations quality assurance program which would warrant granting the relief requested by the Petitioners.

Improper Certification of Quality Assurance Personnel

The Petitioners state that NRC regulations and the Licensee's "policy" mandated that quality control personnel be "certified as meeting specific training, educational and technical standards in order to insure [sic] competent and accurate safety inspections and testing." They further argue that the Licensee has permitted some number of quality control inspectors, including several individuals in supervisory capacities, during both construction and operation of the Callaway Plant, to conduct inspections and testing for which they were not qualified by Nuclear Regulatory Commission requirements, Licensee policy, and industry standards.

For operation of the Callaway Plant, the Licensee is committed⁵ to Regulatory Guide 1.58, Rev. 1 (September 1980) for Licensee quality control personnel or contracted quality control personnel performing inspection, examination, and testing activities at the plant. For other personnel performing inspection, examination, and testing activities, the Licensee is committed⁶ to Regulatory Guide 1.8, Proposed Rev. 2 (February 1979). The following exceptions to these regulatory guides were taken by the Licensee, reviewed by the Staff, and found to be acceptable:

- (1) Where quality control personnel do not meet the education and experience recommendations of ANSI N45.2.6-1978 as endorsed by Regulatory Guide 1.58, Rev. 1, the Licensee will demonstrate by documented results of written examination and evaluation of actual work proficiency that such personnel have comparable competence.⁷
- (2) Personnel responsible for directing or supervising safety-related preoperational and startup tests and for review and approval of safety-related preoperational and startup test procedures or results will meet Regulatory Guide 1.8, Proposed Rev. 2, and ANSI/ANS-3.1-1978 but will not be certified.⁸

The Staff position in Regulatory Guide 1.58, Rev. 1, states that an acceptable way of complying with Commission requirements with regard to the qualification of inspection, examination, and testing personnel is by implementing, with some additional provisions, the requirements of ANSI N45.2.6-1978 and American Society for Nondestructive Testing

⁵ SNUPPS-C Final Safety Analysis Report at 3A-18.

⁶ *Id.* at 3A-1.

⁷ *Id.* at 3A-18.

⁸ *Id.* at 3A-1. It should be noted that neither Regulatory Guide 1.8, Proposed Rev. 2, nor ANSI/ANS-3.1-1978 require certification of inspection, examination, and testing personnel or their supervisors.

Recommended Practice No. SNT-TC-1A (1975), the latter applying to nondestructive testing inspectors. One additional provision of Regulatory Guide 1.58, Rev. 1, which is pertinent to this discussion relates to the education and experience recommendations of ANSI N45.2.6-1978. Position C.6 of the guide indicates, in part, that a commitment to follow Regulatory Guide 1.58, Rev. 1, indicates that the recommendations provided in § 3.5 of ANSI N45.2.6-1978 will be followed unless acceptable alternatives are provided to the Commission. Consequently, the Licensee's commitment, including its exception to Regulatory Guide 1.58, Rev. 1, described above, would permit deviation from the education and experience recommendations of ANSI N45.2.6-1978. Such deviations would be expected to be adequately documented per the Licensee's commitment.⁹ It should be noted that ANSI N45.2.6 contains no requirement for qualification and certification of individuals who only supervise inspection, examination, and testing. (An exception to this is that qualification of personnel involved in directing or supervising safety-related preoperational and startup tests and reviewing and approving safety-related preoperational and startup procedures or results should be in accordance with Regulatory Guide 1.8.¹⁰) Neither Regulatory Guide 1.8 nor the national standard it endorses, however, contain formal certification requirements for these individuals. From the foregoing discussion, it is clear that not all quality control personnel must be certified.

The Licensee's review identified twenty-two inspectors with questionable certifications. Only seven of these inspectors were employed by the Licensee at the time of the review and were initially decertified. The seven inspectors were found to have questionable "broad" certifications, but they were qualified and capable of performing the inspection activities assigned. These individuals were qualified and could have been recertified as Level II inspectors in "specific" areas based on their experience and education. The Licensee recertified one Level II civil inspector for limited inspection, but chose to maintain broad-scope certifications for other inspection areas. As such, it was unable to recertify the other six inspectors.¹¹

A Licensee evaluation team examined all activities which involved inspections performed by individuals with questionable certifications and determined that the inspections performed were within the capabilities of the inspectors. The team concluded that the inspections performed by

⁹ SNUPPS-C Final Safety Analysis Report at 3A-18.

¹⁰ See Position C.1 of Regulatory Guide 1.58, Rev. 1 (September 1980).

¹¹ See Inspection Report 50-483/85012 (DRP), dated October 3, 1985, § 5, at 15.

the questionably certified individuals presented no significant impact on plant components, system function, or quality.¹²

Based on the Nuclear Regulatory Commission inspector's inquiries and his review and oversight of the Licensee's evaluation, it appears that there is reasonable assurance that prior maintenance and inspection activities were adequately performed.¹³

As documented in Inspection Report 50-483/85012 (DRP), two violations were identified involving certification of quality control inspectors at Callaway. One violation involved the Licensee's failure to adhere to the requirement of a quality control procedure in that the plant manager's signature was obtained on the letters of certification for three assistant quality control supervisors rather than the signature of the certified Level III inspector as prescribed in the procedure. This violation was identified and corrected by the Licensee. In accordance with the Nuclear Regulatory Commission's policy to encourage licensee initiative in self-identification and correction of problems and since this violation met all the criteria of 10 C.F.R. Part 2, Appendix C, a citation was not issued for this failure to comply with a procedural requirement. The second violation concerned the failure of the Licensee's quality control program and procedures for operations to provide adequate quantitative or qualitative acceptance criteria relative to the qualification and certification of quality control inspectors, which resulted in certification of some inspectors in areas where their qualifications were questionable. NRC Region III issued a Severity Level IV Notice of Violation for the Licensee's violation of the 10 C.F.R. Part 50, Appendix B, Criterion V requirement that procedures have appropriate quantitative or qualitative acceptance criteria. The Licensee's corrective action with regard to these violations included (a) developing qualitative and quantitative acceptance criteria and revising applicable procedures appropriately; (b) identifying all past and present operations inspectors, reevaluating their qualifications to the newly developed acceptance criteria, and identifying those inspectors having questionable qualifications, i.e., those inspectors whose qualifications did not measure up to the new acceptance criteria; (c) reviewing all operations inspection and maintenance work orders to identify those involving questionably qualified inspectors; (d) evaluating the inspection activities performed by questionably qualified inspectors to determine the safety significance of those inspections and to verify that the work performed was within the capability of the inspectors, and reinspecting, by audit, several of the more complex inspections; and (e) revoking or

¹² *Id.* at 16.

¹³ *Id.* at 18.

limiting the certification of inspectors not qualified according to the new criteria.¹⁴

The violations in themselves do not represent a pervasive breakdown of the quality assurance program such that enforcement action beyond a Notice of Violation is appropriate. Not every violation compels the suspension or revocation of an operating license. Such action could be appropriate if there has been a pervasive breakdown of quality assurance. See ALAB-740, *supra*, 18 NRC at 346. See also *Washington Public Power Supply System* (WPPSS Nuclear Project No. 2), DD-84-7, 19 NRC 899, 905-06 (1984); *Wisconsin Electric Power Co.* (Point Beach Nuclear Plant, Units 1 and 2), DD-83-13, 18 NRC 721, 722 (1983). However, in this instance, the violations were identified by the Licensee and were given prompt high-level attention. Timely and adequate action has been taken to correct the violation and to prevent recurrence. No further action is appropriate.

Breakdown of the Quality Assurance Audit Program

The Petitioners state that 10 C.F.R. Part 50, Appendix B, requires the Licensee to carry out a comprehensive system of planned, periodic audits to verify compliance with all aspects of the quality assurance program and to determine the effectiveness of the program on an ongoing basis. They argue that the Licensee's failure for at least 4 years to identify the inspector qualification problem reflects deficiencies in the verification and auditing programs and a violation of the legal responsibility to verify proper functioning of the quality assurance program.

Part 50, Appendix B, requires licensees to institute a comprehensive system of planned and periodic audits and to regularly review the status and adequacy of the quality assurance program. The Licensee is committed¹⁵ to Regulatory Guide 1.33, Rev. 2 (February 1978) which endorses with additional provisions ANSI N18.7-1976/ANS-3.2. Section 4.5 of ANSI N18.7-1976 requires that an audit of all safety-related functions be completed within 2-year intervals¹⁶ and that, as a minimum, audits are to verify compliance with and effective implementation of procedures, regulations, license provisions, programs for training, retraining, qualification and performance of operating staffs, as well as other areas. Fur-

¹⁴ Inspection Report 50-483/85012 (DRP), dated October 3, 1985.

¹⁵ SNUPPS-C Final Safety Analysis Report at 3A-6.

¹⁶ Section 6 of plant Technical Specifications also requires auditing of activities required by the operations quality assurance program in order to meet 10 C.F.R. Part 50, Appendix B requirements at least once per 24 months. ANSI N18.7-1976 requires auditing of some program areas at an increased frequency, none of which are pertinent to this discussion.

ther, the Licensee is committed¹⁷ to Regulatory Guide 1.144, Rev. 1 (September 1980), which endorses ANSI/ASME N45.2.12-1977. ANSI/ASME N45.2.12-1977 specifies in part¹⁸ that the objectives of the audit program include determining that a quality assurance program has been developed in accordance with specified requirements and verifying by examination and evaluation that the quality assurance program has been implemented.

Section 17.2.18 of the SNUPPS-C Final Safety Analysis Report states that the Licensee's audit system includes the performance of audits and surveillances (surveillances other than those required by plant technical specifications) by the Quality Assurance Department. It permits performance of surveillances by other than Quality Assurance Department personnel and requires no unique personnel qualifications and certification except that individuals performing surveillances be familiar with the area being surveyed and the applicable implementing procedures on surveillances. Auditors, however, are qualified in accordance with Regulatory Guide 1.146 (August 1980).¹⁹ Further, the Final Safety Analysis Report indicates that through investigation, the audit program will determine the adequacy of and adherence to established procedures, instructions, and licensing requirements and effectiveness of implementation.

The Licensee's commitments²⁰ to Regulatory Guides 1.33, 1.144, and 1.146 and its description of its audit program to meet the requirements of Criterion XVIII of 10 C.F.R. Part 50, Appendix B, were reviewed by the Nuclear Regulatory Commission Staff and found to be acceptable prior to the issuance of the operating license.

The Licensee began implementing the quality control portions of the operations quality assurance program in 1981, and full implementation of the program began on January 1, 1984, 162 days prior to fuel loading. In the Nuclear Regulatory Commission Staff's view, full implementation of the program marked the beginning of the 2-year audit interval within which all safety-related functions must be audited. During the Nuclear Regulatory Commission's inquiries into the allegation received from a Licensee employee on procedures not followed in the certification of Level III quality control inspectors, however, past and current quality assurance audits and surveillances relating to inspector qualifications and certifications were reviewed to evaluate previously identified deficiencies and to assess the Licensee's corrective action. These inquiries

¹⁷ See SNUPPS-C Final Safety Analysis Report at 3A-29.

¹⁸ See ANSI/ASME N45.2.12-1977, §§ 3.2.1 and 3.2.2.

¹⁹ See SNUPPS-C Final Safety Analysis Report at 3A-32.

²⁰ *Id.* at 3A-6, 3A-29, and 3A-32.

revealed that the Licensee was evaluating its compliance with and effectiveness in meeting requirements relating to inspector qualifications and certifications during the 1981 to 1985 time frame.²¹

The results of the Nuclear Regulatory Commission's inquiries into this matter show that the problem with inspector certifications was identified, investigated, and corrected by the Licensee while executing the licensed commitments on quality assurance program audits within the prescribed time frame. There is no evidence provided by the Petitioners or otherwise discovered that indicates that the Licensee's programmatic audits are not adequate.

Adequate Freedom

The Petitioners allege that despite numerous complaints to supervisors by quality control inspectors concerning inadequate training of quality control personnel, Licensee management did not act upon these complaints for an extended period of time and undertook an audit only after a disgruntled inspector took the matter directly to the Quality Assurance Department. The Petitioners claim that this is contrary to Criterion I of 10 C.F.R. Part 50, Appendix B, which requires that persons and organizations performing quality assurance functions have sufficient authority and organizational freedom to identify quality problems, to initiate,

²¹ The following Licensee audit and surveillance reports were reviewed during the inspector's inquiries in this matter:

- (a) *Quality Assurance Audit Report No. OQA-0009 (April-May 1981)* — identified an item relative to the absence of quality control certification letters and training records in the quality assurance record files. This audit did not identify any procedural deficiencies relative to inspector qualification and certification. Review of the Quality Assurance Department's followup of the response to this audit finding on records indicated that acceptable action had been taken.
- (b) *Quality Assurance Surveillance Report No. 8201-02 (January 1982)* — included a review of the quality control training program and the certification of quality control inspectors. The surveillance identified some certification records deficiencies, but did not identify any procedural deficiencies. Review of the corrective action taken by the Licensee revealed that although the records deficiencies were corrected, the cause of the deficiencies was not addressed. (Note that Criterion XVIII of 10 C.F.R. Part 50, Appendix B, requires determination and correction of the cause of significant conditions adverse to quality to prevent recurrence.)
- (c) *Quality Assurance Audit Report No. A8309-4 (September 1983)* — included an evaluation of the ANSI N45.2.6 capability level of inspectors in the Test Program Surveillance Group which provided quality control inspections during preoperational testing. The audit determined that the inspectors' qualifications were acceptable.
- (d) *Quality Assurance Audit Report No. AD5A8407D (August 1984)* — included an evaluation of the qualifications of quality control's nondestructive examination inspectors and identified no discrepancies.
- (e) *Quality Assurance Surveillance Reports, Nos. 850209A and 850209B (February and March 1985)* — encompassed a complete review of the qualifications and certification of all past and present operations quality control inspectors, prompted by an allegation received by the Quality Assurance Department from a Licensee employee that procedures were not followed in the certification of Level III quality control inspectors. The Licensee's corrective action is described *supra*.

recommend, or provide solutions, and to verify implementation of solutions.

The Licensee has committed²² to providing sufficient organizational freedom to ensure proper identification and resolution of safety problems. The Nuclear Regulatory Commission's review of the Licensee's commitment, organizational structure, and reporting arrangements found no conditions which might prevent or hinder freedom of Licensee employees to identify quality assurance problems and to initiate and implement solutions.

During the followup inquiries on the allegation, the inspector held interviews with Licensee inspectors and quality assurance personnel regarding the issues raised by the Petitioners. These inquiries revealed the following:

- (1) Licensee inaction for an extended period of time on numerous complaints by quality control inspectors concerning inadequate training could not be substantiated. The inspector found that all Licensee inspectors interviewed indicated that they had received adequate-to-very-good training.²³
- (2) Complaints to quality control management about improper certification of inspectors could not be substantiated. However, it was substantiated that concerns were raised to the Quality Assurance Department regarding certification of assistant quality control supervisors in late January 1985 which did prompt an investigation of those concerns. Licensee corrective action included decertification of improperly certified personnel.

No violations of Criterion I of 10 C.F.R. Part 50, Appendix B, were found in this area.

Access to Management

The Petitioners allege that a memorandum issued by the quality control supervisor in March 1984 discourages access to higher levels of management and reveals that the Licensee does not provide sufficient organizational freedom or direct access to ensure proper identification and solution of safety problems. The Petitioners claim that this is also contrary to Criterion I of 10 C.F.R. Part 50, Appendix B, which requires that irrespective of organizational structure, the individuals assigned the responsibility for assuring effective execution of any portion of the quali-

²² SNUPPS-C Final Safety Analysis Report, § 17.2.1, at 17.2-3.

²³ Inspection Report 50-483/85012 (DRP) dated October 3, 1985, at 6.

ty assurance program shall have direct access to levels of management as may be necessary to perform this function.

The Licensee has committed²⁴ to providing sufficient organizational freedom to ensure proper identification and resolution of safety problems. The Nuclear Regulatory Commission has reviewed the Licensee's commitment, organizational structure, and reporting arrangements and found no conditions which might prevent or hinder direct access to such levels of management as may be necessary to perform the function of assuring effective execution of any portion of the quality assurance program.

During followup inquiries on the allegation, the inspector held interviews with Licensee inspectors regarding this issue. It was not substantiated that the quality control supervisor's March 4, 1984 memorandum on effective communication was viewed by inspectors as a method to discourage access to higher levels of management. The inspectors interviewed expressed support of the memorandum's subject and related discussions, and did not view the memorandum as a discouragement to contact upper management, the Quality Assurance Department, or the Nuclear Regulatory Commission.²⁵

CONCLUSION

In sum, upon examination of the arguments raised by the Petitioners, I find that although there were some quality assurance program deficiencies, these deficiencies did not amount to a pervasive breakdown in the operations quality assurance program. Deficiencies in a single area of a licensee's quality assurance program do not necessarily indicate a pervasive breakdown of the entire program. See ALAB-740, *supra*, 18 NRC at 346. While the Commission expects licensees to pay meticulous attention to detail and achieve a high standard of compliance with NRC requirements, errors may occur in either facility construction or operation. Isolated deficiencies in a licensee's program, however, do not necessarily undermine the program to such an extent as to give rise to a significant safety concern necessitating escalated enforcement action. See *Philadelphia Electric Co.* (Limerick Generating Station, Units 1 and 2), DD-85-11, 22 NRC 149, 161 & nn. 7 & 8 (1985). Furthermore, the Petitioners provide no facts that support the assertion that the adequacy of

²⁴ SNUPPS-C Final Safety Analysis Report, § 17.2.1, at 17.2-3.

²⁵ See Inspection Report 50-483/85012 (DRP) dated October 3, 1985, at 6.

the Licensee's entire operations quality assurance program is questionable, nor does the information developed independently by the NRC inspection program support such an assertion. Absent such facts, there is no basis to take the action requested by the Petitioners.

For the reasons discussed above, none of the issues identified by the Petitioners in their filing or in their additional views warrant the initiation of show-cause proceedings. Additional inspection and investigatory effort beyond that described in this Decision is not warranted. Accordingly, Petitioners' request for action pursuant to § 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 for the Commission's review.

James M. Taylor, Director
Office of Inspection and
Enforcement

Dated at Bethesda, Maryland,
this 10th day of February 1986.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

COMMISSIONERS:

Nunzio J. Palladino, Chairman
Thomas M. Roberts
James K. Asselstine
Frederick M. Bernthal
Lando W. Zech, Jr.

In the Matter of

Docket No. 50-445

**TEXAS UTILITIES ELECTRIC
COMPANY, et al.**
**(Comanche Peak Steam Electric
Station, Unit 1)**

March 13, 1986

The Commission denies a motion requesting that Texas Utilities Electric Company, which neglected to request a timely renewal of its Unit 1 construction permit prior to expiration of the permit, be required to apply for a new construction permit. The Commission agrees with the NRC Staff's finding that the construction permit amendment granting extension of the construction completion date involves no significant hazards considerations, and it therefore refuses to stay an extension of that construction permit granted by the NRC Staff, to halt further construction, or to grant a "preextension" hearing. The Commission refers the request for a hearing on the construction permit extension to the Atomic Safety and Licensing Board Panel for appointment of a hearing board, and it refers the request for enforcement action against the Licensee for construction activities after expiration of the construction permit, to the NRC Staff for appropriate action.

CONSTRUCTION PERMIT: EXPIRATION OF COMPLETION DATE; FORFEITURE OF PERMIT

Failure to make a timely application for an extension prior to the expiration date of a construction permit does not have the effect of causing a complete forfeiture of the permit such as to preclude issuance of an extension and to require an entirely new construction permit proceeding.

CONSTRUCTION PERMIT: EXTENSION OF COMPLETION DATE (APPLICATION)

The filing of a timely request for an extension under 10 C.F.R. § 2.109 keeps a construction permit in force.

CONSTRUCTION PERMIT: AMENDMENTS (SIGNIFICANT HAZARDS CONSIDERATION)

An amendment extending a construction permit does not necessarily involve a significant hazards consideration, especially when the amendment does not involve substantive changes in construction design or methods, but merely gives a licensee more time to complete construction.

CONSTRUCTION PERMIT: AMENDMENTS (SIGNIFICANT HAZARDS CONSIDERATION)

The Commission has delegated the responsibility for making significant hazards consideration findings to the discretion of the NRC Staff. *See, e.g.*, 48 Fed. Reg. 14,864, 14,867 (April 6, 1983).

ATOMIC ENERGY ACT: CONSTRUCTION PERMIT AMENDMENT (IMMEDIATE EFFECTIVENESS)

Section 189(a)(1) of the Atomic Energy Act allows the Commission to issue a construction permit amendment on an immediately effective basis, without offering a prior hearing, upon a finding that the amendment involves no significant hazards considerations. 42 U.S.C. § 2239(a)(1) (1985 Supp.).

CONSTRUCTION PERMIT: EXTENSION OF COMPLETION DATE (SCOPE OF PROCEEDING)

The scope of the postextension hearing is limited to challenges to the licensee's effort to show "good cause" for its extension.

CONSTRUCTION PERMIT: EXPIRATION OF COMPLETION DATE

After expiration of its construction permit, a licensee is not free to continue construction until told to stop. 10 C.F.R. §§ 2.109, 50.10.

MEMORANDUM AND ORDER

I. BACKGROUND

This case arises from a regrettable and wholly avoidable omission by the Texas Utilities Electric Company (TUEC), which in 1974 received a construction permit (CPPR-126) for the Comanche Peak Steam Electric Station (CPSES) Unit 1 facility, to be built near Glen Rose, Texas. As extended, that construction permit was due to expire on August 1, 1985.

Under 10 C.F.R. § 2.109 of the Commission's regulations, the filing of a timely request for an extension keeps a construction permit in force. TUEC failed to make such a request. The omission was detected by the NRC on January 28, 1986, during a routine document review. This represents the first time in the history of the civilian nuclear power program that the holder of a construction permit allowed its permit to expire without making a timely request for an extension. The result has been the needless expenditure of time and resources by the Commission. We note with approval, therefore, that the NRC Staff has advised us, in its filing of February 13, 1986, that it is considering whether to take enforcement action against TUEC for conducting construction activities at Comanche Peak Unit 1 after the expiration date of its construction permit.

On January 29, 1986, TUEC applied to the NRC Staff for an extension of CPPR-126. TUEC advised the Staff that while physical construction of the plant was essentially complete, some onsite work remained to be completed, including an effort to reinspect portions of the plant and to identify and replace any defective or nonconforming materials or systems, and that it had ceased most construction activities at Unit 1 pend-

ing NRC action on its application.¹ On January 31, 1986, the Citizens Association for Sound Energy (CASE), an intervenor in the Comanche Peak operating license proceeding, filed a pleading with the Commission itself seeking (1) the imposition of a civil penalty against TUEC for construction activities at CPSES Unit 1 between August 1 and January 29, (2) a definitive order directing TUEC to file an application for a new construction permit and to cease all construction activities at CPSES Unit 1, (3) a determination that significant hazards considerations existed in any extension of the construction permit, and (4) a hearing before the Atomic Safety and Licensing Board Panel (ASLBP) on the request to extend the construction permit. TUEC responded to CASE's pleading on February 4, 1986, asking that the Commission reject CASE's argument that a new construction permit was required, refer the remainder of the first three items in CASE's pleading to the NRC Staff for appropriate action, and deny the request for a hearing.

While this matter was still pending before the Commission, the Staff issued a NEPA finding of no significant environmental impact relating to the extension of CPPR-126 and published this finding in the *Federal Register*. See 51 Fed. Reg. 4834 (Feb. 7, 1986). Subsequently, on February 10, 1986, the Staff issued the requested extension of CPPR-126 after making a finding that the extension involved no significant hazards considerations. CASE has responded with a request that the Commission stay the effectiveness of the construction permit extension while granting the relief previously requested in CASE's January 31st pleading. The Staff and TUEC have responded in opposition to that request, and CASE has moved to file a reply memorandum, which we have accepted and considered.

After due consideration, we: (1) deny both CASE's request for a halt to construction and its request for the institution of a new construction permit proceeding; (2) deny CASE's request for a stay of Staff's extension of CPPR-126; (3) reject CASE's view that significant hazards considerations are involved in the extension of CPPR-126; (4) refer CASE's request for enforcement action to the Staff for consideration under 10 C.F.R. § 2.206; and (5) refer CASE's request for a hearing to the Chairman of the Atomic Safety and Licensing Board Panel for appointment of a hearing board to rule on the hearing request and to con-

¹ TUEC continued activities that were related to (1) maintenance of systems already in operation, (2) design activities, (3) ongoing inspection and planning activities that responded to NRC Staff criticisms, exclusive of actual physical corrective action, and (4) corrective maintenance of systems that were undergoing repairs at the time of discovery, if TUEC judged such activities necessary to preserve the integrity of the installed system.

duct any necessary hearings in accordance with Subpart G of 10 C.F.R. Part 2.

II. RENEWAL OF THE CONSTRUCTION PERMIT

The first legal issue before the Commission for decision is whether TUEC's failure to make a timely application for an extension prior to the expiration date of its construction permit had the effect of causing a complete forfeiture of the permit, such as to preclude the issuance of an extension and to require the initiation of an entirely new construction permit proceeding. To answer this question, which we resolve in the negative, we begin by looking at the statute.

Section 185 of the Atomic Energy Act (AEA) provides in pertinent part:

The construction permit shall state the earliest and latest dates for the completion of the construction or modification. Unless the construction or modification of the facility is completed by the completion date, the construction permit shall expire, and all rights thereunder be forfeited, unless upon good cause shown, the Commission extends the completion date.

The legislative history of the Atomic Energy Act does not explicitly state the purpose underlying this provision. It is noteworthy, however, that the quoted language was modeled on the provision of the Communications Act of 1934 which governs the issuance of radio station construction permits by the Federal Communications Commission.² At the time that the Atomic Energy Act of 1954 was passed, all nuclear fuel was owned by the United States government, and it was envisioned that recipients of construction permits would, once their facilities were completed, receive some of that publicly owned fuel for use in the reactor.³ Thus in 1954, there were significant analogies between the issuance of construction permits for radio stations and nuclear reactors: both involved the allocation of a scarce resource in the sole possession of the federal government. In both cases, moreover, it could be presumed that if a permittee failed to make use of its allocation, some other applicant would be in a position to use it.

The regulations promulgated by the Atomic Energy Commission for the implementation of the Atomic Energy Act demonstrate the signifi-

² See *Proposed Amendments to the Atomic Energy Act of 1946: Hearings on S. 3323 and H.R. 8862 Before the Joint Comm. on Atomic Energy*, 83d Cong., 2d Sess. 116 (1954) (Representative Hinshaw), reprinted in *II Legislative History of the Atomic Energy Act of 1954*, at 1635, 1751-56.

³ Section 52 of the Atomic Energy Act, which provided for sole Commission ownership of all special nuclear material, was repealed in 1964. Pub. L. 88-489 § 4, 78 Stat. 602 (1964).

cance that attached to allocations of nuclear fuel. Under 10 C.F.R. § 50.60, "Allocation of Special Nuclear Material," the Commission was authorized to include in each construction permit a statement of the amounts and scheduling of transfers of special nuclear material from the Commission to the permittee. 21 Fed. Reg. 355 (Jan. 19, 1956). Significantly, 10 C.F.R. § 50.55(a), which now provides simply that "[t]he permit shall state the earliest and latest dates for completion of the construction or modification," then included a second sentence: "If the construction or modification is completed before the earliest date specified, the holder of the permit shall promptly notify the Commission for the purpose of accelerating final inspection *and any scheduled delivery of materials from the Commission.*" (Emphasis added.) Likewise, the regulations foresaw the possibility of competition for scarce nuclear fuel, and therefore provided, in 10 C.F.R. § 70.23(f), that "[i]n the event that applications for special nuclear material exceed the amount available for distribution, the Commission will give preference to those activities which are most likely, in the opinion of the Commission, to contribute to basic research, to the development of peacetime uses of atomic energy, . . . to the economic and military strength of the Nation . . . [or] to major advances in the application of atomic energy for industrial or commercial purposes." 21 Fed. Reg. 764 (Feb. 3, 1956).

Taken as a whole, these regulatory provisions indicate that at the time the Atomic Energy Act was passed, the allocation of scarce fuel was of major concern to the agency charged with implementation of the Atomic Energy Act. Ten years later, the development of the nuclear power and uranium mining industries made government ownership and allocation of nuclear materials no longer a necessity, and § 52 of the Atomic Energy Act was repealed. See *Private Ownership of Special Nuclear Materials, 1964: Hearings Before the Subcomm. on Legislation of the Joint Comm. on Atomic Energy, 88th Cong., 2d Sess. (1964)*. It thus appears that though the requirement that construction permits include termination dates remained in the statute, the policy reasons underlying that requirement had ceased to exist.

As we have said earlier, TUEC's failure to file a timely renewal request is unique in the Commission's experience. There is thus no case law which interprets § 185 of the Atomic Energy Act as it applies to this situation. There is, however, case law interpreting the parallel provision of the Communications Act of 1934 which holds that the expiration of the original construction permit did not preclude the Commission from renewing that permit. The decision is all the more significant in that it

involved — as present conditions before the NRC do not — expiration of a permit in a context of competition for a scarce federally owned resource.

In *Mass Communicators, Inc. v. FCC*, 266 F.2d 681 (D.C. Cir. 1959), *cert. denied*, 361 U.S. 828 (1959), the D.C. Circuit reviewed an FCC decision involving an untimely application for the renewal of a construction permit under § 319(b) of the Communications Act of 1934, 47 U.S.C. § 319(b), which is almost identical to § 185 of the AEA, 42 U.S.C. § 2235. Section 319(b) of the Communications Act required that the permit for construction of a radio station specify the earliest and latest construction deadlines and that “said permit will be automatically forfeited if the station is not ready for operation within the time specified or within such further time as the Commission may allow, unless prevented by causes not under control of the [holder of the permit].” 266 F.2d at 683. One such holder of a radio station construction permit failed to file a timely application for extension. *Mass Communicators*, a rival enterprise, filed a challenge to the FCC’s extension of the permit, alleging that the FCC had to begin new proceedings in which it would have an opportunity to compete for the license.

The FCC refused to require automatic forfeiture of the construction permit, even though the extension application was untimely under regulations which, like the NRC’s current regulations, provided for continuation of the permit pending a final determination if a filing was made 30 days prior to expiration of the permit. *See Bremer Broadcasting Corp.*, 3 Fed. Reg. (P&F) 1579 (1947). *Compare* 10 C.F.R. § 2.109 (1985) with FCC Rule 3.215(b), 10 Fed. Reg. 2006 (1945) [now 47 C.F.R. § 75.3534 (1984)]. The D.C. Circuit found that the automatic forfeiture provision in the statute did not leave the FCC powerless to extend the permit, even though the application for extension was untimely filed. 266 F.2d at 684. With respect to *Mass Communicators*’ claim that the radio frequency had become available to other applicants, the court found that “the frequencies are not ‘available’ . . . until there occurs an actual forfeiture, either by abandonment of the permit by the original permittee or by adverse — and valid — administrative action by the Federal Communications Commission.” 266 F.2d at 685.

In essence, *Mass Communicators* stands for the principle that the automatic forfeiture provision of § 319(b) does not apply until FCC either (1) makes a finding that the cause of the failure to complete construction was “not under the control of the grantee” or (2) affirmatively chooses not to exercise its discretion to extend the construction permit, regardless of the timeliness of the renewal application. In sum, even after expiration of the permit, the FCC had to act affirmatively in order to complete the forfeiture. *See, e.g., MG-TV Broadcasting Co. v. FCC*, 408 F.2d

1257, 1261 (D.C. Cir. 1968) (“[I]t is well settled that a construction permit does not ‘lapse,’ notwithstanding a failure to abide by its own terms, until the Commission declares it forfeited”) (citations omitted) (footnote omitted).

Section 185 of the AEA, like § 319(b), provides that the construction permit for a nuclear facility shall include the earliest and latest dates for the completion of a facility and that unless construction of the facility is completed by the latest date shown on the permit, “the construction permit shall expire, and all rights thereunder shall be forfeited, unless upon good cause shown, the Commission extends the completion date.” 42 U.S.C. § 2235. We read § 185 of the AEA to be similar enough to § 319(a) of the Communications Act to apply *Mass Communicators* to this case. First, the requirement of both earliest and latest construction dates is identical. Second, the forfeiture provisions are essentially identical. Third, neither statute by its terms limits either administrative agency to accepting only applications that are timely filed. *E.g.*, *Mass Communicators*, 266 F.2d at 684-85. Therefore, we hold today that the expiration of the construction permit did not automatically effect the forfeiture of CPPR-126, and that the Commission was not then barred from considering TUEC’s application for extension of the latest construction date. As a result, a complete *de novo* construction permit proceeding is not warranted.⁴

III. CASE’S JANUARY 31st PLEADING

We now turn to the issues raised by CASE in its January 31st pleading. First, CASE requests that the Commission assess a civil penalty for unauthorized construction between August 1, 1985, when the latest completion date in the construction permit passed, and February 10, 1986, when the Staff renewed CPPR-126. This request is best handled by the Staff under § 2.206 after final agency action on TUEC’s extension request.⁵

Second, CASE seeks a definitive order directing the initiation of a new construction permit proceeding and the cessation of all construction at CPSES Unit 1. We deny the request for a new construction permit

⁴ This holding in no way absolves the permittee in this case, TUEC, from its burden of showing “good cause” as the statute and NRC regulations require. We will not prejudge the merits of TUEC’s case.

⁵ Although the D.C. Circuit has held that the license does not “lapse” until the Commission takes some affirmative action to complete the forfeiture, we do not read this to mean that TUEC was free to continue construction after August 1, 1985, until told to stop. Such an interpretation would render meaningless the requirements that construction permits be obtained and extensions applied for. 10 C.F.R. §§ 2.109, 50.10.

proceeding for the reasons discussed in § II, above. We deny the request for an order to halt construction for the reasons discussed in § IV in connection with CASE's stay request.⁶

Third, we dismiss CASE's request for a finding that extension of the construction permit necessarily involves significant hazards considerations. The Commission has delegated the responsibility for making this finding to the discretion of the Staff. *See, e.g.*, 48 Fed. Reg. 14,864, 14,867 (April 6, 1983). We have reviewed and agree with the Staff's finding in the circumstances of this proceeding. The term "no significant hazards consideration" is directed to consideration of radioactive hazards that are involved in the amendment extending the construction permit. Here, the grant of the extension results in no substantive change: the design and construction methods will be the same as provided in the original Comanche Peak construction permit. The amendment granting the extension merely gives TUEC more time to complete construction in accordance with the previously approved construction permit, and thus it involves no significant hazards consideration. The safety issues that CASE seeks to raise in its attack on the Staff's finding that the amendment extending the construction permit involves no significant hazards consideration are more appropriately raised in the ongoing operating license proceeding.⁷

Finally, CASE correctly notes that it is entitled to a hearing on the construction permit extension. *Brooks v. AEC*, 476 F.2d 924 (D.C. Cir. 1973) (*per curiam*). Therefore, we refer CASE's request for a hearing to the Chairman of the ASLBP for designation of a hearing board and further proceedings in accordance with 10 C.F.R. Part 2, Subpart G. However, the scope of the proceeding is limited to challenges to TUEC's effort to show "good cause" for the extension. *Washington Public Power Supply System* (WPPSS Nuclear Project Nos. 1 and 2), CLI-82-29, 16 NRC 1221, 1229 (1982).

IV. CASE'S STAY REQUEST

We turn now to CASE's application for a stay of the immediate effectiveness of the Staff's extension of CPPR-126. Our regulations require

⁶ CASE's pleadings ask for a construction halt as a necessary legal consequence to TUEC's untimely extension request and Staff's allegedly illegal issuance of the extension. Thus, this Memorandum and Order addresses this request only from that perspective. If CASE has substantive safety reasons for a construction halt, it should submit those reasons in a § 2.206 petition addressed to the Staff. This Memorandum and Order does not prejudice the submission of any petition based upon safety considerations.

⁷ Indeed, we read the record before the Licensing Board to indicate that many, if not all, of the allegations CASE seeks to litigate in this proceeding are in fact included in that proceeding.

that CASE meet the traditional stay requirements set forth in *Virginia Petroleum Jobbers Ass'n v. FPC*, 259 F.2d 921, 925 (D.C. Cir. 1958) and *Washington Metropolitan Area Transit Commission v. Holiday Tours, Inc.*, 559 F.2d 841 (D.C. Cir. 1977). Those four standards are (1) likelihood of success on the merits, (2) irreparable injury to the moving party if the stay is not granted, (3) any harm to other parties, and (4) the public interest. See 10 C.F.R. § 2.788(e) (1985).

Significantly, CASE does not allege that the resumption of construction activities at CPSES Unit 1, in and of itself, would constitute irreparable harm to CASE or anyone else. Instead CASE argues that the irreparable harm results from the NRC's failure to grant CASE a preextension hearing on TUEC's request. We disagree. CASE has made no showing that failure to grant it a preextension hearing will cause it any harm which cannot (and will not) be remedied in a postextension hearing or that by such a decision the Commission is depriving CASE of a "due process" right. The Supreme Court has consistently held that unless "fundamental rights" are involved, a prompt posthearing on an administrative action complies with requirements of "due process." See, e.g., *Barry v. Barchi*, 443 U.S. 55 (1979); *Mathews v. Eldridge*, 424 U.S. 319 (1976). We find no such "fundamental right" in the circumstances of this proceeding.

We agree that CASE has an interest in the safe construction of CPSES. However, in this instance, immediate effectiveness of the construction permit extension has no effect on CASE's interest in safe construction because (1) the plant is essentially complete, and TUEC proceeds with the remainder of construction work entirely at its own risk, (2) what little new construction work remains can be halted at any time if evidence warranting that action becomes available to the NRC, and (3) CASE is assured of a prompt postextension hearing to the extent that its request raises proper issues for consideration.

Brooks v. AEC, *supra*, supports the proposition that allowing construction to proceed does not violate any fundamental due process rights. In *Brooks*, the Commission extended a construction permit without making a "no significant hazards considerations" finding. The reviewing court held that this action was contrary to § 189a of the AEA. However, the *Brooks* Court allowed construction to continue, concluding that "[t]he continuing validity of the construction permit is made subject to the outcome of a hearing on this issue." 476 F.2d at 928. If continued construction pending a hearing may be allowed in the absence of a formal finding of no significant hazards considerations, *a fortiori* continued construction should be allowed when the Staff has made a finding of no significant

hazards considerations. Furthermore, here, as in *Brooks*, continued construction is subject to the outcome of the extension proceeding.

CASE argues that it has a statutory entitlement to a preextension hearing under *Sholly v. NRC*, 651 F.2d 780 (D.C. Cir.), *reh'g en banc denied*, 651 F.2d 792 (1980), *cert. granted*, 451 U.S. 1016 (1981), *vacated and remanded*, 459 U.S. 1194, *vacated and remanded to the NRC as moot*, 706 F.2d 1229 (D.C. Cir. 1983), and *San Luis Obispo Mothers for Peace v. NRC*, 751 F.2d 1287 (D.C. Cir. 1984), *vacated in part and reh'g granted in part*, 760 F.2d 1320 (D.C. Cir. 1985). We disagree. We read § 189a(1) to allow the Commission to amend a construction permit prior to the completion of any requested hearing, if we find the amendment involves no significant hazards considerations.⁸

In sum, CASE has neither a fundamental "due process" right nor a statutory entitlement to a preextension hearing. Moreover, CASE has failed to show that a postextension hearing will not cure any harm it may suffer. Thus, CASE has failed to show any irreparable harm, the key factor in any stay analysis. *See, e.g., Wisconsin Gas Co. v. FERC*, 758 F.2d 669, 674 (D.C. Cir. 1985).

Furthermore, CASE has failed to show the probability of success on the merits. We have rejected CASE's arguments that a new construction permit proceeding or a preextension hearing is required. Moreover, CASE's pleadings to this point have failed to demonstrate a high probability of success in challenging TUEC's claim of good cause for the extension. Under *WPPSS, supra*, CASE's substantive safety concerns about continued construction are inadmissible in a construction permit extension hearing.⁹ As we noted earlier, these concerns are more appropriately raised either in the operating license proceeding or in a § 2.206 petition for enforcement action by the NRC Staff against TUEC.

Finally, CASE does not demonstrate that the other two factors weigh in its favor. A cessation of construction at CPSES Unit 1 may cause significant harm both to TUEC in the form of delay and a possible loss of its trained construction force and to the construction workers at the plant themselves in the form of lost wages and lost jobs. We see no

⁸ The *San Luis Obispo* case dealt with a situation in which the NRC refused to grant any hearing to the petitioners. In *Sholly*, the question before the court was whether the NRC, presented with a request that it hold a hearing prior to issuing a particular amendment to an operating license, could issue that amendment and make it immediately effective upon a finding that it involved no significant hazards consideration. (The amendment in question had the effect of permitting irreversible releases of radioactivity into the environment.) *Sholly* was vacated as moot after § 189 was amended to include an explicit authorization for the NRC to continue issuing such amendments on an immediately effective basis.

⁹ Except insofar as we direct the Licensing Board to follow *WPPSS, supra*, on the scope of the construction permit extension proceeding, our decision today is without prejudice to the Licensing Board's ruling on the admissibility or the merits of any contentions CASE may present to it.

benefit accruing to CASE from a stay and a preextension hearing which would counterbalance this harm to TUEC and its construction workers which a postextension hearing avoids. Likewise, any public interest in a preextension hearing does not outweigh the public's interest in continued construction efforts on CPSES Unit 1 while that hearing is progressing. If the NRC ultimately finds "good cause" for the extension of the construction permit, TUEC will have been needlessly delayed in its efforts to complete the plant.

In sum, the four factors required for a stay of the Staff's action do not justify that action. Therefore, we decline to grant CASE's request for a stay.

Commissioner Asselstine disapproved this order and provided separate views.

It is so ORDERED.

For the Commission

SAMUEL J. CHILK
Secretary of the Commission

Dated at Washington, D.C.,
this 13th day of March 1986.

SEPARATE VIEWS OF COMMISSIONER ASSELSTINE

I agree in part and disagree in part with the Commission's order. I agree with the Commission's conclusion that we need not grant intervenors a new full-scale construction permit proceeding, but I do not subscribe to all of the Commission's reasoning in reaching that conclusion. Further, I would have stayed the Staff's extension of the construction permit pending the outcome of the renewal hearing.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

COMMISSIONERS:

Nunzio J. Palladino, Chairman
Thomas M. Roberts
James K. Asselstine
Frederick M. Bernthal
Lando W. Zech, Jr.

In the Matter of

Docket Nos. 50-352-OL
50-353-OL

PHILADELPHIA ELECTRIC COMPANY
(Limerick Generating Station,
Units 1 and 2)

March 20, 1986

The Commission declines review of ALAB-819, but provides comments on (a) adjudication of severe accident mitigation measures and (b) emergency planning arrangements for treatment of onsite personnel who are radiologically contaminated and traumatically injured.

RULES OF PRACTICE: UNTIMELY PETITION FOR REVIEW

Parties are to file petitions for review within the time limits prescribed by 10 C.F.R. § 2.786(b)(1). If parties cannot meet that filing schedule, motions are to be filed seeking an extension of time.

RULES OF PRACTICE: PETITIONS FOR REVIEW
(CONTENT)

A petition for review filed with the Commission shall contain a concise statement why in the petitioner's view the Appeal Board's decision is erroneous. 10 C.F.R. § 2.786(b)(2)(iii).

NRC: POLICY STATEMENT ON SEVERE ACCIDENTS

The Commission's "Policy Statement on Severe Reactor Accidents Regarding Future Designs and Existing Plants," 50 Fed. Reg. 32,138 (Aug. 8, 1985), bars litigation in case-related safety or environmental hearings of accident mitigation measures beyond those found in Commission regulations.

EMERGENCY PLANS: CONTENT (ARRANGEMENTS FOR MEDICAL SERVICES)

The reasonableness of emergency plans must be determined in each case in light of the specific facts. In areas where many nearby medical facilities are available to treat onsite personnel who are radiologically contaminated or traumatically injured, a prudent course of action under 10 C.F.R. § 50.47 would be to select for a backup hospital a facility reasonably close to the reactor site, but outside of the emergency planning zone.

ORDER

Limerick Ecology Action ("LEA"), Robert Anthony/Friends of the Earth ("FOE") and Philadelphia Electric Company ("PECo") petitioned the Commission to review various aspects of ALAB-819, 22 NRC 681 (1985). Although the Commission has determined that review of ALAB-819 is unwarranted, a few comments are appropriate.

Section 2.786(b)(2)(iii) of 10 C.F.R. provides that a petition for review shall contain a "concise statement why in the petitioner's view the decision or action is erroneous." The petitions for review filed by LEA and Anthony/FOE fail to satisfy this requirement because neither attempted to explain why the Appeal Board's reasoning is erroneous. Moreover, Anthony/FOE failed to file their petition for review within the time limits prescribed by 10 C.F.R. § 2.786(b)(1). Parties to NRC proceedings are expected to comply with the time limits specified in the regulations. If parties cannot act within the specified time period, extensions are to be sought.

Two substantive issues addressed by the Appeal Board in ALAB-819 also warrant comment. The Appeal Board in rejecting LEA's claim (Contention DES-5) that the National Environmental Policy Act of 1969 ("NEPA"), 42 U.S.C. § 4321, and pertinent Commission regulations require consideration of additional design alternatives for the mitigation of

severe accidents at Limerick, explained that the Commission's "Policy Statement on Severe Reactor Accidents Regarding Future Designs and Existing Plants," 50 Fed. Reg. 32,138 (Aug. 8, 1985) barred litigation in case-related safety hearings of accident mitigation measures beyond those found in Commission regulations. In ALAB-819, 22 NRC at 696 n.10, the Appeal Board noted that LEA had argued that the policy statement does not apply to its contention because the Commission in that policy statement referred to "safety hearings" and LEA's contention raised environmental — not safety — issues. The Appeal Board rejected that line of argument stating that LEA read the Commission's statement too narrowly and that "[i]t is unreasonable to believe the Commission intended to preclude litigation of severe accident mitigation measures under the rubric of safety issues, while permitting the litigation of the same subject matter as an environmental issue." *Id.*

The Commission affirms the Appeal Board's holding on this issue. The Commission's August 8, 1985 policy statement was intended to address both NEPA and Atomic Energy Act reviews. Insofar as is relevant to disposition of LEA's contention, that policy statement states that once a plant has been found to comply with NRC safety regulations and provide adequate protection to public health and safety, the need for design alternatives to further mitigate severe accidents is not to be addressed in case-specific reviews and hearings. Insofar as this type of accident mitigation is concerned, NEPA and the Atomic Energy Act reviews are both directed at cost-effective measures to reduce the risk from accidental discharges of radioactive materials, and it would make no sense for the Commission to implement different review policies under the two statutes. If, as a result of generic or plant-specific research, the Commission determines that changes in the designs of existing plants may be warranted to prevent undue risk, changes will be imposed through rulemaking or plant-specific backfits.

The other issue warranting comment is the Appeal Board's determination that PECO had not made adequate arrangements for the treatment of certain onsite personnel who are radiologically contaminated as well as traumatically injured. The Board in effect found that the Hospital of the University of Pennsylvania ("HUP") is too distant from the Limerick site to serve as an adequate backup hospital. 22 NRC at 713. The Appeal Board remanded the matter to the Licensing Board for further proceedings, finding that the Licensing Board's reasons for declining to require a closer backup hospital do not withstand scrutiny. As a result of the Appeal Board's remand, PECO has entered into formal backup arrangements with Montgomery Hospital, which is closer to the Limerick facility than HUP.

The Licensee argues that the Appeal Board has in effect established a new generic rule regarding the proximity of the backup hospital by imposing requirements beyond those found in 10 C.F.R. § 50.47 and Part 50, Appendix E. The NRC Staff disagrees, arguing that the Appeal Board's findings were based on lack of record support for the Licensing Board's rationale. We agree with the NRC Staff.

The large number of hospitals within 20 miles of the facility makes the situation at Limerick somewhat unique. The reasonableness of emergency plans must be determined in each case in light of the specific facts. Here, establishment of formal arrangements with a backup hospital outside of the emergency planning zone, but closer than HUP, appears to be a prudent course of action under 10 C.F.R. § 50.47. But this is not to say that a similar result would be required in other cases.

Commissioner Asselstine approved this Order in part, disapproved it in part, and provided separate views.

It is so ORDERED.

For the Commission

SAMUEL J. CHILK
Secretary of the Commission

Dated at Washington, D.C.,
this 20th day of March 1986.

SEPARATE VIEWS OF COMMISSIONER ASSELSTINE

I agree with that portion of the Commission's Order dealing with the backup hospital. However, I do not agree with that portion of the Order which deals with the consideration of additional design alternatives for the mitigation of severe accidents at Limerick.

In its Severe Accident Policy Statement the Commission concluded that the severe accident risk presented by existing designs for nuclear power plants is acceptable. The Commission decided, therefore, to bar participants in individual licensing proceedings from litigating the necessity of design alternatives, not now required by Commission regulations, to control or to mitigate the effects of severe accidents. 50 Fed. Reg. 32,138 (1985). In this Order, the Commission extends that decision

to exclude issues raised, not just under the Atomic Energy Act, but also to issues raised under the National Environmental Policy Act.

I did not agree with the Commission's conclusion in the Severe Accident Policy Statement that the risk presented by existing plants is acceptable for the life of the plants. See "Dissenting Views of Commissioner Asselstine," 50 Fed. Reg. at 32,145. The Commission recently told the Congress that, based upon existing accident risk assessments, there is about a 50-50 chance of a severe core melt accident, an accident at least as severe as the TMI-2 accident, within the next 20 years. I do not believe that a 50-50 chance within the next 20 years is an acceptable level of risk. Further, I believe that particularly at high-population sites, such as Limerick and Indian Point, consideration should be given to additional accident prevention and mitigation measures because of the uncertainties associated with estimating risk and because of the high cost to society should a serious accident occur at such a site. See "Dissenting Opinion of Commissioner Asselstine," *Consolidated Edison Co. of New York (Indian Point, Unit 2)*, CLI-85-6, 21 NRC 1043, 1092 (1985). The Commission's Severe Accident Policy Statement and its decision in *Indian Point* effectively preclude such consideration. I believe that is a mistake, and the Commission's Order today merely exacerbates that mistake.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

COMMISSIONERS:

Nunzio J. Palladino, Chairman
Thomas M. Roberts
James K. Asselstine
Frederick M. Bernthal
Lando W. Zech, Jr.

In the Matter of

Docket Nos. 50-352-OL
50-353-OL

PHILADELPHIA ELECTRIC COMPANY
(Limerick Generating Station,
Units 1 and 2)

March 20, 1986

The Commission denies joint intervenors' request to reopen the record and to stay operation of Limerick Unit 1. The Commission finds that the "new information" proffered by intervenors does not meet the criteria required to reopen a closed record, and, that since no significant safety issue was raised, there is no basis for a stay.

RULES OF PRACTICE: REOPENING OF RECORD

The standards for reopening a closed record require consideration of three factors: (1) whether the motion to reopen is timely; (2) whether the information raises a significant safety (or environmental) concern; and (3) whether the information might have led the Licensing Board to reach a different result. *See, e.g., Metropolitan Edison Co. (Three Mile Island Nuclear Station, Unit 1), CLI-85-2, 21 NRC 282, 311 (1985).*

RULES OF PRACTICE: NONTIMELY SUBMISSION OF CONTENTIONS

In seeking to reopen a record on contentions not within the scope of issues raised previously, parties must address the criteria for determining whether late-filed contentions should be admitted. 10 C.F.R. § 2.714(a)(1).

RULES OF PRACTICE: STAY REQUEST

Summary denial of a motion for stay is appropriate when the criteria set forth in 10 C.F.R. § 2.788 have not been addressed.

TECHNICAL ISSUES DISCUSSED

Flood Protection
Pipeline Rupture.

MEMORANDUM AND ORDER

Robert Anthony/Friends of the Earth ("FOE") filed a motion on November 12, 1985, requesting the Atomic Safety and Licensing Appeal Board to (a) reopen the record on two contentions which had been litigated in this proceeding and (b) stay operation of Limerick Unit 1. In ALAB-823, 22 NRC 773 (1985), the Appeal Board determined that it lacked jurisdiction over the motion because it had already issued its appellate decision (ALAB-819, 22 NRC 681 (1985)) on the merits of the two contentions. It then referred the motion to reopen the record to the Commission. For the reasons set forth in this Order, the Commission has denied the request to reopen the record and to stay operation of Limerick Unit 1.

BACKGROUND

Anthony/FOE seek reopening of the record on two of their contentions that were litigated before the Licensing Board. Those contentions read as follows:

- V-3a. In developing its analysis of the worst case rupture of the ARCO pipeline (which carries gasoline throughout the site), the applicant (in its FSAR)

provided no basis for excluding consideration of siphoning. Thus, the consequences of the worst case pipeline accident are understated.

- V-3b. In discussing deflagration of gas and petroleum due to pipeline rupture of the ARCO pipeline or of the Columbia Gas pipeline (which carries methane in a gaseous state near the site), no specific consideration has been given (in the FSAR) to the effect of radiant heat upon the diesel generators and associated diesel fuel storage facilities.

In litigating these issues the Licensing Board asked the parties to address considerations that went far beyond an analysis of siphoning and radiant heat effects resulting from a pipeline rupture and deflagration. The Licensing Board also inquired into, among other matters, the effect of a postulated blast shock wave on the natural draft cooling towers which resulted in a collapse of the towers. This scenario, as addressed by the Licensing Board, could result in the flooding of the Unit 1 Turbine Building and Control Structure via open doors in the Turbine Building. After thoroughly analyzing the issue, the Licensing Board concluded that "there would be no entrance for water into . . . [safety-related] structure[s] and no adverse impact on the ability to safely shut down the reactor." LBP-84-31, 20 NRC 446, 491 (1984).

The Appeal Board in ALAB-819, *supra*, 22 NRC at 730-41, affirmed the Licensing Board. The Appeal Board concluded that "nothing directly pertinent to Anthony/FOE's pipeline explosion scenario was or is 'unresolved' by the Board's decision." 22 NRC at 740.

Following issuance of ALAB-819, Philadelphia Electric Company ("PECo") filed a Licensee Event Report (LER 85-080) with the Commission on October 31, 1985. In that report, PECo advised the Commission that it had recently discovered that because final site grading had not been completed in conformance with its Final Safety Analysis Report, the potential existed for the Control Structure to be flooded in the event of design-basis rainfall or from a failure in the cooling tower basins. PECo advised the NRC that it had immediately initiated and completed actions to eliminate the safety concern — flood barriers were installed at critical building openings, curbs were added to control the flow of water in the buildings, and a new plant procedure was developed to assure that Unit 1 could be shut down safely, even if the redundant Control Structure Chilled Water System ("CSCWS") was disabled by flooding.

MOTION TO REOPEN THE RECORD

Anthony/FOE argue that the new information contained in the LER establishes that, if the cooling towers collapsed, water could enter the Control Structure and disable the chilled water pumps. They claim that this disabling of the CSCWS could leave the control building with uncertain cooling facilities for the Main Control Room, Auxiliary Equipment Room, Emergency Switchgear Rooms, and Battery Rooms. The loss of cooling could result in excessive heat that could prevent safe shutdown of the facility. Anthony/FOE argue that if the Licensing Board had known this, it would have reached a different, unspecified, conclusion regarding the potential for the loss of Control Structure cooling as a result of flooding from a collapse of the cooling towers.

The NRC Staff and the Licensee both filed pleadings opposing the Anthony request.

In determining whether a closed adjudicatory record should be reopened, the Commission applies three criteria: (1) is the motion timely; (2) does it address significant safety or environmental issues; (3) might a different result have been reached had the newly proffered material been considered initially. *Metropolitan Edison Co.* (Three Mile Island Nuclear Station, Unit 1), CLI-85-2, 21 NRC 282, 285 n.3 (1985).¹

There is no question that the motion here is timely. Anthony/FOE filed their request promptly after receipt of the LER.

The other two criteria, however, have not been met. In its pleading in response to the Anthony/FOE motion to reopen the record, the NRC Staff provided a detailed technical analysis of the consequences of a flood. The Staff concluded that the corrective action taken by Licensee is satisfactory, and that a worst-case event would not result in water intrusion in the Unit 2 turbine building or the Control Structure in quantities sufficient to cause significant flooding.²

The Staff also determined that the CSCWS is not required to shut the plant down safely. Anthony/FOE offer no credible technical reason to dispute the Staff's analysis. We therefore conclude, based on the Staff's

¹ Because the issue Anthony/FOE raises is unrelated to siphoning, or radiant heat resulting from a worst-case pipeline rupture, the issue they seek to reopen the record on does not fall within the scope of the two contentions that they filed with the Licensing Board. Accordingly, in seeking to reopen the record, they should have also addressed the criteria for determining whether late-filed contentions should be admitted. 10 C.F.R. § 2.714(a)(1). This failure offers an independent basis for denial of the motion to reopen.

² We also note the improbability of such an event. The pipeline rupture would have to take place during the few days of the year that have the most severe atmospheric temperatures. The rupture would have to lead to an explosion capable of destroying the cooling towers. The towers would have to fall in such a manner as to cause failure of the water basins and result in a flood surge which then would have to enter the Turbine Building. The flood barriers and new procedures would have to fail.

analysis, that petitioners have not raised any significant unresolved safety issue warranting reopening of the record.

Finally, the new information, even if it had been considered earlier, could not have led the Licensing Board to reach a different result. In light of the Staff's analysis, not credibly disputed by petitioners, that flooding of the Control Structure would not prevent a safe shutdown of the facility, and that proper corrective action has been taken, the Licensing Board could not have concluded that the scenarios postulated by petitioners warrant further corrective action. Accordingly, the motion to reopen the record is denied.

STAY REQUEST

With respect to petitioners' claim that the new information warrants a stay of the Limerick facility operating license, petitioners in their motion did not address the criteria for a stay set forth in 10 C.F.R. § 2.788. In light of their failure to do so, summary denial of their request is appropriate. In any event, since the Commission has determined that petitioners have not raised a significant safety issue, there is no basis for any stay.

For the Commission

SAMUEL J. CHILK
Secretary of the Commission

Dated at Washington, D.C.,
this 20th day of March 1986.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Administrative Judges:

Alan S. Rosenthal, Chairman
Gary J. Edles*
Howard A. Wilber

In the Matter of

Docket No. 50-322-OL-3
(Emergency Planning)

LONG ISLAND LIGHTING
COMPANY
(Shoreham Nuclear Power
Station, Unit 1)

March 26, 1986

Deferring action on the applicant's appeals, the Appeal Board acts on the appeals of the intervenors from two Licensing Board decisions on emergency planning in this operating license proceeding. The Appeal Board affirms the decisions in part and remands them in part. It directs the Licensing Board, however, not to proceed with the remand unless and until directed to do so by the Commission.

RULES OF PRACTICE: APPELLATE REVIEW

It is well-settled that a party may appeal from a Licensing Board decision only if aggrieved by the ultimate result — i.e., the party wishes that result altered in some material respect. *See South Carolina Electric & Gas*

*Since January 28, 1986, Mr. Edles has been serving as the Acting Director of the Commission's Office of Inspector and Auditor. For this reason, he took no part in the consideration or disposition of the matters covered in this decision.

Co. (Virgil C. Summer Nuclear Station, Unit 1), ALAB-694, 16 NRC 958 (1982), and cases there cited.

RULES OF PRACTICE: APPELLATE REVIEW

It is established that a party prevailing on the trial level may defend its favorable result on any ground that is supported by the record. In this connection, it matters not that the precise claim(s) offered as a basis for affirmance may have been urged upon and rejected by the trial tribunal. Of crucial importance is simply that an adequate record foundation for the claim be present. See *Commonwealth Edison Co.* (Byron Nuclear Power Station, Units 1 and 2), ALAB-793, 20 NRC 1591, 1597 n.3 (1984); *Public Service Co. of Oklahoma* (Black Fox Station, Units 1 and 2), ALAB-573, 10 NRC 775, 789 (1979); *Public Service Co. of Indiana* (Marble Hill Nuclear Generating Station, Units 1 and 2), ALAB-459, 7 NRC 179, 202 (1978); *Niagara Mohawk Power Corp.* (Nine Mile Point Nuclear Station, Unit 2), ALAB-264, 1 NRC 347, 357 (1975) (citing *Jaffke v. Dunham*, 352 U.S. 280 (1957) and *California Bankers Assn. v. Schultz*, 416 U.S. 21 (1974)).

RULES OF PRACTICE: APPELLATE REVIEW

Appellate review is not intended to offer losing parties a forum for simply renewing claims presented to, but rejected by, the trial tribunal. Proceedings on appeal are intended to focus on significant matters, not every colorable claim of error. ALAB-827, 23 NRC 9, 11 (1986).

EMERGENCY PLANS: OBJECTIVE

The emergency preparedness planning for a nuclear facility is focused to a large extent on assuring that prompt and effective actions can be taken to protect the public from exposure to released gases or other radioactive material. NUREG-0654 (FEMA-REP-1), Rev. 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants" (November 1980), at 10-12.

EMERGENCY PLANNING: EMERGENCY PLANNING ZONES (SIZE)

The 10-mile radius figure for the plume EPZ contained in 10 C.F.R. 50.47(c)(2) was calculated in order to remove the need for site-specific

calculations. NUREG-0396 (EPA 520/1-78-016), "Planning Basis for the Development of State and Local Government Radiological Emergency Response Plans in Support of Light Water Nuclear Power Plants" (December 1978), at 15-17, 24 and III-7 through III-8.

EMERGENCY PLANNING: EMERGENCY PLANNING ZONES (SIZE)

Although the regulations provide that the exact size and configuration of a particular EPZ is to be determined with reference to site-specific factors, the wholesale enlargement of the Commission-prescribed EPZs by a state cannot preclude a licensing decision based upon the requirements of the NRC regulations. The Commission's regulations "clearly allow leeway for a mile or two in either direction, based on local factors. But [section 50.47] . . . clearly precludes a plume EPZ radius of, say, 20 or more miles." *Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), ALAB-781, 20 NRC 819, 831 (1984) (*quoting Southern California Edison Co.* (San Onofre Nuclear Generating Station, Units 2 and 3), LBP-82-39, 15 NRC 1163, 1181 (1982), *aff'd*, ALAB-717, 17 NRC 346 (1983), *aff'd sub nom. Carstens v. NRC*, 742 F.2d 1546 (D.C. Cir. 1984), *cert. denied*, 105 S. Ct. 2675 (1985)).

EMERGENCY PLANNING: EXCEPTION TO REGULATIONS

A party seeking to impose a substantial change in the area of the Commission's prescribed EPZ should seek an exception to the rule pursuant to 10 C.F.R. 2.758. *Diablo Canyon*, 20 NRC at 831.

RULES OF PRACTICE: EVIDENCE

It may be true that evidence need be adduced but a single time on any alleged fact, no matter how many contentions might rest upon the purported existence of that fact. But once that fact is established, there is no good reason why it cannot serve more than one purpose — i.e., to buttress multiple claims.

EMERGENCY PLANNING: BASIS FOR REQUIREMENT

"The Commission's emergency planning regulations are premised on the assumption that a serious accident might occur and that evacuation of the EPZ might well be necessary. . . . As a corollary, a possible deficiency in an emergency plan cannot properly be disregarded because of

the low probability that action pursuant to the plan will ever be necessary." *Philadelphia Electric Co.* (Limerick Generating Station, Units 1 and 2), ALAB-819, 22 NRC 681, 713 (1985).

EMERGENCY PLANS: CONTENT (EVACUATION)

Emergency response planning for nuclear facilities must make provision for the care of persons removed from the plume EPZ should circumstances necessitate evacuation measures.

EMERGENCY PLANS: CONTENT (EVACUATION)

Section II.J.10.h of NUREG-0654 provides that a relocation center must be at least five miles, and preferably 10 miles, beyond the boundaries of the plume EPZ.

LICENSING BOARDS: DISCRETION IN MANAGING PROCEEDINGS (TIMELINESS OF MOTIONS)

Licensing boards are vested with broad discretion in the conduct of the proceedings before them. Thus, so long as they have a rational foundation, board determinations on such questions as the timeliness of motions are not likely candidates for reversal.

EMERGENCY PLANS: CONTENT (SUFFICIENCY)

Neither the law nor the Commission's regulations dictate how many opportunities an applicant has to bring itself into compliance with the Commission's regulatory rules. *Consolidated Edison Co. of New York* (Indian Point, Unit No. 2), CLI-83-16, 17 NRC 1006, 1014 (1983).

APPEARANCES

Karla J. Letsche, Washington, D.C. (with whom **Herbert H. Brown** and **Lawrence Coe Lanpher**, Washington, D.C., **Martin Bradley Ashare** and **Eugene R. Kelley**, Hauppauge, New York, **Fabian G. Palomino**, Albany, New York, **Robert G. Abrams**, Attorney General of the State of New York, New York, New York, and **Stephen B. Latham**, Riverhead, New York, were on the briefs), for the intervenors State of New York, Suffolk County, New York, and Town of Southampton, New York.

James N. Christman, Richmond, Virginia (with whom Donald P. Irwin, Lee B. Zeugin, Kathy E.B. McCleskey, Jessine A. Monaghan, and Scott D. Matchett, Richmond, Virginia, were on the briefs), for the applicant Long Island Lighting Company.

Bernard M. Bordenick (with whom Sherwin E. Turk and Robert G. Perlis were on the briefs) for the Nuclear Regulatory Commission staff.

DECISION

The Licensing Board has rendered two partial initial decisions in the emergency planning phase of this operating license proceeding involving the Shoreham nuclear facility in Suffolk County, New York. In the first of these decisions, issued last April, the Board resolved most of the contested offsite emergency planning issues in favor of the applicant Long Island Lighting Company (LILCO). It further determined, however, that the applicant lacks the legal authority to implement material features of its emergency response plan, with the consequence that an emergency plan in conformity with Commission regulations cannot be carried out.¹

In the second and "concluding" decision, issued the following August, the Board addressed the issues remaining before it.² These were primarily concerned with the adequacy of the Nassau Veterans Memorial Coliseum as a reception or "relocation" center for the monitoring, decontamination and transfer to sheltering facilities of evacuees from the area surrounding the Shoreham facility in the event of an emergency. Although the applicant prevailed on most of those issues as well, the Board ended its August decision with the declaration that the applicant's emergency response plan is "fatally defective." The bases of this declaration were (1) the Board's determination in its earlier decision that the applicant lacks the legal authority to implement its plan; and (2) the Board's belief that the opposition of both the State of New York and Suffolk County to the plan "has created a situation where at any given time it is not known whether the [p]lan would be workable."³

¹ LBP-85-12, 21 NRC 644 (1985).

² LBP-85-31, 22 NRC 410 (1985).

³ *Id.* at 431.

The applicant and the intervenors State and County took appeals from portions of both of these decisions.⁴ With the parties' acquiescence, we separated for expedited review the applicant's appeal on the legal authority question. In ALAB-818, we affirmed the Licensing Board's conclusions on that question.⁵

The effect of that affirmance was to render academic the issues presented by the various other appeals from the April and August partial initial decisions. In granting the applicant's petition for review of ALAB-818, however, the Commission stated that "a detailed specification of issues, briefs and, if useful, oral argument will be deferred at least until the Appeal Board's resolution of intervenors' pending appeal on other emergency planning questions."⁶ In that circumstance, upon the completion of the briefing process, we scheduled oral argument on the pending appeals.

At the argument, we raised on our own initiative the question whether, inasmuch as the result reached by the Licensing Board (i.e., the denial of a full power operating license) was favorable to them, the intervenors' appeals from the two partial initial decisions were impermissible. That question was fully explored, along with the merits of several of the numerous issues presented by those appeals and that of the applicant from the August decision.

For the reasons hereafter developed, we dismiss the intervenors' appeals, but nonetheless have considered on the merits the claims encompassed in them. Our conclusion is that the Licensing Board committed several errors requiring further proceedings before that Board. Although thus remanding to the Board for that purpose, we are instructing it to take no action in furtherance of the remand, pending a determination by the Commission as to whether the Board should await Commission action on review of ALAB-818.

Insofar as the applicant's appeals are concerned, the current posture of the proceeding makes it unnecessary to reach the still pending issues presented by them.⁷ We are therefore holding those issues in further abeyance until such time as their resolution might become warranted.

⁴ In addition, the Town of Southampton appealed from portions of the August decision.

⁵ 22 NRC 651 (1985).

⁶ December 19, 1985 Commission order (unpublished) at 1-2.

⁷ In addition to its appeal from the August decision, we still have before us a small portion of the applicant's appeal from the April decision. See ALAB-818, 22 NRC at 677-78.

I.

Although dissatisfied with a number of the findings contained in the April and August decisions, as well as with numerous interlocutory rulings preceding those decisions, the intervenors do not quarrel with the ultimate result reached by the Licensing Board. Nor could they. The Board's determination that the applicant lacked the legal authority to carry out its emergency response plan in full rendered inconsequential all of the findings and procedural rulings adverse to the intervenors. For, as the Board observed in the August decision, given that determination no operating license for Shoreham can issue. That is the precise outcome that the intervenors sought.

It is well-settled that a party may appeal from a Licensing Board decision only if aggrieved by the ultimate result — i.e., the party wishes that result altered in some material respect.⁸ The intervenors not being in that position, their appeals must be dismissed.

It does not follow, however, that the intervenors were precluded from presenting to us their claims of Licensing Board error. To the contrary, they were free to put those claims forward in responding to the *applicant's* appeals from the partial initial decisions — appeals that *did* seek a change in result. For it is equally established that a party prevailing on the trial level may defend its favorable result on any ground that is supported by the record. In this connection, it matters not that the precise claim(s) offered as a basis for affirmance may have been urged upon and rejected by the trial tribunal. Of crucial importance is simply that an adequate record foundation for the claim be present.⁹

Although intervenors' counsel should have been aware of the foregoing considerations, it nonetheless seems appropriate to treat their appellate assertions at this point as if those assertions had been offered in support of the Licensing Board result, instead of in the furtherance of an impermissible appeal from findings and rulings not affecting that result. But the question remains whether there is any warrant for our examination of the assertions at this juncture. We have, after all, already affirmed in ALAB-818 the outcome below on the precise ground assigned for it by the Licensing Board — the applicant's lack of legal authority to carry

⁸ See *South Carolina Electric & Gas Co.* (Virgil C. Summer Nuclear Station, Unit 1), ALAB-694, 16 NRC 958 (1982), and cases there cited.

⁹ See *Commonwealth Edison Co.* (Byron Nuclear Power Station, Units 1 and 2), ALAB-793, 20 NRC 1591, 1597 n.3 (1984); *Public Service Co. of Oklahoma* (Black Fox Station, Units 1 and 2), ALAB-573, 10 NRC 775, 789 (1979); *Public Service Co. of Indiana* (Marble Hill Nuclear Generating Station, Units 1 and 2), ALAB-459, 7 NRC 179, 202 (1978); *Niagara Mohawk Power Corp.* (Nine Mile Point Nuclear Station, Unit 2), ALAB-264, 1 NRC 347, 357 (1975) (citing *Jaffke v. Dunham*, 352 U.S. 280 (1957) and *California Bankers Assn. v. Shultz*, 416 U.S. 21 (1974)).

out its emergency response plan. Consequently, at least so long as our conclusions in ALAB-818 remain undisturbed, there is no compelling necessity to search for possible alternative bases for affirmance.

For this reason, we ordinarily would be inclined to defer consideration of the intervenors' claims of error to await the completion of Commission review of ALAB-818. The Commission's election to defer its ALAB-818 review pending our appraisal of those claims, however, dissuades us from pursuit of such a course. True, the Commission undoubtedly made that election on the assumption that the claims were presented in the context of a viable appeal by the intervenors. Nonetheless, we have been given no cause to believe that the Commission's determination to defer review of ALAB-818 hinged upon the validity of that assumption. In the absence of a contrary indication, we must presume instead that the Commission desires to have in hand our evaluation of the intervenors' arguments on the merits of the applicant's emergency response plan — whether advanced by way of an appeal or otherwise — before it decides whether the plan has insurmountable legal flaws.

We thus have undertaken to examine the intervenors' claims and will set forth our conclusions in Part II of this opinion. For their part, however, the applicant's appeals stand on a quite different footing before us. In common with the issues raised by the intervenors, the applicant's pending challenge to the April and August decisions is of no significance in the face of ALAB-818. Thus, there is no reason to decide that challenge in advance of Commission review of ALAB-818 unless the Commission has asked that we do so. We find no such request. To the contrary, as seen, the Commission deferral of its ALAB-818 review was cast exclusively in terms of our resolution of the "intervenors' pending appeal."¹⁰

II.

In the course of denying the intervenors' motion for leave to submit a second 20-page brief in supplementation of the 100-page brief they had already tendered in support of their appeals, we observed:

¹⁰ While we need not speculate on the Commission's reason for drawing a distinction in this regard between the intervenors' and the applicant's appellate challenges, one possible explanation comes readily to mind. Were the intervenors to prevail on their appeals, the Commission might find it unnecessary to pass judgment on the legal authority matter (at least at this time). On the other hand, an applicant victory on its remaining attacks upon the Licensing Board's decisions could have no such effect. Such success would avail the applicant nothing so long as ALAB-818 continued undisturbed.

Appellate review is not intended to offer losing parties a forum for simply renewing claims presented to, but rejected by, the trial tribunal. To be sure, NRC licensing proceedings ordinarily involve lengthy evidentiary records and present numerous complicated and detailed technical issues for resolution. In recognition of that fact, the Commission, in contrast with many federal agencies, has provided two levels of appellate review, and appeal boards frequently examine in some depth a wide range of technical and legal matters. But that does not alter the fundamental purpose of appellate review. Proceedings on appeal are intended to focus on significant matters, not every colorable claim of error. We expect advocates to cull the issues and arguments to be pursued on appeal.¹¹

A fresh examination of the content of the brief on file reconfirms our conviction that the intervenors made little, if any, effort to select the "most promising issues for review."¹² To the contrary, from all appearances, we have been favored with an uncritical rehearsal of virtually every claim — large or small — that was advanced to and rejected by the Licensing Board below.

Each claim has received our attention. But we see no reason to freight this opinion with a cataloguing of those that lack sufficient merit or significance (or both) to require further discussion. We thus confine ourselves to the relatively few substantial assertions of Licensing Board error that have been put forth by the intervenors.

Before turning to those assertions, some additional introductory observations are in order. A nuclear power facility may not be allowed to operate at levels above five percent of its rated power in the absence of an NRC finding of reasonable assurance that, in the event of a radiological emergency, adequate measures for the protection of the public health and safety can and will be taken both on and off the facility site.¹³ The procedure for passing judgment on the acceptability of a facility's emergency response planning and the minimum content of such planning are set forth in 10 C.F.R. 50.47 and Appendix E to 10 C.F.R. Part 50.

Although the responsibility for making the ultimate reasonable assurance finding is entrusted to this agency, the Federal Emergency Management Agency (FEMA) plays a significant role in the appraisal of the adequacy of offsite emergency preparedness.¹⁴ In 44 C.F.R. Part 350, FEMA has established "policy and procedures" for its "review and approval . . . of State and local emergency plans and preparedness for

¹¹ ALAB-827, 23 NRC 9, 11 (1986) (footnote omitted).

¹² See *Jones v. Barnes*, 463 U.S. 745, 752-53 (1983), cited in ALAB-827, 23 NRC at 11 n.6.

¹³ 10 C.F.R. 50.47(a)(1).

¹⁴ See Memorandum of Understanding Between Federal Emergency Management Agency and Nuclear Regulatory Commission, 50 Fed. Reg. 15,485 (1985).

coping with the offsite effects of radiological emergencies which may occur at commercial nuclear facilities.”¹⁵ In addition, FEMA has joined the NRC in issuing a set of guidelines for the development of radiological emergency response plans by the utility and concerned state and local governments.¹⁶

The emergency preparedness planning for a nuclear facility is focused to a large extent on assuring that prompt and effective actions can be taken to protect the public from exposure to released gases or other radioactive material.¹⁷ The closest area surrounding the plant for which detailed planning efforts must be carried out is characterized as the “plume exposure pathway” emergency planning zone (plume EPZ).¹⁸ The emergency plans must, among other things, allocate responsibility for making the crucial decisions as to the necessary specific protective measures in that area. Additionally, arrangements must be made for the communication of these decisions to the appropriate persons — namely, the public within the plume EPZ and the individuals who are to play some role in the execution of the determined protective action. Still further, the plans must insure that the individuals who will participate in the emergency response (1) are adequate in number; (2) are familiar with their assignments; (3) have received any training that may be required; and (4) will have at their disposal any needed equipment.¹⁹ Finally, to cover the possibility that evacuation from the plume EPZ will be necessary, the emergency plans must provide for the requisite transportation, as well as for the availability of facilities outside the zone for the reception, monitoring and, if necessary, decontamination and sheltering of evacuees.²⁰

In reaching a decision on the emergency preparedness of an applicant, the Commission normally bases its conclusion on (1) a review of the FEMA findings and determinations respecting state and local emergency plans, and (2) the NRC staff assessment of the applicant’s onsite emergency plans.²¹ In this case, however, the State of New York and Suffolk County have refused to participate in emergency planning for the Shoreham facility. Thus, the applicant here must be able to provide,

¹⁵ 48 Fed. Reg. 44,332 (1983).

¹⁶ See NUREG-0654 (FEMA-REP-1), Rev. 1, “Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants” (November 1980).

¹⁷ *Id.* at 10-12.

¹⁸ 10 C.F.R. 50.47(c)(2). Protective action planning must also be developed for the ingestion pathway EPZ (an area extending beyond the plume EPZ), where the ingestion of contaminated water and foods is the principal exposure. But these efforts are less extensive than those for the plume EPZ. See NUREG-0654 at 64.

¹⁹ 10 C.F.R. 50.47(b).

²⁰ NUREG-0654 at 61, 63-64.

²¹ 10 C.F.R. 50.47(a)(2).

by itself, the necessary reasonable assurance that adequate protective measures both on and off the site can and will be taken in the event of a radiological emergency at Shoreham.²²

A. Plume EPZ Size

1. In 10 C.F.R. 50.47(c)(2), the Commission stipulated that, “[g]enerally, the plume exposure pathway EPZ . . . shall consist of an area about 10 miles . . . in radius.” The foundation for this directive (which accordingly led to the establishment of a plume EPZ for Shoreham with an approximate 10-mile radius)²³ is a recommendation of a Nuclear Regulatory Commission-Environmental Protection Agency Task Force.²⁴ From its review of a spectrum of possible nuclear plant accidents, the Task Force concluded that a 10-mile radius for the plume EPZ is acceptable because, among other things, (1) projected doses from most accidents would not exceed Federal Protective Action Guide dose levels beyond that distance from the facility and (2) detailed planning within 10 miles would provide a substantial base for expansion of response efforts if this became necessary.²⁵ Notwithstanding these generic considerations, however, section 50.47(c)(2) goes on to direct that the “exact size and configuration” of the plume EPZ

shall be determined in relation to local emergency response needs and capabilities as they are affected by such conditions as demography, topography, land characteristics, access routes, and jurisdictional boundaries.

Pointing to this direction, in July 1983 the intervenors submitted Contention 22, which asserted essentially that the proposed 10-mile plume EPZ surrounding Shoreham should be enlarged.²⁶ Relying on the intervenors’ own Shoreham-specific accident consequence analysis, Contention 22.A maintained that an EPZ up to 20 miles in radius was necessary in order to enable planning and preparations for protective actions in areas where doses were predicted to exceed the Federal Protective Action Guide levels. Contention 22.B claimed a need for emergency response planning beyond the 10-mile EPZ because of, among others, the

²² CLI-83-13, 17 NRC 741 (1983).

²³ Cordaro *et al.*, fol. Tr. 8536, at 10.

²⁴ See NUREG-0396 (EPA 520/1-78-016), “Planning Basis for the Development of State and Local Government Radiological Emergency Response Plans in Support of Light Water Nuclear Power Plants” (December 1978), at 24.

²⁵ *Id.* at 15-17. See also NUREG-0654 at 12. The concept of Protective Action Guide dose levels was included in emergency response planning to assist in deciding at what radiation hazard levels protective actions would be initiated. NUREG-0396 at 3.

²⁶ Memorandum Regarding Revised Emergency Planning Contentions (July 26, 1983) at 36-47. With its preamble and four subparts, this contention is approximately 11 pages in length.

following asserted local conditions: (1) in the summer, transients add substantially to the population of Eastern Long Island and many of them are dependent upon the limited available public modes of transportation; and (2) the Suffolk County road network, containing but two east-west arteries, is heavily congested at all times and is inadequate to accommodate the additional seasonal population. In Contention 22.C, the intervenors referred to the "evacuation shadow" phenomenon — here, the voluntary decision of persons located outside a 10-mile EPZ in the event of an accident to move still farther away from the facility. According to the intervenors, such movement would impede the evacuation of persons within a 10-mile radius of the facility to more distant points. For this reason, the intervenors insisted, the detailed emergency planning effort should extend beyond 10 miles. Finally, Contention 22.D proposed the expansion of the EPZ to encompass certain jurisdictional boundaries.

After considering the opposition of the applicant and the staff to Contentions 22.A, B, and C, the Licensing Board denied their admission on the basis that the intervenors were challenging the portion of section 50.47(c) that referred specifically to a 10-mile radius for the plume EPZ.²⁷ In the Board's view, the 10-mile provision was adopted as a generic rule for planning purposes in order to preclude case-by-case litigation of the size of the plume EPZ. As Contention 22 suggested the establishment of a 20-mile EPZ, the Board also relied on a Licensing Board decision in another case, rejecting a proposed contention that asserted the need for a plume EPZ with a 20-mile radius based on a site-specific study.²⁸ With respect to the local conditions specified in Contention 22.B and the evacuation shadow phenomenon, in later rejecting the intervenors' challenge to its ruling the Board pointed out that those matters also had been raised in other admitted contentions.²⁹

Without objection, however, the Licensing Board admitted Contention 22.D, regarding jurisdictional boundaries. Following its review of the evidence presented on this contention, the Board required in its April decision that the plume EPZ boundary be expanded to a certain extent and that several schools be included in the zone.³⁰ In all other respects,

²⁷ Special Prehearing Conference Order (August 19, 1983) at 8-12.

²⁸ *Southern California Edison Co.* (San Onofre Nuclear Generating Station, Units 2 and 3), LBP-82-39, 15 NRC 1163, 1177 (1982), *aff'd*, ALAB-717, 17 NRC 346 (1983), *aff'd sub nom. Carstens v. NRC*, 742 F.2d 1546 (D.C. Cir. 1984), *cert. denied*, 105 S. Ct. 2675 (1985).

²⁹ Order Ruling on Objections to Special Prehearing Conference Order (September 30, 1983) at 3-4.

³⁰ LBP-85-12, 21 NRC at 701-06.

the Board found that the boundaries of the plume EPZ were in compliance with the Commission's regulations.³¹

2. Before us, the intervenors charge that the Licensing Board both mischaracterized Contention 22 and failed to apply section 50.47(c)(2) properly. We are told that the thrust of the contention is that the applicant had fixed the boundaries of its proposed plume EPZ without considering local conditions of the stripe explicitly listed in section 50.47(c)(2).³² The intervenors also insist that the section allows the consideration of other local factors.

a. Turning first to Contention 22.A, we agree with the Licensing Board that section 50.47(c)(2) does not countenance the intervenors' endeavor to create a plume EPZ with a radius that might extend as much as 20 miles from the facility. To be sure, the section allows for adjustments in the boundaries of the basic 10-mile EPZ to accommodate local conditions. But increasing the area of the EPZ fourfold would scarcely be a mere adjustment. Further, as earlier noted, the 10-mile radius figure contained in the section is based upon the NRC-EPA Task Force analyses covering a broad spectrum of possible accidents. As its report makes clear, the analyses were intended to remove the need for site-specific calculations, such as those on which the intervenors base their claim in Contention 22.A that the EPZ should be drastically expanded.³³

In rejecting a similarly-based attempt to impose a 20-mile plume EPZ on the San Onofre facility in California, a licensing board aptly observed that "it would make little sense to attempt to replicate [the Task Force] studies at reactor sites around the country."³⁴ We endorsed this result in *Diablo Canyon*. Confronted with California's attempt to obtain the NRC's agreement to conform its approved EPZ to the state-prescribed zone (which, at least in one direction, had a 20-mile radius), we stated:

Although the regulations provide that the exact size and configuration of a particular EPZ is to be determined with reference to site-specific factors, the wholesale enlargement of the Commission-prescribed EPZs by the State cannot preclude a licensing decision based upon the requirements of the NRC regulations. As the Licensing Board concluded in considering the same type of expanded state EPZs in [*San Onofre*], the Commission's regulations "clearly allow leeway for a mile or two in either direction, based on local factors. But [section 50.47] . . . clearly precludes a plume EPZ radius of, say, 20 or more miles." The same Board then correctly determined that a party seeking to impose such a radical departure from the Commis-

³¹ *Id.* at 707.

³² See *supra* p. 145.

³³ NUREG-0396 at 15-17, 24 and III-7 through III-8.

³⁴ *San Onofre*, *supra* note 28, 15 NRC at 1182.

sion's prescribed EPZs should seek an exception to the rule pursuant to 10 C.F.R. 2.758.³⁵

b. We come to a different conclusion, however, with regard to Contentions 22.B and C. In sharp contrast to Contention 22.A, these contentions do not appear to seek anything more than that to which section 50.47(c)(2) entitles intervenors: a determination of the "exact size and configuration" of the EPZ based upon, *inter alia*, local conditions.³⁶ Thus, it cannot be said that the contentions amounted to an impermissible attack upon a Commission regulation.³⁷

Nor is there substance to the other basis upon which Contentions 22.B and C were rejected. Apparently, the Board assumed that it is not permissible to allow an intervenor to present two contentions that, although having different ultimate objectives, rely in whole or in part on the same alleged facts for their bases. But neither precedent nor common sense calls for any such limitation. To be sure, evidence need be adduced but a single time on any alleged fact (e.g., traffic congestion in a given area), no matter how many contentions might rest upon the purported existence of that fact. But, once the fact is established, there is no good reason why it cannot serve more than one purpose — i.e., to buttress multiple claims.

In this instance, the intervenors endeavored to invoke certain local conditions to support two distinct lines of argument: (1) that, as a general proposition, the applicant's emergency plan is inadequate,³⁸ and (2) that, in any event, the boundaries of the plume EPZ must be altered. The effect of the Board's action on the several contentions that advanced these theses was to permit the intervenors to seek an invalidation of the plan because of local conditions but not an alteration of the proposed

³⁵ *Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), ALAB-781, 20 NRC 819, 831 (1984) (footnotes omitted).

³⁶ With respect to Contention 22.C, the evacuation shadow phenomenon can be considered to be a local condition within the meaning of section 50.47(c)(2) only insofar as the voluntary evacuation of individuals outside the plume EPZ from areas immediately adjacent to its outer boundary might affect the evacuation of persons from the EPZ.

³⁷ One local factor asserted by the intervenors is that the emergency response would be provided by the utility alone, rather than a government organization. Because a utility may have less extensive resources for response expansion than a government organization, we consider such a utility-alone response to be a local factor that may be litigated in accordance with section 50.47(c)(2). As with any local factor, the need for minor adjustments to the plume EPZ may be argued on the basis of a utility-alone response, but an attempt to press for significant expansion of that EPZ would require an exception to the regulation.

³⁸ *E.g.*, Contentions 16, 23, 59, 61, 65 and 97. See LBP-85-12, 21 NRC at 968-69, 972-74, 1001, 1003-04, 1005-10, 1027-28.

EPZ boundaries.³⁹ To repeat, inasmuch as section 50.47(c)(2) entitled the intervenors to insist that the “exact size and configuration” of the EPZ be determined with local conditions in mind, it follows that the Board’s error in excluding Contentions 22.B and C was prejudicial.⁴⁰

Accordingly, we are directing the Licensing Board to admit Contentions 22.B and C and to provide the intervenors with the opportunity to supplement the existing evidence on local conditions with such further evidence (if any) as might be directly relevant to the question whether the boundaries of the proposed plume EPZ should be further adjusted.⁴¹ Once the record is closed on those two contentions, the Board is to make its findings and conclusions on the merits.

B. Role Conflict

In the event of an emergency at the Shoreham facility, hundreds of individuals may be needed to assist in providing protective actions for the public. More specifically, the applicant’s emergency plan would be implemented by the Local Emergency Response Organization (LERO), which is composed primarily (if not exclusively) of applicant employees and contractors, working with support organizations such as the American Red Cross, the U.S. Department of Energy, and local ambulance companies.⁴² This organization acts, in part, as a substitute for Suffolk County and the State of New York in performing emergency response functions. In addition to the individuals who are members of LERO or its supporting organizations, an emergency response will involve persons who do

³⁹ As counsel for both the applicant and the staff acknowledged at oral argument, any attempt by intervenors to urge such an alteration based upon the adduced evidence on local conditions (other than those relied upon in Contention 22.D) would have been opposed by reason of the rejection of Contentions 22.B and C. App. Tr. 55-56, 76-77.

⁴⁰ For proceedings in which intervenors were allowed to press for adjustments to the proposed plume EPZ based upon local conditions, see, e.g., *Duke Power Co.* (Catawba Nuclear Station, Units 1 and 2), LBP-84-37, 20 NRC 933, 979, 988-89 (1984), *aff’d*, ALAB-813, 22 NRC 59 (1985) (an admitted contention asserted, in part, that the flow of evacuees from the then-present plume EPZ through a high population area indicated a need for expansion); *Philadelphia Electric Co.* (Limerick Generating Station, Units 1 and 2), LBP-85-14, 21 NRC 1219, 1236 (1985) (an admitted contention asserted that either the plume EPZ should be expanded to include certain areas lying just outside the EPZ or traffic controls be provided because traffic congestion in those areas would impede the evacuation of the plume EPZ). (An appeal is pending from the *Limerick* decision, but the *admission* of the contention in question is not an issue.)

⁴¹ The Licensing Board should determine whether any additional discovery is justified.

We wish to reemphasize that section 50.47(c)(2) allows the consideration only of minor adjustments (such as a mile or two) in the plume EPZ radius. Thus, the Board should exclude any offered evidence that concerns conditions at some distance from the facility.

⁴² LILCO Exh. 79 (Chapter 2).

not have such an affiliation, e.g., teachers, school bus drivers, and some health care personnel.⁴³

At the hearing below, the intervenors asserted that many individuals will experience a conflict between the discharge of their emergency duties and the fulfillment of perceived family obligations and that, as a consequence, many of them will not promptly carry out their specific responsibilities. Although agreeing that some role conflict will occur, in its April decision the Licensing Board concluded that a sufficient number of the individuals will perform their duties in a timely fashion.⁴⁴

Before us, the intervenors challenge that conclusion. In this connection, they focus primarily upon two categories of individuals who will have some role to play in the event of an emergency: teachers and school bus drivers.

1. School teachers are among those individuals who are not members of the applicant's Local Emergency Response Organization, but are relied upon to perform essentially their usual duties in the event of a Shoreham emergency. Were an accident to occur during school hours, the applicant might well advise the schools in the plume EPZ to implement an early dismissal of students.⁴⁵ Teachers would be relied upon for assistance in supervising and coordinating that dismissal. If, instead, sheltering in the school were called for, the teachers would be needed to supervise the students until the instruction to release them was received.

Suffolk County presented testimony of five school administrative officials to the effect that a significant number of teachers and administrative personnel would abandon their duties during an emergency.⁴⁶ In addition, the County attempted to present the testimony of a panel of teachers to the same general effect. The applicant filed a motion to strike the latter testimony as unreliable and irrelevant.⁴⁷ The Licensing Board granted the motion. Among other things, the Board concluded that, given the testimony of the school officials, the teachers' testimony was both irrelevant and cumulative.⁴⁸

The written testimony of the school officials asserted that any protective action, such as early dismissal, evacuation or sheltering, would require at least a full complement of school personnel. Based on a general

⁴³ Babb *et al.*, fol. Tr. 11,140, at 78; LILCO Exh. 79 at 5.1-6.

⁴⁴ LBP-85-12, 21 NRC at 679.

⁴⁵ Cordaro *et al.*, fol. Tr. 9154, Vol. II, at 33-35.

⁴⁶ Petrilak, fol. Tr. 3087 (Direct Testimony), at 4-5; Jeffers and Rossi, fol. Tr. 3087 (Direct Testimony), Attachment 1; Muto and Smith, fol. Tr. 3087 (Direct Testimony), at 3-4.

⁴⁷ LILCO's Motion to Strike or for Discovery and Rebuttal on the Testimony on Behalf of Suffolk County Regarding Emergency Planning Contention 25.D (November 28, 1983).

⁴⁸ Tr. 790-91.

knowledge of teachers and their family obligations, the school officials considered the potential for role conflict to be a serious problem in providing for protective actions at schools. Similarly, the proffered testimony of the panel of teachers maintained that family obligations could cause many teachers to abandon their students in the event of a Shoreham emergency. The teachers, however, were testifying directly from the perspective of those individuals who might experience a conflict between their professional responsibilities and family obligations.

We conclude that, in the circumstances, the Licensing Board erred in excluding the proffered testimony of the teachers. True, in some respects the teachers' testimony was cumulative to that of the school officials.⁴⁹ But it provided perhaps a more authoritative indication of the potential for role conflict among teachers than did that of the school officials. Nevertheless, the Board's error was not prejudicial for, even considering the additional views of the teachers, the outcome on the issue is not altered.

Whether the potential for teacher role conflict fatally flaws the applicant's emergency response plan hinges upon whether such significant job abandonment might occur as to result in an insufficient number of teachers being available to supervise early dismissal, evacuation or sheltering activities. The teachers' proffered testimony did not provide firm evidence on this question. While opining that some of their colleagues would likely abandon their posts,⁵⁰ the teachers did not discuss the minimum number needed to allow for proper supervision of the students. For example, they did not address the possible placement of students in larger groups, which would reduce the complement of teachers necessary for supervision.

In this connection, neither the included nor the excluded testimony on teacher role conflict stood in the way of the Licensing Board's reliance upon the testimony of the Chief of FEMA's Natural and Technological Hazards Division. He stated that, based on his 15 years of experience in emergency operations, "[t]he history of disaster response has consistently shown that . . . teachers . . . more than meet [their] responsibilities when faced with emergency situations."⁵¹ This observation was supported by a school official who testified that, in his experience, while some individual teachers were affected by role conflict, teachers as

⁴⁹ The proffered testimony of the teachers discussed a survey of teachers concerning role conflict that was not part of the prefiled testimony of the school officials. This survey, however, was extensively discussed during cross-examination of the school officials, so any error in its rejection by the Licensing Board was harmless. *See, e.g.*, Tr. 3091-100, 3170-74, 3190.

⁵⁰ Apparently, no teacher was prepared to state that he or she would follow such a course.

⁵¹ McIntire, fol. Tr. 2086, at 5. *See* LBP-85-12, 21 NRC at 677.

a group met their responsibilities during emergencies.⁵² In sum, even if some job abandonment were to occur (as the proffered testimony of the panel of teachers hypothesized), the totality of the evidence put before the Board precluded a finding that the remaining teachers would be unable to provide adequate supervision of students during an emergency at Shoreham.⁵³

2. Students attending schools in the plume EPZ are transported in buses owned and operated by either a bus company under contract to provide such services or (in a few instances) by the school district itself.⁵⁴ In the event of an emergency at Shoreham, the applicant will rely on these schools to implement any early dismissal using those resources.⁵⁵ If immediate evacuation is directed, the bus drivers will be expected to take the students to the appropriate reception center.⁵⁶

The applicant does not have any agreements with the school bus companies to ensure that the bus drivers will respond during a radiological emergency.⁵⁷ Further, a survey of school bus drivers in the Shoreham EPZ indicated that significant role conflict might occur.⁵⁸ While the applicant points to the fact that the bus companies are required by their contracts to have ordinarily available 10 to 15 percent more drivers than are actually needed to transport the students, no evidence was presented to establish that that surplus would likely compensate for any abandonment caused by role conflict of the dimensions suggested by the driver survey.⁵⁹

⁵² Tr. 3185-87.

⁵³ An applicant witness testified that certain individuals who perform duties during a Shoreham emergency but are not members of LERO (such as teachers) will be provided information regarding the worker tracking system and the special relocation center for their families. Tr. 904-06. See LILCO's Proposed Findings of Fact and Conclusions of Law on Offsite Emergency Planning (October 5, 1984) at 34 n.44; see Cordaro *et al.*, fol. Tr. 831, at 21-24. We assume that the applicant will fulfill its commitment to make arrangements for teachers, and other school personnel needed during a Shoreham emergency, to participate in the worker tracking system and special relocation center, where they so desire.

⁵⁴ Cordaro *et al.*, fol. Tr. 9154, Vol. II, at 61-62.

⁵⁵ *Id.* at 33-35. Only in the case of the evacuation of nursery schools will the applicant assume transportation responsibility. *Id.* at 52, 83-85.

⁵⁶ *Id.* at 51-52. In contrast to the contemplated arrangements for the evacuation of the general public (see *infra* pp. 157-159), the reception centers for student evacuees will most likely be schools outside the plume EPZ. *Ibid.*

⁵⁷ This matter was raised below as Contention 24.M. See LBP-85-12, 21 NRC at 978. A FEMA witness testified that the lack of agreements to ensure the availability of school bus drivers was a deficiency in the emergency plan. Tr. 12,432-34. Despite the lack of agreements, however, the Licensing Board concluded that the emergency plan provided reasonable assurance that an adequate number of school bus drivers will be available. 21 NRC at 858-59.

The applicant's emergency plan indicates that training will be offered to school bus drivers but it is not mandatory. LILCO Exh. EP-79 at 5.1-6. Applicant witnesses testified that training had not been provided to the drivers. Babb *et al.*, fol. Tr. 11,140, at 79-80. See LBP-85-12, 21 NRC at 753-55, 859.

⁵⁸ Cole, fol. Tr. 1216, at 7. Some of the surveyed drivers are bus company employees; others are in the employ of a school district. *Id.* at 3.

⁵⁹ Cordaro *et al.*, fol. Tr. 9154, Vol. II, at 59.

In addition to that survey, the intervenors sought to introduce testimony on the results of a survey of Suffolk County volunteer firemen on the subject of role conflict.⁶⁰ The staff objected to its admission on the basis that it was irrelevant because (1) the emergency response plan under consideration does not rely on firemen, and (2) the survey did not include members of the fire department closest to Shoreham.⁶¹ The Licensing Board concurred with the objection and, at the hearing, also struck those portions of the testimony of County witnesses Kai T. Erikson and James H. Johnson that dealt with the results of the survey.⁶²

We agree with the intervenors that the Board erred in excluding the testimony related to the survey of volunteer firemen. While the applicant does not rely on volunteer firemen to implement protective actions in the event of a Shoreham emergency, that fact alone was insufficient to deny admission of the testimony.⁶³ In our view, the results of a survey as to the potential for role conflict among firemen, if they had been part of the emergency response, would provide insight into the likely course of conduct of school bus drivers.⁶⁴

Stated in its simplest terms, if a trained professional emergency worker such as a fireman would put family obligations ahead of the discharge of any Shoreham emergency duties that might be assigned to him or her, it is a fair inference that an individual not in such a line of endeavor would encounter at least as great role conflict.⁶⁵ It is thus unsurprising that, in the consideration of emergency planning in *Zimmer*, we found that surveys of volunteer life squadsmen and firemen concerning the role conflict they would encounter raised "a serious question as to whether bus drivers could be depended upon to carry out their responsibilities" in the event of an accident at that plant. We further deter-

⁶⁰ See Cole, fol. Tr. 1216, at 12-16.

⁶¹ NRC Staff Motion to Strike Certain Prefiled Testimony of Suffolk County (November 28, 1983) at 2.

⁶² See Erikson and Johnson, fol. Tr. 1455, at 24-26, 28, 30.

⁶³ We do not consider the other basis presented by the staff for exclusion of the testimony (i.e., the survey did not include the fire department closest to Shoreham) to be any more persuasive.

⁶⁴ We do not view the firemen survey as applicable to the members of the applicant's Local Emergency Response Organization. In contrast to the firemen, the LERO personnel have undergone considerable training with regard to their required duties and responsibilities in the event of a radiological emergency. See LBP-85-12, 21 NRC at 745-56.

⁶⁵ Some non-LERO individuals, such as teachers and health care personnel, would merely continue during an emergency in essentially their usual functions at their current location. The potential for role conflict causing job abandonment among these individuals is quite distinct from that potential for individuals who must respond to an emergency. Thus, we do not consider the firemen survey to provide any significant information on role conflict among those non-LERO individuals, such as teachers and health care personnel, who essentially continue to perform their regular duties during a Shoreham emergency.

mined there that those surveys precluded, on the evidence of record, a finding that the school bus drivers would respond promptly.⁶⁶

On the record now before us, we similarly cannot make a finding that a sufficient number of school bus drivers can be relied upon to perform their duties if an accident occurred at Shoreham. Therefore, we are remanding this matter to the Licensing Board for further exploration. All parties will be free to adduce additional evidence on the issue; at minimum, the Licensing Board is to accept the testimony related to the survey of volunteer firemen. Upon review of the evidence presented at the reopened hearing, the Licensing Board should reconsider its prior findings and conclusions regarding the potential for role conflict among school bus drivers.⁶⁷

C. Emergency Planning for Hospitals

Two hospitals, and possibly a third as well, are within the plume EPZ and, thus, must be included in the emergency response plan.⁶⁸ On that score, the Licensing Board concluded in its April decision that it was enough that the plan listed several hospitals outside the EPZ to which evacuees from those hospitals might be sent.⁶⁹ The Board also determined that, if a need for such evacuation arose, arrangements for the transportation and relocation of patients could be made while the emergency was in progress.⁷⁰

Several bases were assigned for these holdings. As the Board saw it, there is little likelihood that patients will be evacuated from the hospitals within the EPZ because: (1) those hospitals are close to the edge of the EPZ; (2) the hospitals are so constructed as to be particularly suitable for the sheltering of patients in the event of a radiological emergency; and (3) substantial health risks attend upon the movement of patients

⁶⁶ *Cincinnati Gas & Electric Co. (Wm. H. Zimmer Nuclear Power Station, Unit No. 1)*, ALAB-727, 17 NRC 760, 772 (1983). It is true that volunteer life squadsmen and firemen were included in the *Zimmer* emergency response plans. See *Zimmer*, LBP-82-47, 15 NRC 1538, 1596-98 (1982). But that fact played no part in our determination that the surveys of those individuals were pertinent to the question of the likely response of the bus drivers to a radiological emergency. Indeed, we did not even mention it.

⁶⁷ In their brief, the intervenors point to an asserted failure on the part of the Licensing Board to address the potential for role conflict among health care personnel. Our review of the record reveals no clear evidence that such personnel would abandon their duties in sufficient numbers as to make the care of individuals in hospitals and nursing/adult homes inadequate.

⁶⁸ At one point in its April decision, the Licensing Board stated that "[t]here are three hospitals in the vicinity of the plant; two just inside the EPZ boundary and one just outside it." LBP-85-12, 21 NRC at 829. At a later point, however, the Board referred to testimony of an applicant witness with regard to the "three hospitals in the EPZ," which the Board opined would be "among the last facilities to be evacuated in any event." *Id.* at 844-45. On the remand (see *infra* p. 157), the Board should clarify this matter.

⁶⁹ *Id.* at 839-40.

⁷⁰ *Id.* at 840, 844-45.

from one hospital to another.⁷¹ With respect to the sufficiency of the mere listing of possible reception hospitals located outside of the EPZ, the Board observed that those hospitals were on notice that they might be called upon for assistance, but none of them could predict in advance what facilities it might be able to provide to transferred patients.⁷² Because of these considerations — in addition to the improbability that evacuation would be decreed — the Board found no need for letters of agreement between the within-EPZ hospitals and potential reception hospitals.⁷³

In the case of nursing/adult homes,⁷⁴ however, the Board took an entirely different tack. Without explicitly setting forth its rationale for differentiating between that type of facility and a hospital, the Board criticized the emergency response plan because it neither identified more than a few reception centers for the residents of nursing/adult homes nor indicated the existence of letters of agreement between the within-EPZ facilities and such centers.⁷⁵ The Board directed that these deficiencies be cured prior to full-power operation of Shoreham.⁷⁶ No similar direction was needed with respect to the arrangements for the transportation of the nursing/adult home residents to facilities outside the EPZ. For, in contrast to the situation with the hospitals, the plan sets forth the number of vehicles required and the arrangements made for securing them in a timely fashion, should the need arise.⁷⁷

Before us, the intervenors challenge the Licensing Board's acceptance of the portions of the plan concerned with hospital evacuation. In their view, the Board had no legitimate basis for treating the hospitals differently from the other special facilities for the care of the infirm and aged. We agree.

Assuming, without deciding, that the probability of a hospital evacuation is as low as the Licensing Board believed, it does not follow that the emergency response plan need not concern itself with how such an evacuation would be carried out if it should be directed. To the contrary, as we recently observed in a related context:

The Commission's emergency planning regulations are premised on the assumption that a serious accident might occur and that evacuation of the EPZ might well be

⁷¹ *Id.* at 829.

⁷² *Id.* at 840.

⁷³ *Ibid.*

⁷⁴ An "adult" home presumably is a facility for elderly persons.

⁷⁵ *Ibid.*

⁷⁶ *Ibid.*

⁷⁷ *Id.* at 828-29. See also LILCO Exhs. EP-1, Appendix A at IV-175 through IV-180 and EP-79, Appendix A at IV-173 through IV-178.

necessary. . . . The adequacy of a given emergency plan therefore must be adjudged with this underlying assumption in mind. As a corollary, a possible deficiency in an emergency plan cannot properly be disregarded because of the low probability that action pursuant to the plan will ever be necessary. Thus, the Licensing Board majority gave undue weight to the fact that evacuation of [a hospital within the EPZ] is remote.⁷⁸

We find no occasion to reconsider that general proposition here. Moreover, we are satisfied that the Commission's regulations and the guidance contained in NUREG-0654 provide sufficient reason for treating hospital patients in the same manner as the residents of nursing/adult homes insofar as planning for evacuation and relocation is concerned.⁷⁹

First of all, although 10 C.F.R. 50.47 does not itself address the matter, NUREG-0654 defines (at 4-2) the term "special facility" to include "institutions such as hospitals and nursing homes." And there is not the slightest suggestion anywhere in that document that, as a class, hospital patients are not entitled to the benefits of precisely the same emergency planning as are those individuals confined to nursing/adult homes.

With respect to the necessity that the emergency response plan concern itself with the transportation of hospital patients to reception hospitals outside of the EPZ, the regulations do come into play and counter any thesis that such transportation requires no pre-planning but can be left to *ad hoc* resolution once the emergency has occurred.⁸⁰ Specifically, in connection with its emergency plan, an operating license applicant must provide "an analysis of the time required to evacuate and for taking other protective actions for various sectors and distances within the plume exposure pathway EPZ for transient and permanent populations."⁸¹ Such an analysis cannot be made for the hospitals without an awareness of the extent of the transportation that might be required to remove the patients from the EPZ, as well as an understanding of how

⁷⁸ *Philadelphia Electric Co.* (Limerick Generating Station, Units 1 and 2), ALAB-819, 22 NRC 681, 713 (1985), review declined, CLI-86-5, 23 NRC 125 (1986). In this connection, we cited *Southern California Edison Co.* (San Onofre Nuclear Generating Station, Units 2 and 3), CLI-83-10, 17 NRC 528, 533 (1983), *rev'd in part on other grounds*, *GUARD v. NRC*, 753 F.2d 1144 (D.C. Cir. 1985).

⁷⁹ Quite apart from the matter of regulatory requirements and guidance, as earlier noted the Licensing Board did not explain why it was drawing a distinction between hospitals and nursing/adult homes. Nor is a factual basis for such a distinction readily apparent. To begin with, in common with the hospitals, six of the ten nursing/adult homes lie on the outer reaches of the EPZ. Attachment 1 to LILCO's Testimony on Contentions 24.J, N, 72.C, D and 96.B (Planning for Special Facilities), fol. Tr. 9017. Second, it is not unlikely that the evacuation of a significant number of the residents of the homes might pose a sufficient health risk to them that such a step would be avoided if at all possible. Third, the Licensing Board has not referred to any evidence bearing upon the sheltering capability of the homes.

⁸⁰ *Cf. Guard v. NRC*, *supra* note 78.

⁸¹ 10 C.F.R. Part 50, Appendix E, Section IV.

and when the evacuation would be accomplished. Yet the proposal to deal with transportation requirements only after the need arises supplies no insight on either score.

Further, NUREG-0654 contains several criteria for the evacuation of special facilities. The criteria set forth in section II.J indicate that the emergency planning for special facilities such as hospitals shall include:

II.J.10.d. Means for protecting those persons whose mobility may be impaired due to such factors as institutional or other confinement;

* * * * *

II.J.10.i. Time estimates for evacuation of various sectors and distances based on a dynamic analysis (time-motion study under various conditions) for the plume exposure pathway emergency planning zone . . . ; and

II.J.10.m. The bases for the choice of recommended protective actions from the plume exposure pathway during emergency conditions. This shall include expected local protection afforded in residential units or other shelter for direct and inhalation exposure, as well as evacuation time estimates.⁸²

The *ad hoc* evacuation does not provide a foundation for ascertaining evacuation time estimates in conformity with these criteria.

In sum, the Licensing Board should have required the applicant to fulfill the same planning obligations with regard to possible hospital evacuation as the Board imposed in connection with the nursing/adult homes. We therefore remand and direct the Board to rectify this error.

D. Nassau Coliseum

As earlier noted, emergency response planning must make provision for the care of persons removed from the plume EPZ should circumstances necessitate evacuation measures. Initially, the applicant's emergency plan designated for this purpose five facilities located in Suffolk County — three to serve as primary "relocation" centers and two as backup facilities. Each was to provide radiological monitoring and decontamination services, as well as emergency sheltering.⁸³

In their Contention 24.O, the intervenors asserted that one of the primary designated centers — Suffolk County Community College — was not available for use for that purpose and that, as a consequence, the occupants of a significant portion of the plume EPZ would be left without a place to turn to in the event evacuation became necessary. Another

⁸² NUREG-0654 at 61, 63-64 (footnote omitted).

⁸³ LILCO Exh. EP-1 at 4.2-1, 4.2-3

contention (No. 74) alleged that, contrary to NUREG-0654, section II.J.10.h, two of the primary centers were within three miles of the plume EPZ boundary.⁸⁴ A third contention (No. 75) maintained that:

The LILCO Plan provides no estimates of the number of evacuees who may require shelter in a relocation center, and the Plan fails to demonstrate that each such facility has adequate space, toilet and shower facilities, food and food preparation areas, drinking water, sleeping accommodations and other necessary facilities. Accordingly, there is no assurance that the relocation centers designated by LILCO will be sufficient in capacity to provide necessary services for the number of evacuees that will require them. Thus, LILCO fails to comply with NUREG-0654 §§ II.J.10.g and J.12.

Before a hearing could be held on these allegations, however, the applicant revised its plan to eliminate the use of the five facilities it had previously designated. In addition, it made several other significant changes in the plan. Instead of all-purpose facilities, the revised plan contemplated that some facilities would be reception centers and others would be shelters. All evacuees from the plume EPZ would be directed initially to a reception center for registration, monitoring, and possible decontamination. If necessary, an evacuee would then be transferred to one of the shelters.⁸⁵

By the time the hearing began on the relocation center issues in August 1984, the applicant had designated some 50 facilities, all located within Nassau County, as shelters.⁸⁶ But there was no designated facility that was to serve as a reception center. The applicant explained that negotiations were still being conducted for the possible use of two facilities in Nassau County for such purpose. It was reluctant to name them at that point, however, for fear that outside pressures might lead to withdrawal of the facilities if their identity became known before completion of negotiations.⁸⁷ The hearing ended with the Board declaring a "void" in the record on this matter.⁸⁸

Two months later, the applicant notified the Board and the parties of the completion of negotiations for the use of the Nassau Veterans Memorial Coliseum, located some 33 miles from the closest boundary of the plume EPZ, as a reception center.⁸⁹ In the applicant's view, this development merely confirmed commitments on the applicant's part

⁸⁴ Section II.J.10.h provides that a relocation center must be at least five miles, and preferably 10 miles, beyond the boundaries of the plume EPZ.

⁸⁵ Cordaro *et al.*, fol. Tr. 14,707, at 15-16 and at Attachment 1; see Tr. 14,781-85, 14,801-02, 14,809.

⁸⁶ Cordaro *et al.*, fol. Tr. 14,707, at Attachment 1; Tr. 14,780, 14,784.

⁸⁷ Tr. 14,793, 14,796-97.

⁸⁸ Tr. 14,806-07, 15,713.

that were already reflected in the record and thus it could be taken into account without a reopening of the evidentiary record. The Licensing Board, however, disagreed and, on January 4, 1985, ruled that “identification of the Nassau Coliseum as a relocation center is not merely a confirmatory item, considering the state of this record.”⁹⁰ A week later, the applicant moved to reopen the record, submitting with the motion its proffered evidence on the Nassau Coliseum.⁹¹ Over the intervenors’ opposition based upon asserted untimeliness, the Board granted the motion and set a schedule for responses to the evidence submitted by the applicant.⁹²

Following a hearing on whether the Nassau Coliseum was “functionally adequate” to accommodate the number of evacuees that might be expected to show up in the event of a radiological emergency, in its August decision the Licensing Board found the applicant’s “overall procedures for processing evacuees at the Coliseum to be conceptually adequate.”⁹³ Before us, the intervenors attack this finding on a variety of grounds. For the reasons now discussed, we conclude that some of the intervenors’ claims are meritorious and others are not.

1. The intervenors maintain that the applicant’s motion to reopen the record to receive evidence on the use of the Nassau Coliseum should have been denied as untimely because it was not filed until January 11, 1985 — approximately five months after the applicant formed its intent to employ the Coliseum. We disagree.

Licensing boards are vested with broad discretion in the conduct of the proceedings before them. Thus, so long as they have a rational foundation, board determinations on such questions as the timeliness of motions are not likely candidates for reversal.

In concluding that the reopening motion here was timely filed, the Licensing Board found that the applicant could not be certain of the availability of the Coliseum as a reception center until final arrangements were completed.⁹⁴ That did not occur until October 24, 1984. A few days later, the applicant informed the Licensing Board and the parties of that fact and of its view that the record need not be reopened in order to take cognizance of it.⁹⁵ Inasmuch as it was not until January 4, 1985, that the

⁸⁹ Letter from Kathy E.B. McCleskey to Licensing Board (October 30, 1984). This and earlier developments placing all shelters in Nassau County rendered the intervenors’ Contention 74 moot.

⁹⁰ Tr. 15,739-40.

⁹¹ LILCO’s Motion to Reopen Record (January 11, 1985).

⁹² Memorandum and Order Granting LILCO’s Motion to Reopen Record (January 28, 1985).

⁹³ LBP-85-31, 22 NRC at 417-19. The Board found, however, a few correctable defects in the plan.

⁹⁴ January 28, 1985 Memorandum and Order at 6.

⁹⁵ See *supra* pp. 158-59.

Licensing Board made its disagreement with this view clearly known,⁹⁶ the January 11 filing of the reopening motion certainly did not involve an unreasonable delay.⁹⁷

2. Three days after the Licensing Board granted the motion to reopen, the intervenors requested information from the applicant, the staff, and FEMA relating to the applicant's proposed use of the Nassau Coliseum as a reception center. The sought information pertained to the arrangements made for the use of the Coliseum for reception center purposes; the physical layout of the facility; and the schedule for sporting and other events.⁹⁸

The applicant objected to the request. Following a telephone conference, the Board upheld the objection and announced that the reopened proceeding was an "expedited" one that did not allow for discovery.⁹⁹ The intervenors' motion for reconsideration was denied on the ground that no good cause for the requested discovery had been shown "at this late stage of the proceeding."¹⁰⁰

In challenging that ruling, the intervenors stress that it improperly required them to present direct testimony and to prepare for cross-examination on the applicant's proposed use of the Coliseum without the benefit of any discovery. We agree.

Although some aspects of the reception center issue had been litigated earlier, the proposed use of the Nassau Coliseum did not surface until after the record was closed. Once the Coliseum's identity became known, as a matter of simple fairness the intervenors were entitled to be accorded the opportunity to discover any information that might bear upon the suitability of that facility for the applicant's intended use.

⁹⁶ Tr. 15,739-40.

⁹⁷ Nor do we find merit in the intervenors' charge that the Licensing Board applied a double standard in passing upon timeliness questions. The assigned basis for that charge is the Licensing Board's treatment of the intervenors' prior motion seeking the admission of new contentions dealing with certain issues assertedly presented by a strike by applicant's employees. That motion, filed 27 days after the strike occurred, had been denied as untimely. The intervenors have not established a similarity of relevant factors in the two situations. It is also noteworthy that, at oral argument, their counsel explicitly disclaimed any suggestion that the Licensing Board was biased against her clients. App. Tr. 15.

No more substantial is the intervenors' complaint that, in granting the reopening motion, the Licensing Board unfairly gave the applicant a fourth attempt at establishing the viability of the evacuation portion of its emergency response plan. See *Consolidated Edison Co. of New York* (Indian Point, Unit No. 2), CLI-83-16, 17 NRC 1006, 1014 (1983).

⁹⁸ See letters appended to LILCO's Opposition to Suffolk County Discovery Requests Concerning Use of Nassau Coliseum as a Reception Center, Motion for Protective Order and Request for Expedited Board Ruling (February 1, 1985).

⁹⁹ Tr. 15,803. This bench ruling was memorialized that same day by the Board's February 5, 1985 ruling on LILCO's Motion for a Protective Order (unpublished).

¹⁰⁰ Memorandum and Order (Ruling on Motion for Reconsideration of Board's February 5, 1985, Protective Order) (unpublished) (February 12, 1985) at 5. The Board pointed to the provision in 10 C.F.R. 2.740(b)(1) to the effect that "no discovery shall be had after the beginning of the prehearing conference held pursuant to § 2.752 except upon leave of the presiding officer upon good cause shown."

Moreover, although there may have been a need for an expeditious hearing as declared by the Board, there was no indication that the requested discovery would cause a delay in the hearing schedule established by the Board. In the circumstances, good cause plainly existed for permitting discovery and, thus, the Licensing Board abused its discretion in not so finding.

3. In response to the affidavit of the applicant's witness Elaine D. Robinson on the use of the Coliseum as a reception center, the staff (jointly with FEMA) and the intervenors submitted the proposed testimony of their respective witnesses. Upon considering the proposed testimony of all the parties, the Board declared:

[A]n oral hearing is needed to resolve the contested issue in Contention 24.0 as to whether the designated relocation center, the Coliseum, is itself functionally adequate to serve as a relocation center for the anticipated general evacuees. The number of general evacuees that can be expected to use a relocation center has already been litigated and that subject will not be reheard. The Board will only consider evidence that goes primarily and directly to the question of whether the Coliseum is adequate for use as a relocation center. Collateral matters will not be heard.¹⁰¹

The Board went on to accept the proposed testimony of the four staff witnesses (FEMA officials). It rejected, however, all or substantially all of the proposed testimony of the intervenors' seven witnesses as either relating to issues that had already been litigated or as not relevant on the issue in the reopened proceeding.¹⁰²

Except with respect to the testimony of Mr. Campo, which dealt entirely with the subject of sheltering, we conclude that the Licensing Board erred in its rulings on the intervenors' proffered testimony. The error stemmed from the Board's unjustifiably narrow interpretation of the issue to be heard at the reopened hearing: whether the Nassau Coliseum "is itself functionally adequate to serve as a relocation center for the anticipated general evacuees."¹⁰³ The Licensing Board construed the question as relating only to the capability of the Coliseum's physical facilities to allow successful conduct of the necessary monitoring and decontamination of evacuees who arrive there. It did not deem it to include, as well, consideration of either the Coliseum's accessibility to evacuees from and around the plume EPZ, or other factors that could likewise affect its utility as a reception center. But, manifestly, a reception center that is beyond the reach of the persons it is set up to serve

¹⁰¹ Memorandum and Order (Reopening of the Record) (unpublished) (May 6, 1985) at 4.

¹⁰² *Id.* at 5-7. These witnesses were: Leon Campo, Dr. James H. Johnson, Jr., Dr. Edward P. Radford, Richard Roberts, Charles E. Kilduff, Langdon Marsh, and Sarah J. Meyland.

¹⁰³ *Id.* at 4.

cannot fulfill its intended purpose, no matter how well the facility might be designed and equipped.

In short, especially given the concerns expressed by the intervenors from the very outset,¹⁰⁴ the Board should have taken the issue before it to be whether there were any factors — including the location of the Coliseum relative to the various portions of the EPZ — that might make that facility unsuitable to serve as the sole reception center for EPZ evacuees. On remand, the Board is to revisit the Coliseum issue in the context of that broader scope. And, in doing so, it is to admit the previously rejected testimony of all of the witnesses for the intervenors other than that of Mr. Campo (whose testimony, once again, did not deal with the Coliseum but, rather, with already fully litigated issues concerned with designated shelters).¹⁰⁵ Moreover, the Board is to provide the intervenors with the opportunity for discovery that was improperly denied to them and is to allow the introduction by any party of such additional evidence as may be germane to the Coliseum issue as delineated above.

For the foregoing reasons, on those issues raised by the intervenors' appeals, the Licensing Board's April 17 and August 26, 1985 partial initial decisions are *affirmed* in part and *remanded* in part for further proceedings in conformity with this decision.¹⁰⁶ Given this result, the Commission may wish to consider whether it should proceed now with its

¹⁰⁴ Although the relocation center contentions were cast in terms of the lack of agreement evidencing permission for use of designated facilities as relocation centers, the intervenors' essential concern was whether those facilities were adequate to fulfill their purpose if actually called upon to do so. This intent is manifest, for example, in Contention 24.O. It states in part:

Suffolk County Community College is an entity of the Suffolk County Government. LILCO has no agreement with Suffolk County to use Suffolk County Community College as a relocation center. . . . Therefore, there is no relocation center designated for a significant portion of the anticipated evacuees. Thus, the proposed evacuation of zones A-E, H-J cannot and will not be implemented.

The same thought is inherent in Contention 75, which asserts that "there is no assurance that the relocation centers designated by LILCO will be sufficient in capacity to provide necessary services for the number of evacuees that will require them." See *supra* p. 158.

¹⁰⁵ The testimony of Messrs. Roberts and Kilduff is concerned with transportation and traffic problems that might develop as a result of the Coliseum's location and its distance from the plume EPZ. Clearly, this is relevant to the question of the accessibility of the Coliseum to evacuees. Dr. Johnson's testimony deals with the evacuation shadow phenomenon. See *supra* p. 146. While that matter has already been extensively litigated, it was not done in the context of the Coliseum and any problems its location *vis-a-vis* the Shoreham facility might create. Mr. Marsh's testimony addresses whether the proposed use of the Coliseum is precluded by state law. This question goes to the availability of the Coliseum for reception center purposes and is, therefore, relevant. Ms. Meyland's testimony deals with possible health and safety problems that use of the Coliseum for reception center purposes might cause to the area water supply. This testimony focuses upon the availability of the Coliseum as a reception center and is clearly relevant. Dr. Radford's testimony is concerned with the matter of exposure to radiation and any additional problem that the Coliseum's distance from the EPZ may cause. This testimony likewise is relevant to the question whether the Coliseum is suitable to serve as a reception center.

¹⁰⁶ As indicated in Part I, the appeals themselves are dismissed.

review of ALAB-818. Should it decide to do so, it might further conclude that the proceedings on the remand should be held in abeyance to await the outcome of the ALAB-818 review. Accordingly, the Licensing Board shall take no action in furtherance of the remand unless and until so instructed by the Commission.

Review of the still pending issues raised by the applicant's appeals from the April and August partial initial decisions will continue to be *deferred* to await either (1) completion of Commission review of ALAB-818, or (2) further Commission instructions to this Board.

It is so ORDERED.

FOR THE APPEAL BOARD

C. Jean Shoemaker
Secretary to the
Appeal Board

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

**Ivan W. Smith, Chairman
Richard F. Cole
Gustave A. Linenberger, Jr.**

In the Matter of

**Docket No. 50-352-OLA
(ASLBP No. 86-522-02-LA)
(Check Valve)**

**PHILADELPHIA ELECTRIC COMPANY
(Limerick Generating Station,
Unit 1)**

March 13, 1986

**MEMORANDUM AND ORDER RULING ON
ROBERT L. ANTHONY'S PETITION FOR LEAVE
TO INTERVENE**

BACKGROUND

This proceeding involves an amendment to the operating license for the Limerick Generating Station, Unit No. 1, located in Montgomery County, Pennsylvania. The Licensee, Philadelphia Electric Company, applied for the amendment on December 18, 1985. The Commission initially determined that the requested amendment would be a "no significant hazards consideration" under § 189a(2)(A) of the Atomic Energy Act (as amended in 1983 by the "Sholly Amendment"). That section provides that, upon an initial determination by the Commission that an amendment to an operating license involves no significant hazards, that

amendment may be immediately effective in advance of the holding and completion of any hearing required under the Act.

On December 26, 1985, the Commission published in the *Federal Register* the notice of "Consideration of Issuance of Amendment to Facility Operating License and Proposed No Significant Hazards Consideration Determination and Opportunity for Hearing" on the proposed amendment. 50 Fed. Reg. 52,874. The notice explained briefly the technical details of the proposed amendment, explained the "no significant hazards consideration" and the hearing and intervention procedures the Commission intended to follow. Any petitions for leave to intervene were to be filed by January 26, 1986. *Id.* at 52,875.

On January 30, 1986, Mr. Robert L. Anthony submitted a letter requesting a hearing and seeking leave to intervene. The Chief of the Docketing and Service Branch and the General Counsel noted several defects in the letter and declined to docket it. Mr. Anthony was informed of this determination orally on February 5, 1986, and in writing on February 6. Subsequently, Mr. Anthony, by a pleading dated February 5, 1986, submitted an amendment to his January 30 pleading. The Docketing and Service Branch docketed the amended petition.

On February 6, 1986, the requested amendment to the Limerick operating license was issued. According to the *Federal Register* notice, the amendment revises the technical specifications to allow a one-time-only extension of time to satisfy a limited number of testing requirements for the excess-flow check valves in certain instrument lines. The testing must be performed every 18 months and requires a plant shutdown. Under the amendment, the surveillances would be performed during a plant shutdown beginning no later than May 26, 1986, which will occur a maximum of 96 days beyond the time otherwise designated by the technical specifications. The stated purpose of the amendment is to allow continued operation of the plant until other more extensive surveillance testing needs to be performed, and for which plant shutdown is unavoidable.

Limerick Unit No. 1 has been operating under the authority of the amendment since February 19. Pursuant to § 189 of the Act, persons who qualify as parties to the proceeding are entitled to have a hearing on the amendment even though it has already been issued.

The Licensee and the NRC Staff oppose Mr. Anthony's petitions. Their arguments raise issues of timeliness of the petition, Mr. Anthony's

standing to intervene,¹ and whether the aspects of his proposed intervention are within the scope of the notice of opportunity for hearing.

THE PETITIONING

The Board regards the initial petition of January 30 and the amendment of February 5 together as Mr. Anthony's intervention petition. In addressing the threshold requirements of the intervention rule, 10 C.F.R. § 2.714, we do not now consider Mr. Anthony's subsequent filings of February 15 (contentions), his "petition" of February 26, or the several papers filed with the Commissioners.

A. Timeliness

The intervention rule requires that nontimely filings not be considered without a determination that a balancing of the five familiar factors of the rule favors granting the petition.² Despite Licensee's protestations, we accept Mr. Anthony's letter of January 30, 1986, as the pleading for measuring timeliness. Functionally the January 30 letter performs about as well as is required for the purpose of testing the threshold merits of the petitioning. It tells the Licensee and the NRC Staff that Mr. Anthony wants a hearing and gives the reasons why he does. With some effort it is understandable. Despite the informality of the proof-of-service notation, it is apparent that Licensee was put on notice of Mr. Anthony's intervention intentions on January 30.³

¹ Mr. Anthony refers to "FOE" in some of his pleadings, which we understand to be a reference to the Intervenor in the Limerick operating license proceeding, Friends of the Earth. However, he explains nothing whatever about FOE or its interest in this proceeding. We have viewed the petitioning as an individual effort by Mr. Anthony.

² Section 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.

³ It is not within the purview of the Licensing Board to ratify or reject the action of Mr. Clements, Chief of the Docketing and Service Branch, in declining to docket on January 30, the January 30 letter. However, Mr. Anthony's letter clearly did not meet the requirements of 10 C.F.R. § 2.708. The fact that Mr. Clements specifically informed Mr. Anthony of the formal requirements for NRC intervention petitions did not come to the Board's attention until after we issued our Memorandum and Order of March 4, 1986 (unpublished), in which we admonished Mr. Anthony about the poor form of his pleadings. Had we been aware of Mr. Clements' explanation to Mr. Anthony, our March 4 statement would have been stronger. Mr. Anthony should regard this discussion as the *third* warning that he must comply with the NRC rules on filing documents.

The January 30 letter was 4 days late. Mr. Anthony does not expressly acknowledge that he was late but alludes to a possible good cause justification by explaining that he could not have responded any earlier "since the NRC notice, 1/27/86, reached us only on 1/29/86."⁴

The sequence of events leading to Mr. Anthony's petition began when Licensee served a copy of its application for the amendment on Mr. Anthony at the time of its filing on December 18, 1985. The Notice of Opportunity for a Hearing was published on December 26, 1985, but the NRC Staff, through "inadvertence" did not then serve the *Federal Register* notice on Mr. Anthony. Mr. Anthony first learned of the *Federal Register* notice when the NRC Staff provided a copy of the notice in a letter of January 27, 1986, to Mr. Bauer of the Philadelphia Electric Company. The Staff's letter to Mr. Bauer with the notice was served on Mr. Anthony.

In a two-part argument, Licensee insists that there is no good cause for the petition being tardy. First, Licensee argues that the application for amendment was, in fact, served upon Mr. Anthony. But, notice of the application for the amendment is not notice of the opportunity for a hearing on the amendment. In this respect the Board believes the Licensee is not being fair to Mr. Anthony. The application for the amendment was itself apparently quite late. The request received a very prompt turn-around from the NRC. Within 8 days, including the Christmas holiday, Licensee received a "no significant hazards determination" from the NRC Staff and the Staff's publication of the lengthy and complex Notice of Opportunity for Hearing in the *Federal Register*.

Second, Licensee argues that the *Federal Register* notice itself served as full notice to Mr. Anthony. The Licensee is correct that publication in the *Federal Register* gives legal notice of federal business (Licensee's Answer at 6-7), but Licensee acknowledges that Mr. Anthony was a long-time intervenor in the Limerick operating license proceeding. In fairness, Mr. Anthony should not have had to monitor the *Federal Register* to learn about his opportunity to participate in this amendment proceeding, especially when the notice was published so soon after the application. We believe that the Staff has taken the more responsible position on this issue. It does not oppose the petition on the basis of timeliness.

⁴ The *Federal Register* notice has a very substantial potential for confusing would-be petitioners. By its terms, only the licensee is invited to file a request for a hearing. Any other person who wishes to participate in the proceeding as a party is invited only to file a petition for leave to intervene. Without a thorough grounding in § 2.714, a reasonable interpretation may be that a petition to intervene may be filed only in a hearing requested by the licensee. However, in this case, it is apparent that Mr. Anthony was not misled. His letter of January 30, 1986, expressly requests a hearing.

The Staff implies that Mr. Anthony was entitled to receive a copy of the *Federal Register* notice when it was published. Staff Response at 3 n.1.

In any event, Mr. Anthony's petition was not very late and he acted very promptly when he did receive notice. The Board rules that Mr. Anthony has demonstrated good cause for the slightly late filing.

With good cause shown for late filing, Mr. Anthony has a light burden on the other four factors to be balanced for late-filed petitions. There are no other means by which his interest may be protected. This Board has no information about whether Mr. Anthony's participation would assist in developing a sound record. No other party will represent his interests.

The only factor which might weigh against granting the petition is the fifth. Since there will be no hearing if Mr. Anthony does not participate, his participation necessarily will broaden the issues. But since the amendment is already in force, his participation will not delay the proceeding. Any harm visited upon the Licensee by the lateness of the filing was obviated when the Commission issued the amendment without considering the petition. Balancing the five factors, the Board concludes that the petition should not be denied on the grounds of tardiness.

B. Petitioner's Interest, Standing, and Aspects of Intervention

Section 2.714(a)(2) requires a petitioner to set forth his interest in the proceeding and to explain how that interest may be affected by the results of the proceeding. The rule also requires that the petitioner set out the "aspect or aspects" as to which he seeks to intervene. We turn first to the third of these considerations, because Mr. Anthony's interests in the proceeding are measured by the "aspects" of his petitioning.

The *Federal Register* notice offers a hearing on two aspects of the amendment. The first relates to any possible leakage from the containment in the event of a check-valve malfunction. Mr. Anthony's petition does not address this aspect. The second aspect alludes to an analyzed failure of an instrument line and states that the proposed change would not require a respective change in the Limerick Final Safety Analysis Report. *Id.* at 52,874.

Mr. Anthony's petition addresses the instrument-line aspect:

We are convinced that any extension of time for the tests required to determine the ability of the instrumentation lines to function properly would pose risks to our health and safety since these lines are essential to operator information and functioning in every aspect of the plant's operation and are a key link in the control of the nuclear process and absolutely essential to the safe shutdown of the plant in the

event of any accident at the plant which could result in the release of radioactive poisons to the environment, thereby threatening us and the public.

Letter, January 30, 1986.

But next, Mr. Anthony slips into a digression. Citing a Torrey Pines Technology energy-line break analysis, Mr. Anthony states that it "is especially important for the [instrument] lines to be checked" against accidental force and adjacent-line whipping. The NRC Staff pursues Mr. Anthony into his digression and accurately points out that there is no nexus between the Torrey Pines analysis and the amendment to Limerick's operating license. Staff Response at 6-7.

Mr. Anthony has satisfied the "aspects" requirement of the intervention rule. His discussion of his concern about instrument-line failure (quoted above) is directly responsive to an aspect of the amendment noticed in the *Federal Register* opportunity for hearing. His digression into adjacent-line whipping is in the nature of a contention. It is premature, irrelevant, and superfluous. However, the discussion is not fatal to his petition.⁵

Licensee states that Mr. Anthony, who resides some 20 miles away from the plant, has no interest in the proceeding because he has alleged no "particularized harm" from the "minor and temporary change in schedule to delay certain tests required by the Plant's Technical Specifications rather than any change in design hardware or analysis." Given the fact that Mr. Anthony seeks to intervene on instrument failure (not on check valve leakage), the Board does not understand why the 20-mile distance between his residence and the plant would preclude a cognizable interest in the proceeding. The *probability* of any instrument-line failure during the time extension does not depend upon the distance from Mr. Anthony's home to the plant. The *consequence* of any such failure appears to be about the same as in the traditional construction permit and operating license proceeding where a distance of about 50 miles has been thought to be within the area of interest for intervention.

Underlying the objections to the petition by the Staff and Licensee is the implicit assumption that this matter before the Board involves a "no significant hazards consideration" factually as well as legally; therefore Mr. Anthony cannot be exposed to any harm giving him standing to intervene. This is an incorrect reading of § 189 of the Act and the Notice

⁵ Both the Licensee and the NRC Staff impute to Mr. Anthony an intent to litigate once again the safety of the Limerick design. This is not a fair reading of Mr. Anthony's petition. It is clear to the Board that he seeks to litigate exactly what he was invited to litigate by the Notice of Opportunity for a Hearing, i.e., the ability of the instrument lines to function during the extension of time for testing.

of Opportunity for Hearing. The proposed determination that the amendment involves a "no significant hazards consideration" in no way forecloses the right of persons whose interest may be affected to test the matter on its merits. The Board concludes that Mr. Anthony's petition meets the threshold requirements for admission set out in § 2.714.

C. Contentions

However, before the Board may admit Mr. Anthony as a party to the proceeding, he must advance at least one acceptable contention. He has already submitted a list of contentions.⁶ In our order of March 6, 1986, we directed the Licensee and NRC Staff to be prepared to answer the contentions no later than 12:00 noon, March 17, 1986. Now that the Board has found that Mr. Anthony has standing to intervene, the Licensee and the Staff should file any answer to the contentions by that time.

Section 2.714(a)(3) provides to petitioners an opportunity to submit an amended petition or a supplement to petitions with contentions at any time up to 15 days prior to the first prehearing conference. However, that time interval is not appropriate in this proceeding. Accordingly the Board will afford to Mr. Anthony an opportunity only until March 20, 1986, to file by express mail any amendments or supplements to his petition. A prehearing conference will be convened on Thursday, March 27, 1986, beginning at 9:00 a.m. EST, at Old Customs Courtroom (Room 300), U.S. Customs House, Second and Chestnut Streets, Philadelphia, Pennsylvania. All parties and Mr. Anthony or their respective counsel are directed to appear. The Licensee and NRC Staff may respond orally to any additional petitioning and contentions submitted by Mr. Anthony at the prehearing conference. The Board's order of March 4, 1986, suspending pleadings is vacated.

⁶ The contentions were included in a pleading submitted to the Commission on February 15, 1986. The Secretary of the Commission referred these contentions to this Board. Letter, Chilk to Anthony, March 5, 1986.

Judges Linenberger and Cole were not available to participate in this action. Both approve the action.

**FOR THE ATOMIC SAFETY AND
LICENSING BOARD**

**Ivan W. Smith, Chairman
ADMINISTRATIVE LAW JUDGE**

**Bethesda, Maryland
March 13, 1986**

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

**Ivan W. Smith, Chairman
Richard F. Cole
Gustave A. Linsenberger, Jr.**

In the Matter of

**Docket No. 50-352-OLA-1
(ASLBP No. 86-522-02-LA)
(Check Valves)**

**Docket No. 50-352-OLA-2
(ASLBP No. 86-526-04-LA)
(Containment Isolation)**

**PHILADELPHIA ELECTRIC COMPANY
(Limerick Generating Station,
Unit 1)**

March 14, 1986

**MEMORANDUM AND ORDER CONSOLIDATING
PROCEEDINGS AND SETTING SCHEDULE FOR
IDENTIFICATION OF ISSUES**

BACKGROUND

On December 18, 1985, the Licensee, Philadelphia Electric Company, applied for two amendments to the Facility Operating License for the Limerick Generating Station, Unit No. 1, located in Montgomery County, Pennsylvania. The first amendment relates to the testing of certain instrument-line, excess-flow check valves (the "check-valve" amendment). The second amendment relates to the testing of primary containment isolation valves (the "containment-isolation" amendment).

A. The Check-Valve Amendment

On December 26, 1985, the Commission published in the *Federal Register* a notice that the proposed "check-valve" amendment involved a "no significant hazards consideration" and provided an opportunity for a hearing to any person whose interest may be affected by the amendment. Mr. Robert L. Anthony requested a hearing and leave to intervene. The amendment was issued on February 6, 1986. This Atomic Safety and Licensing Board was established on February 12 to rule on petitions to intervene and requests for hearing and to preside over any hearing that may be ordered. The Licensee and the NRC Staff opposed Mr. Anthony's petition. On March 13, 1986, this Board issued a Memorandum and Order (LBP-86-6A, 23 NRC 165) ruling that Mr. Anthony had met the threshold requirements for a petition to intervene as set out in 10 C.F.R. § 2.714 and that the contentions submitted by Mr. Anthony would be considered as noted below.

In the meantime, the Air and Water Pollution Patrol, by its Chairman Frank R. Romano, filed a petition for leave to intervene dated February 24, 1986, in the check-valve amendment proceeding. Licensee has opposed Patrol's petition. The NRC Staff has not yet answered the Patrol's petition and the Board has not yet ruled on the Patrol's petition.

B. The Containment-Isolation Amendment

On December 30, 1985, the Commission published in the *Federal Register* a notice that the proposed "containment-isolation" amendment involved a "no significant hazards consideration" and provided an opportunity for a hearing to any person whose interest may be affected by the amendment. On February 26, 1986, Mr. Anthony filed a request for hearing and petition for leave to intervene in the containment-isolation proceeding. The amendment was issued on March 3, 1986. On March 13, 1986, an Atomic Safety and Licensing Board, consisting of the same members as those designated for the check-valve proceeding, was established to rule on intervention petitions and to preside over any hearing ordered in the containment-isolation proceeding. The Licensee opposed Mr. Anthony's containment-isolation petition. The NRC Staff was granted an extension until March 28, 1986, by the Chief of the NRC Docketing and Service Branch to answer Mr. Anthony's containment-isolation

petition.¹ The Board has not yet ruled on the threshold considerations of Mr. Anthony's containment-isolation petition. He has not filed any contentions in that proceeding.

ORDER

A. Consolidation of Proceedings

The respective Licensing Boards of the check-valve proceeding (50 Fed. Reg. 52,874 (Dec. 26, 1985)) and the containment-isolation proceeding (50 Fed. Reg. 53,226, 53,235 (Dec. 30, 1985)) have determined that it will be conducive to the proper dispatch of their respective proceedings to consolidate them for prehearing purposes and for the purpose of any hearing which may be ordered in both proceedings. Accordingly, pursuant to the provisions of 10 C.F.R. § 2.716, the proceedings are consolidated.

B. Schedule for Identification of Issues

1. By Memorandum and Order of March 13, 1986 (LBP-86-6A, *supra*), the Board directed the participants or their respective counsel to appear at a prehearing conference on the check-valve matter on Thursday, March 27, 1986, beginning at 9:00 a.m. EST, at Old Customs Courtroom (Room 300), U.S. Customs House, Second and Chestnut Streets, Philadelphia, Pennsylvania. The Board has today issued a *Federal Register* Notice of Prehearing Conference setting the prehearing conference in the containment-isolation matter at the same time and place.

2. The Staff and Licensee have already been directed to file any answers to Mr. Anthony's check-valve contentions by 12:00 noon, March 17, 1986. Memorandum and Order of March 13, 1986 (LBP-86-6A, 23 NRC 171).

3. Mr. Anthony has already been directed to file by express mail any amended petitions, supplements to petitions, and additional contentions on the check-valve matter by March 20, 1986. *Id.* Mr. Anthony is directed to file his containment-isolation contentions and any amended

¹ Benjamin H. Vogler, counsel for the NRC Staff, has agreed to comply with the procedures set out below for addressing the issues in these proceedings and has waived the Staff's prerogative to delay its answer until March 28. Mr. Vogler and the Licensing Board Chairman have had several discussions at the instance of the Chairman to arrange for filing the background documents and to explain to the Board the mechanics of the handling of the amendment requests and the pleadings filed by the petitioners. The parties have not complied with the service requirements of 10 C.F.R. § 2.712.

petitions or supplements to his containment-isolation petition by express mail no later than March 20, 1986.

4. Mr. Anthony or his counsel has already been directed to appear at the prehearing conference on March 27. *Id.*

5. The Air and Water Pollution Patrol is directed to file its contentions and any amended petition and supplement to its petition (check-valve matter) by March 20, 1986, by express mail.

6. The Air and Water Pollution Patrol by its representative or its counsel is directed to attend the prehearing conference on March 27.

7. The Licensee and NRC Staff have already been informed that each will be afforded an opportunity to address orally any amended petition, supplement to petition, and new contentions submitted by Mr. Anthony on the check-valve matter at the prehearing conference on March 27.

8. The NRC Staff will be afforded an opportunity to answer orally Mr. Anthony's initial petition for leave to intervene on the containment-isolation matter at the prehearing conference on March 27. The NRC Staff and the Licensee will be afforded an opportunity at the prehearing conference on March 27 to address the contentions, amended petition, and any supplement to petition submitted by Mr. Anthony on the containment-isolation matter.

9. The Licensee and the NRC Staff will be afforded an opportunity to address the contentions and any amended petition and supplement to petition (check-valve matter) submitted by the Air and Water Pollution Patrol at the prehearing conference.

10. Each petitioner will be afforded an opportunity to address any new considerations raised by the Licensee and NRC Staff orally at the prehearing conference.

IT IS SO ORDERED.

**FOR THE ATOMIC SAFETY AND
LICENSING BOARD**

**Ivan W. Smith, Chairman
ADMINISTRATIVE LAW JUDGE**

Bethesda, Maryland
March 14, 1986

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

**Herbert Grossman, Chairman
Richard F. Cole
A. Dixon Callihan**

In the Matter of

**Docket Nos. 50-456-OL
50-457-OL
(ASLBP No. 79-410-03-OL)**

**COMMONWEALTH EDISON COMPANY
(Braidwood Nuclear Power
Station, Units 1 and 2)**

March 28, 1986

The Licensing Board rules on a motion to compel discovery of matters on which attorney-client privilege and attorney work product privilege are asserted.

**RULES OF PRACTICE: DISCOVERY; NONWITNESS
EXPERTS**

In accordance with recent NRC decisions, Rule 26(b)(4) of the Federal Rules of Civil Procedure is applied to permit discovery of a nontestifying expert only upon a showing of exceptional circumstances.

**RULES OF PRACTICE: DISCOVERY; WORK PRODUCT
PRIVILEGE**

The input of counsel to documents required under the regulatory process and otherwise discoverable cannot immunize these documents from discovery.

MEMORANDUM AND ORDER
(Granting, in Part, and Denying, in Part, Intervenor's
Motion to Compel)

By Motion dated March 11, 1986, Intervenor Bridget Little Rorem *et al.*, moved to compel Applicant to fully respond to Interrogatories No. 10 and 13 to which Applicant had objected. Interrogatory No. 10, in general, requests the identification and description in detail of studies evaluating the "Braidwood Construction Assessment Program" (BCAP), certain "corrective action programs," and a "Ongoing Corrective Action Program." Interrogatory No. 13 asks for a description in detail of all work performed by Torrey Pines Technology with respect to quality assurance or corrective action programs.

Applicant's opposition to Intervenor's motion to compel, dated March 21, 1986, contends that portions of the interrogatories to be answered (by narrative or through the production of pertinent documents) fall under attorney-client or attorney work product privilege, for which Intervenor has not made the requisite showing of substantial need to overcome privilege.

We agree with Applicant that Intervenor has made no showing of substantial need for privileged material, and grant Intervenor's motion only with respect to those documents that we determine are not privileged.

MEMORANDUM

As a threshold matter, Applicant urges us to adopt the reasoning (and application) of Rule 26(b)(4) of the Federal Rules of Civil Procedure, which permits the discovery of the facts or opinions of a nontestifying expert only "upon a showing of exceptional circumstances under which it is impracticable for the party seeking discovery to obtain facts or opinions on the same subject by any other means." Applicant cites three Licensing Board opinions¹ that have adopted the provisions of Federal Rule 26(b)(4), and only one² that has refused. Applicant's Response at 3-4. Having read those four cases, it is clear to us that the decision on whether to adopt Rule 26(b)(4), in the absence of a parallel NRC rule

¹ *Kerr-McGee Chemical Corp.* (West Chicago Rare Earths Facility), LBP-85-38, 22 NRC 604, 609-10 (1985); *Carolina Power & Light Co.* (Shearon Harris Nuclear Power Plant, Units 1 and 2), LBP-83-27A, 17 NRC 971, 976-79 (1983); *Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), LBP-83-17, 17 NRC 490, 497 (1983).

² *General Electric Co.* (Vallecitos Nuclear Center, General Electric Test Reactor), LBP-78-33, 8 NRC 461, 465-68 (1978).

or decision by higher authority, is still open to the interpretation of this Board. We are satisfied that the system adopted by Federal Civil Procedure Rule 26(b)(4) makes good sense in keeping discovery to the essentials of the adversary's case without encroaching upon that party's ability to seek expert assistance, and that a decision by us to adopt that procedure, consistent with all the *recent* Licensing Board opinions, would promote a desired uniformity in application. We therefore apply the substance of Rule 26(b)(4) of the Fed. R. Civ. P. to this proceeding. Accordingly, on the assurance of Applicant (Response at 6), based upon the affidavit of its counsel, that Torrey Pines Technology, Inc., was employed exclusively by counsel to provide expert assistance in counsel's preparation for litigation in this case, that Applicant has no present intention of calling any employee of that organization as a witness, and that no information concerning conclusions reached by Torrey Pines has been communicated by counsel to any of Applicant's employees, we determine that Interrogatory No. 13, which relates solely to work performed by Torrey Pines, need not be answered. If, however, our further discussion indicates that Applicant's definition of "preparation for litigation" is too broad, Applicant should reevaluate its withholding of the requested information.

Applicant objects to describing or producing drafts of documents relating to the "BCAP" (Braidwood Construction Assessment Program), "BCAP Quality Assurance," "corrective action reports," and "Corrective Action Program." Applicant asserts either the attorney-client or work product privilege on the grounds that its counsel played a substantial role in preparing these documents and that they were prepared in the anticipation of litigating the issues which they address. Applicant's Response at 10. Nowhere in the motion papers is there a description of the aforementioned programs or reports. As we understand them, however, these programs and reports were assumed by Applicant under its obligations to NRC Staff and the Commission's regulations. That the drafts may have been prepared with an eye towards litigation and by Applicant's attorneys, rather than its technical staff and consultants, should be of more interest to NRC's technical staff than to the Licensing Board. The input of counsel to documents required under the regulatory process and otherwise discoverable cannot immunize these documents from discovery. Counsel in this case were assisting in a management function that is outside the scope of both attorney-client and work product privilege. To the extent that these drafts and other documents relate to the quality assurance issues admitted in this proceeding, they should be divulged. We do not decide whether counsel's handwritten notes and comments on any of the drafts (Applicant's Response at 12) need be

divulged, since Intervenors have declined to “seek the disclosure of mental expressions, conclusions, opinions or legal theories of Applicant’s counsel” (Motion at 3). Counsel may delete those handwritten notes and comments from the produced copies.

A further category of documents withheld by Applicant consists of compilations of materials and conclusions of an evaluation of various programs at the Braidwood site performed by a Special Assistant to the company’s Manager of Projects, the purpose of which was to aid Applicant’s counsel in preparing for licensing hearing. The results of the Special Assistant’s analysis were communicated only to counsel, the Braidwood Project Manager, and Commonwealth Edison’s Manager of Projects. Applicant asserts the work product privilege for these documents and assures that all factual matters set forth in these reports had been made available to Intervenors during the discovery process. Applicant’s Response at 13. On the facts stated, as sworn to by Applicant’s counsel and uncontradicted by Intervenors, we agree that these documents would be privileged as “prepared in the anticipation of litigation or for trial *by or for another party* or by or for that other party’s representative . . .” (emphasis added) under Rule 26(b)(3) of the Federal Rules of Civil Procedure. Since, however, 10 C.F.R. § 2.740(b)(2) establishes the privilege for trial preparation materials only if the documents are prepared “by or for another party’s representative” and omits the phrase “by or for another party,” it is debatable whether our regulations intended to depart from the Federal Rules by making documents prepared by a party itself in preparation for trial discoverable, or whether it assumed that if they were prepared “for” its representative they already fit under the privilege. While we gravitate towards the latter interpretation, we find it unnecessary to decide since, in this instance, under the circumstances set forth by Applicant and its affiant, we determine that these documents are covered by the attorney-client privilege, in any event.

In summary, we determine that Intervenors have failed to make the showing required under 10 C.F.R. § 2.740(b)(2) that they have “substantial need of the materials in the preparation of this case.” To the extent that the documents are privileged, discovery is denied. On the other hand, we have determined, above, that certain of the documents which relate to the admitted quality assurance issues should not be considered as trial preparation materials where they have been prepared to satisfy Applicant’s obligations to NRC Staff and under the regulations.

ORDER

For all the foregoing reasons and based upon a consideration of the entire record in this matter, it is, this 28th day of March 1986,

ORDERED

1. That the parties apply the principles enunciated in the foregoing memorandum to the disputed documents; and

2. That any documents remaining in dispute be brought to the Chairman's attention immediately by any party so that the matter can be resolved expeditiously through a conference call.

**FOR THE ATOMIC SAFETY AND
LICENSING BOARD**

**Herbert Grossman, Chairman
ADMINISTRATIVE JUDGE**

Bethesda, Maryland

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

**Charles Bechhoefer, Chairman
Dr. James C. Lamb
Frederick J. Shon**

In the Matter of

**Docket Nos. STN 50-498-OL
STN 50-499-OL
(ASLBP No. 79-421-07-OL)**

**HOUSTON LIGHTING AND
POWER COMPANY, *et al.*
(South Texas Project,
Units 1 and 2)**

March 28, 1986

The Licensing Board issues a Prehearing Conference Order discussing issues for which further hearings are sought.

QUALITY ASSURANCE PROGRAM: REQUIREMENTS

There is no programmatic requirement under the provisions of 10 C.F.R. Part 50, Appendix B (setting standards for a quality assurance program for operation) for a program to control the use and/or sale of illegal drugs by plant personnel.

**RULES OF PRACTICE: CONSIDERATION OF ISSUES
INVOLVED IN RULEMAKING**

Where the Commission has suspended a rulemaking pending the development of standards by industry, and in the absence of any statement

by the Commission that issues involved in such rulemaking should not be litigated, there is no generic bar to a Licensing Board's consideration of issues which may fall within that rulemaking, under standards in effect prior to such rulemaking or under *ad hoc* "reasonable assurance" criteria where no programmatic standards exist.

RULES OF PRACTICE: CONTENTIONS

The Commission's Rules of Practice require that, for a contention to be litigable, there must be "bases for each contention set forth with reasonable specificity." An anonymous telephone call to a party's representative does not, without more, constitute an acceptable basis.

TECHNICAL ISSUES DISCUSSED

Quality assurance program for operation.

SEVENTH PREHEARING CONFERENCE ORDER (Motions to Reopen Phase II Record; Issues for Phase III)

On March 21, 1986, pursuant to notice,¹ and in accordance with 10 C.F.R. § 2.752, the Atomic Safety and Licensing Board held the seventh prehearing conference in this operating license proceeding. The conference was held in Bethesda, Maryland. Participating were representatives of the Applicants, the Intervenor (Citizens Concerned about Nuclear Power, Inc. (CCANP)) and the NRC Staff. Following is a description of the matters discussed and rulings rendered.

A. Motions to Reopen Phase II Record

The Board first posed certain questions, and heard argument, concerning CCANP's fourth and fifth motions to reopen the Phase II record (Tr. 15,715-53). The questions related to the substance of the material proffered as well as the timeliness of the motions. We have reached no decision on those motions. However, we have determined not to reject the motions on timeliness grounds. Accordingly, our rulings will depend

¹ Notice of Prehearing Conference, dated February 12, 1986 (51 Fed. Reg. 6054 (Feb. 19, 1986)).

on whether we believe the material proffered would affect the result which we otherwise would reach on Phase II issues.

B. Phase III Issues

The issues currently open for consideration in Phase III are Issue F (QA program for operation), an update of our ruling in our first Partial Initial Decision (LBP-84-13, 19 NRC 659) on Issue C (organization and personnel for operations), and limited aspects of Contention 4 (to the extent it questions the adequacy of construction to withstand hurricanes). We have thus far authorized Phase III discovery only with respect to Issue F.

CCANP has currently raised only one question for Phase III litigation. It asserts that HL&P's program for control of drug use has been preferentially administered. Specifically, CCANP alleges that many personnel found to be using or selling illegal drugs have been terminated, whereas others who are members of HL&P's "Operations Group" have not been terminated. Further, that some who have been found to have been involved in the use and/or sale of illegal drugs have not been terminated because they might implicate members of the "Operations Group." As a result, according to CCANP, HL&P's management has demonstrated a lack of character which disqualifies it from operating a nuclear plant. See CCANP Answers to Applicants' Eighth Set of Interrogatories and Requests for Production of Documents, dated February 12, 1986, answer (5).

1. CCANP asserts that this issue is covered by Issue F, which inquires whether the QA program for operation complies with 10 C.F.R. Part 50, Appendix B.² CCANP submits that the alleged preferential treatment represents a violation of criteria II and XVI of Appendix B. It filed a number of discovery requests with the Applicants, based on the allegations falling within the scope of Issue F. The Applicants declined to answer most of the interrogatories and to produce any of the documents requested. Their reasoning was set forth in their Motion for a Protective Order, dated February 18, 1986, supplemented by their Answers and Objections to CCANP Interrogatories, dated February 18, 1986, and their Response to CCANP's Second Request for Production of Documents, dated March 6, 1986. For its part, CCANP responded to the Applicants' motion and also filed motions to compel with respect both to

² Issue F, which was derived from the Commission's ruling in CLI-80-32, 12 NRC 281 (1980), reads: "Will HL&P's Quality Assurance Program for Operation of the STP meet the requirements of 10 C.F.R. Part 50, Appendix B?" Second Prehearing Conference Order, dated December 2, 1980 (unpublished).

its interrogatories and document requests. See Response dated February 28, 1986, and Motions dated February 28 and March 21, 1986.

The Applicants advanced several arguments to support their objections to most of CCANP's discovery requests. They primarily asserted that a drug control program is not a QA requirement under 10 C.F.R. Part 50, Appendix B, and that NRC has never considered such a program to be part of its QA requirements. The Applicants cited two pending rulemaking proceedings — one dealing with "fitness for duty" (47 Fed. Reg. 33,980 (Aug. 5, 1982)) and the other with access authorization for personnel requiring unescorted access to special nuclear material (49 Fed. Reg. 30,762 (Aug. 1, 1984)) — as evidence that NRC has no current requirement for a drug control program. Accordingly, they considered the effectiveness of the implementation of such a program as beyond the scope of Issue F and discovery related thereto as not relevant to an issue in controversy. The Applicants further claim that the two pending rulemaking proceedings deprive us of jurisdiction to consider drug control issues.

CCANP asserted that a drug control program is required by the terms of 10 C.F.R. Part 50, Appendix B, criteria II and XVI, as well as by the generalized introductory language of Appendix B. Tr. 15,783-85; CCANP Response to Applicants' Motion for Protective Order, dated February 28, 1986, at 3-4. In any event, CCANP asserts that its allegations do not attempt to challenge the adequacy of a drug control program as such but, rather, the character of the management officials administering the program and implementing HL&P's QA program for operation. CCANP views Issue F as encompassing the adequacy not only of the QA program but also of its likely implementation.

Prior to the conference, the Staff had not taken a position on these issues, since it does not normally inject itself into discovery disputes between other parties. At the conference, however, it took a position on some of the broader aspects of the questions raised by the dispute. The Staff took the position that CCANP's allegations did not fall within Issue F. It agreed with the Applicants that Appendix B includes no requirement for a drug control program — evidenced both by past Staff implementation practices and by the pendency of the rulemaking proceedings.

The Staff expressed the view that, if considered at all, the allegations would have to be regarded as a new, late-filed contention (Tr. 15,780). In that connection, the Staff disagreed with the Applicants' position that the pendency of the two rulemaking proceedings deprives us of jurisdiction to consider drug control issues under any context (Tr. 15,833-36).

2. Based on the arguments of all the parties, we ruled that consideration of drug control issues is not barred generically by the pending

rulemaking proceedings. We also ruled that CCANP's allegations did not fall within Issue F. Tr. 15,888-89.

On the generic question, only the fitness-for-duty rulemaking bears directly on requirements for a program to control drug use. (The access authorization rulemaking bears on the qualifications of particular individuals to have unescorted access to areas in which are found quantities of special nuclear material.) The fitness-for-duty rulemaking has in effect been suspended, to permit industry to experiment with programs to control drug use on an *ad hoc* basis. That is not the situation in which the generic bar to litigation of issues considered in rulemaking was intended to apply. This rulemaking is not likely to lead to the adoption of definitive standards for drug control programs in the near term. Under these circumstances, examination of the adequacy of the *ad hoc* programs is clearly permissible — either by the Staff, or through adjudication of appropriately raised and presented contentions.

Beyond that, in neither rulemaking did the Commission explicitly bar the litigation of drug control issues. In the situation presented here, such an explicit bar would have been necessary to preclude litigation of drug issues under existing standards — which would amount to an *ad hoc* examination of drug control practices to ascertain whether a “reasonable assurance” finding can be made under 10 C.F.R. § 50.57(a). See *Consumers Power Co.* (Midland Plant, Units 1 and 2), LBP-82-63, 16 NRC 571, 585 (1982); *id.*, LBP-82-118, 16 NRC 2034, 2037-39 (1982), and authorities discussed. Nor does this situation involve an impermissible attempt to litigate a question under standards proposed by a pending rulemaking, as was the case in *Sacramento Municipal Utility District* (Rancho Seco Nuclear Generating Station), LBP-79-33, 10 NRC 821, 824 (1979), one of the authorities relied on by the Applicants.³

As for whether the allegations with respect to implementation of the drug program fall within Issue F, we read this issue as broad enough to encompass both the description and the implementation of the QA program for operation. For, as the Appeal Board long ago observed,

No QA program is self-executing. Thus, irrespective of how comprehensive it may appear on paper, the program will be essentially without value unless it is timely, continuously and properly implemented. This being so, it seems to us to follow that it is not enough for a licensing board to satisfy itself that, if implemented, the pro-

³ The Appeal Board's later observations on the effect of a pending rulemaking on another issue in the same *Rancho Seco* proceeding (ALAB-655, 14 NRC 799, 816 (1981)), also cited by the Applicants, are entitled to no precedential effect, since they resulted from the Appeal Board's *sua sponte* review of an issue not clearly within the scope of the proceeding. Cf. *Arizona Public Service Co.* (Palo Verde Nuclear Generating Station, Units 1, 2, and 3), ALAB-713, 17 NRC 83 (1983); *General Electric Co.* (Vallecitos Nuclear Center — General Electric Test Reactor), ALAB-720, 17 NRC 397, 402 n.7 (1983).

gram described in the PSAR will adequately protect the health and safety of the public. At least where, as here, there has been a legitimate question raised in the course of the proceeding, the board must go on to inquire into whether there is, in fact, a reasonable assurance that the applicant and its architect-engineer will carry out the program in accordance with its terms.

Consumers Power Co. (Midland Plant, Units 1 and 2), ALAB-106, 4 AEC 182, 184 (1973).

We also disagree with the Applicants and Staff that all character questions in this proceeding were relegated to Issues A and B. Indeed, we have real doubt whether CCANP's current allegations would fall within the scope of those issues, even had they been able to be raised in Phase I.

Notwithstanding the scope of Issue F, however, we do not believe that it is broad enough to include the current drug allegations. Even though drug use might be perceived as falling within the generalized language of Appendix B, programs to control drug use have never been required under Appendix B. The circumstance that the Commission currently has under consideration two proposed rules which would encompass drug use is convincing to us that no such programmatic requirement currently exists — in Appendix B or elsewhere.

This does not mean that drug use or control issues cannot be litigated. We disagree with the Applicants' position that we can only litigate compliance with existing programmatic requirements. As the Staff observes (Tr. 15,834), we have authority to explore certain "interstitial areas" between such requirements. Nevertheless, it is clear to us that drug use or control, and management attitude questions associated therewith, are not currently litigable under an issue which questions the structure and implementation of the QA program for operations.

For that reason, we ruled that CCANP's allegations do not fall within Issue F. We accordingly *granted* the Applicants' motion for a protective order and *denied* CCANP's motions to compel.⁴

3. We also explored whether CCANP's drug use allegations were properly within the scope of Issue C, which questions the adequacy of HL&P's program for operation of the STP.⁵ Much of Issue C was litigated in our first PID (LBP-84-13), but only on the basis of the preliminary

⁴ On March 12, 1986, the Applicants filed a motion for summary disposition of Issue F. We understand that, since CCANP's drug claims are the only matter it wishes to litigate under Issue F, it will not respond to that motion. Unless we indicate otherwise by future order, the Staff need not respond to the Applicants' motion.

⁵ In our Order (Response Dates for CCANP Motions), dated March 3, 1986 (unpublished), we advised the parties we would discuss this question at the prehearing conference.

information then extant. We provided for an updating of this preliminary information.

At the conclusion of the conference, we had not reached a decision whether the updated portion of Issue C, as to which both the Applicants and Staff have filed affidavits, is broad enough to cover the allegations respecting the drug control program (Tr. 15,888-89). We determined, however, that for the allegations to be litigated in any context — i.e., whether under Issue C or as a new late-filed contention — we would need more particularity as to the basis for the allegations. CCANP described its basis (under affidavit of its representative) as an anonymous telephone communication to CCANP's representative. CCANP advised that the informant did not wish his or her name to be identified. We ruled that, before we would authorize adjudication of the allegations in any context, we would require further particularization, such as the name of the individual, the foundation of his or her knowledge of the allegations and willingness to testify.

In reaching this determination, we took into account the requirement in 10 C.F.R. § 2.714(b) that there be "bases for each contention set forth with reasonable specificity." The only basis provided thus far by CCANP — an anonymous telephone call to CCANP's representative — does not in our view constitute a reasonably specific basis upon which litigation may fruitfully be founded. As thus far framed by CCANP, the allegations, if accepted for litigation, would constitute an unspecific and impermissible entree to a fishing expedition conducted through broad-ranging discovery of the type CCANP has already submitted to the Applicants. The NRC regulatory scheme requires more specificity prior to the initiation of such discovery.⁶

We indicated that we would provide a protective order for any such information, and that initially it need be furnished only to the Board (Tr. 15,889, 15,891-93, 15,898). We ruled that this information, or other information providing more particularity to the allegations and/or their source, should be furnished the Board by March 28, 1986 (Tr. 15,894). Based on that information, the Board would decide whether the information was sufficient to initiate adjudication, either under Issue C or as a new contention. If we decided that further exploration of the allegations was warranted, we indicated that we would develop a protective order with respect to that information (as well as for much of the information which CCANP sought through discovery, to which CCANP offered no

⁶ In so holding, we are not evaluating the merits of an otherwise adequate basis, as precluded by *Houston Lighting and Power Co.* (Allens Creek Nuclear Generating Station, Unit 1), ALAB-590, 11 NRC 542 (1980).

objection). We also indicated that, if we determined that the allegations could be litigated only as a new late-filed contention, we would provide CCANP an opportunity to address the factors of 10 C.F.R. § 2.714(a) and other parties an opportunity to respond.

By telephone on March 25, 1986, CCANP advised that it would not reveal the name of its informant, even under protective order. It indicated that it would confirm this advice by letter. In view of this response, we decline to authorize discovery on, or further to entertain, CCANP's drug use allegations. We express no opinion as to whether those allegations fall within the scope of Issue C.

C. Other Procedural Rulings

In our Order (Response Dates) dated February 6, 1986 (unpublished), we provided that the Staff was to respond to the Applicants' affidavits on Contentions C and 4, respectively, by March 4, 1986, and that CCANP was to respond by March 18, 1986. Those dates were identified for the purpose of providing the Staff 2 weeks response time and CCANP an additional response period of 2 weeks.

With respect to Contention 4 (to the extent it raises hurricane design questions), the Staff filed its response on February 28, 1986. At the prehearing conference, CCANP advised that it had not filed, and did not intend to file, any response (Tr. 15,905). Accordingly, the Board will complete its review of the motion for summary disposition of Contention 4 (insofar as it raises design questions) on the basis of the filed affidavits. As provided in our Sixth Prehearing Conference Order, dated May 17, 1985 (unpublished), at 6 n.6, we will not consider alleged construction deficiencies bearing upon STP's ability to withstand hurricanes until issuance of the Staff's Safety Evaluation Report (SER). Such issuance is currently scheduled for early April 1986 (Tr. 15,905). As set forth in the Sixth Prehearing Conference Order, CCANP will have 30 days after release of the SER within which to file claims based on the SER concerning the adequacy of construction to withstand hurricanes.

With respect to Issue C, the Staff advised us on March 10, 1986, that it could not meet the previously prescribed date for filing its affidavit on Issue C. It estimated it could file such affidavit by March 17, and asked our approval of that schedule (which we hereby *grant*). The affidavit was in fact filed on March 14.

In seeking the revised schedule, the Staff noted that an extension of the Intervenor's time to respond to the Issue C affidavits would also be necessary. At the prehearing conference, however, the Applicants (although not the Staff) took the position that any extension should apply

only to new information appearing in the Staff's affidavit. (CCANP had not responded by March 18 to the Applicants' affidavit.)

At the conference, we determined that CCANP should have the benefit of both affidavits in determining whether litigable issues exist under Issue C, and that its time for responding to both affidavits should extend to April 2, 1986 (14 days following service of the Staff's affidavit) (Tr. 15,900-02). Replies by the Applicants and Staff are to be filed by April 14 and 21, 1986, respectively (Tr. 15,904). We advised CCANP that, in responding to the Issue C affidavits, it should not attempt to reargue its already asserted claim that the drug control issue falls under Issue C.

As a result of our ruling on CCANP's drug-control allegations, we *cancelled* the evidentiary hearing scheduled to commence on May 6, 1986, as well as the April 14, 1986 date for filing prefiled testimony, both of which were established by our Order dated November 18, 1985 (unpublished) (Tr. 15,899, 15,903-04).

IT IS SO ORDERED.

FOR THE ATOMIC SAFETY AND
LICENSING BOARD

Charles Bechhoefer, Chairman
ADMINISTRATIVE JUDGE

Dated at Bethesda, Maryland,
this 28th day of March 1986.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

OFFICE OF INSPECTION AND ENFORCEMENT

James M. Taylor, Director

In the Matter of

Docket No. 70-143
(10 C.F.R. § 2.206)

NUCLEAR FUEL SERVICES, INC.
(Erwin, Tennessee Plant)

March 3, 1986

The Director of the Office of Inspection and Enforcement denies in part a petition filed by the Oil, Chemical and Atomic Workers International Union requesting that the Commission investigate certain allegations and take other action with regard to Nuclear Fuel Services' Erwin, Tennessee facility. The request rested on the claim that the nonbargaining unit workers carrying out limited operations at the facility as a result of a strike are neither trained nor qualified to perform the work, thus posing a threat to public health and safety. The Director determined that the Staff had already investigated the specific allegations raised in the petition and taken appropriate enforcement action, and that the further relief requested in the petition was unwarranted.

RULES OF PRACTICE: SHOW-CAUSE PROCEEDING

Not every violation of the Commission's regulations or licenses compels suspension or revocation of a license.

**NRC ENFORCEMENT POLICY: 10 C.F.R. PART 2,
APPENDIX C**

In accordance with the NRC Enforcement Policy, a violation involving a failure to perform an adequate search, resulting in the entry of a weapon on the site, is normally classified as a Severity Level III violation

and warrants consideration by the NRC of the proposed imposition of a civil penalty.

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

On September 3, 1985, the Vice President of the Oil, Chemical and Atomic Workers International Union (OCAW) filed a request before the Commission to suspend "recent amendments" to License No. SNM-124 held by Nuclear Fuel Services (NFS), which OCAW believed permitted reduced operations of the plant by the NFS staff at the Erwin, Tennessee facility during the current NFS-OCAW labor dispute.¹ The letter also requested that the Commission order an investigation of twenty specific allegations raised in the letter, require a formal hearing with notice prior to granting any future request to operate the Erwin facility, and hold a public hearing in the Erwin, Tennessee area to establish that reduced operations can be conducted at the facility without adversely affecting the public health, safety, and interest.

On December 13, 1985, OCAW supplemented its original request with a request that the Commission require NFS to cease all operations at the plant until NRC has completed an investigation of a December 11, 1985 incident involving possession of a gun by a driver leaving the plant.

The OCAW request rests on the allegation that the NFS nonbargaining unit workers carrying out the limited operation are neither trained nor qualified to perform the work, thus posing a threat to the health and safety of the residents of Erwin, Tennessee. OCAW alleges that since the work stoppage, a number of health and safety problems have been "brought to the attention of the NRC staff," and that prior to the work stoppage NFS was cited for a number of safety violations. On September 12, 1985, the Commission referred the first OCAW petition to the NRC Staff for consideration under 10 C.F.R. § 2.206. On December 18, 1985, the Commission referred OCAW's second request to the Staff for consideration under § 2.206.

Having completed my evaluation of the petition, as supplemented, I have determined that, with the exception of OCAW's request for an in-

¹ The NFS fuel fabrication plant located in Erwin, Tennessee, processes highly enriched uranium products under contract with the United States Department of Energy. The facility also performs some commercial work involving recovery of low-enriched uranium from scrap generated at other plants and from cylinders used to ship uranium hexafluoride.

vestigation of the specific allegations raised in the petition, the petition should be denied. As discussed below, the Staff has conducted an extensive investigation of these allegations. Accordingly, for the reasons set forth below, OCAW's request for further action is denied.

II.

On May 15, 1985, OCAW began a strike against the licensee, NFS. When the OCAW strike began, NFS voluntarily shut down its high-enriched uranium production operations and suspended operations until it developed an interim staffing plan for the duration of the strike. Subsequently, NFS provided NRC with its plan for limited operation of the plant in a letter dated July 16, 1985, entitled "Planning Guidelines for the Period of Reduced Operations." NFS provided additional information to support the Planning Guidelines in a letter to NRC dated July 22, 1985. Based on the NRC Staff evaluation of the NFS plan and the results of an NRC inspection conducted during the period of June 3-July 5, 1985, of the readiness of the NFS staff to begin operation, NRC notified NFS by letter dated August 14, 1985, that it had no objection to NFS resuming limited operation of the plant in accordance with the information provided in the referenced documents. No amendment to the NFS license was issued to allow reduced operations because the activities to be conducted were within the scope of activities already permitted by NFS' license. NFS resumed plant operation on a reduced basis on August 15, 1985.

On September 3, 1985, OCAW petitioned the NRC to take the action previously described above.² On September 20, 1985, the NRC requested NFS to investigate the allegations contained in the OCAW letter and report the results of its investigation.³ This was done and NFS reported the results of its investigation in its letters to the NRC dated November 1 and December 9, 1985. The NRC also performed inspections to determine the validity and significance of the allegations contained in the

² It should be noted that all of the allegations raised by OCAW in its September 3, 1985 submittal had been previously raised by individuals to the NRC, and were being reviewed by Region II. OCAW also raised similar concerns to the Commission by letter dated May 9, 1985, and in a meeting with NRC Headquarters on June 21, 1985. OCAW did not present any new allegations in its September 3, 1985 request which were not already being considered.

³ In accordance with the NRC procedure for handling allegations, licensees are routinely advised of allegations and requested to address these allegations, subject to further audit by the NRC, except in circumstances where the identity of an allogger might be compromised or a licensee could compromise an investigation or inspection because of knowledge gained from the release of information to the licensee. In this case neither of the exceptions were applicable. The latter exception was particularly not applicable because many of these concerns had already been evaluated by the NRC and the petition was a matter of public record.

OCAW petition. The results of inspections relating to the allegations are found in the NRC inspection reports identified as 70-143/85-24, 85-27, 85-34, 85-38, 85-40, and 85-42.⁴ One of these inspections, documented in Inspection Report 70-143/85-40, was performed to follow up on NFS' report of the results of its investigation. Based on that inspection, the NRC determined that NFS had conducted an adequate investigation of the allegations.

OCAW states in its petition that it regards the "single largest issue" to be the training and qualification of the workforce, and alleges that the workers expected to carry out the reduced operations are neither trained nor qualified to perform the work or to take appropriate steps in the event of a criticality problem. However, as indicated above, the NRC Staff reviewed the NFS plan for training nonbargaining unit personnel and conducted an inspection in order to determine whether NFS staff was adequately trained and qualified to resume operations. Furthermore, the NRC has implemented a program of increased inspection at the NFS Erwin plant during the strike with special emphasis on activities that might be adversely affected by the absence of bargaining unit employees. In this regard, an NRC regional management team visited the site on October 3, 1985, to assess the adequacy of NFS performance in the reduced operations mode. Moreover, the NRC has had a resident inspector at the plant since 1978 and he has been making daily inspections during the period of the strike. Other inspections have been performed by specialists from NRC Region II in Atlanta, Georgia. Based on the daily observations of the resident inspector and the findings of inspectors from the NRC regional office, while minor events have occurred, no significant event or condition has arisen since reduced operation of the plant was undertaken which indicates that worker training and qualifications are not adequate for the current status of plant operations.

With regard to the specific concerns raised in OCAW's September 3, 1985 submittal, the Staff evaluated twenty-one allegations. The Appendix to this Decision contains a listing of the allegations in the OCAW petition and the NRC response and conclusions regarding each of the allegations.⁵ Based upon information provided by the Licensee, Staff audits

⁴ Enclosures 1 and 4 of Inspection Report 70-143/85-27 contain information exempted from public disclosure by 10 C.F.R. §§ 2.790(d) and 73.21.

⁵ The Staff evaluated 20 specific allegations labeled A-T in the petition. These are identified in the Appendix by the same letter as was used in the petition. An additional allegation, abstracted from a paragraph in the petition, that nuclear material was hidden from inventory, was also evaluated. This allegation is identified as "U" in the Appendix. For each allegation, a summary provides the results of the NRC review of the allegation and identifies the NRC Inspection Report that documents the inspection of the item.

(Continued)

of the Licensee review process, and its own independent inspections, the Staff substantiated eight of the twenty-one allegations totally or in part.⁶ With regard to these, the Staff determined that no NRC regulatory requirement was violated in four instances.⁷ In four instances, an NRC regulatory requirement was violated. However, these violations are not of significant regulatory concern such as would trigger escalated enforcement action against NFS, as the violations did not result in exposure to radioactive material in excess of regulatory limits or indicate a significant problem with nuclear material control or accounting.⁸ Furthermore, it is noteworthy that all of the conditions in the substantiated allegations existed prior to the commencement of the strike at NFS, and thus are not attributable to the Licensee's handling of its limited operations as the Petitioner suggests.⁹

The substantiated violations do suggest some weaknesses with NFS' health physics program. In fact, prior to the work stoppage the Staff determined, as a result of inspections during 1984-1985, that violations

Subsequent to the completion of NRC's review of these allegations, on February 19-21, 1986, individual allegers submitted additional details to the NRC about allegations that had been made previously, including some of the 21 allegations that are included in the September 3, 1985 OCAW request.

This supplemental information is being reviewed by the NRC Staff as a separate matter. The Staff will determine the significance of the information, ascertain whether additional violations of NRC requirements have taken place, and will take appropriate enforcement action if violations are identified.

⁶ It should be noted that the NRC effort to ascertain the validity and significance of some of the violations was hampered by the fact that the violations as received from the Petitioner as well as the original allegers did not pinpoint the occurrence to a period of time or provide other details that would have aided the NRC in trying to determine where the alleged event took place, when it occurred, and who knew about the event, despite repeated requests from the NRC for additional information. However, the NRC proceeded with the available information and tried in each case to identify the condition or event by interviews and examination of records and to determine its validity and significance. As indicated in note 5, *supra*, the NRC is pursuing additional information recently received from the allegers.

⁷ These instances stem from the NRC's review of OCAW's allegations D, E, G, and Q.

⁸ As a result of its inspections, the Staff found violations related to OCAW's allegations F, H, I, and S. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions" (Enforcement Policy), 10 C.F.R. Part 2, Appendix C (1985), the Licensee was not cited for the violation alleged in OCAW's allegation F because the Licensee identified and corrected the violation. Notices of Violation were issued citing the Licensee for the other three violations on July 10, October 16, and December 3, 1985.

⁹ Aside from the allegations in the petition, five violations of NRC requirements have been identified as occurring since the commencement of reduced operations at the Erwin facility on August 15, 1985. See Inspection Reports 70-143/85-28, 85-31, 85-37, and 85-44. (Enclosures to Inspection Reports 70-143/85-37 and 85-44 contain information exempted from public disclosure by 10 C.F.R. §§ 2.790(d) and 73.21.) Although Notices of Violation were issued for three of these violations on October 16, 1985, November 6, 1985, and January 16, 1986, none of these violations resulted in escalated enforcement action or had a significant impact on employee health and safety. Furthermore, these were isolated events that did not indicate lack of training or qualification on the part of the reduced workforce.

On January 22, 1986, an incident occurred that involved a potential exposure of three individuals in excess of regulatory limits. Based on the results of an NRC inspection initiated on January 23, 1986, the cause was determined to be failure of a water cooling jacket that introduced water into hot gases, resulting in overpressurization of the system and the release of radioactive materials. This incident resulted from an equipment failure and possibly was exacerbated by other factors for which the NRC has not yet made a final determination. However, although the incident is still under investigation, the NRC has determined that it was not attributable to inadequate worker training or qualifications.

of NRC regulations and license conditions had occurred in the health physics and safeguards programs and appropriate enforcement action has been taken.¹⁰ Thus, the NRC was aware prior to the reduced operations and prior to receiving OCAW's petition that NFS had experienced problems with its nuclear criticality safety, operational safety, and health physics programs. However, these inadequacies do not warrant suspension or revocation of the NFS license to operate the Erwin facility. Not every violation of the Commission's regulations or licenses compels suspension or revocation of a license. See *Petition for Emergency and Remedial Action*, CLI-78-6, 7 NRC 400, 405-06 (1978). In this case, NFS has taken the necessary corrective action, and has developed and implemented an extensive Performance Improvement Program in order to upgrade its health and safety program.¹¹ The elements of this program include independent audits of the NFS radiological safety program (the first of which has been completed); use of an outside consultant on specific tasks related to the upgrade; improvements in the respiratory protection program; increased frequency of measurements of radioactive materials collected on plant air samplers, which includes changing and measuring filters each shift rather than daily; improvement in personnel exposure records via automated integration of personnel work assignments, training records, and air sampling data; and improved contamination control resulting in a reduction of the size of the contamination control zones. In addition, in response to the findings of the independent audit, significant management changes were also made in the health and safety area.

In its telegram of December 13, 1985, the OCAW asked that the NRC require the Licensee to cease all operations at the Erwin facility until a thorough investigation of the incident which occurred on December 11, 1985, involving possession and firing of a gun by a driver, has been completed. In raising this issue, OCAW expresses concern over both the fact that a truck driver illegally carried a loaded weapon into

¹⁰ Four escalated enforcement actions were taken against the Licensee prior to the strike during this 2-year period. See EA 84-22, NUREG-0940, Vol. 3, No. 2, at II-A50 (May 9, 1984); EA 84-60, 50 Fed. Reg. 19,825 (May 10, 1985) and 50 Fed. Reg. 4286 (Jan. 30, 1985); EA 84-128, 50 Fed. Reg. 50,023 (Dec. 6, 1986), 50 Fed. Reg. 43,484 (Oct. 25, 1985) and 50 Fed. Reg. 8420 (Mar. 1, 1985); and EA 85-03, NUREG-0940, Vol. 4, No. 3, at II-A18 (May 1, 1985). These actions involved a proposed civil penalty (paid and not contested by the Licensee) for failure to follow procedures to ensure proper handling of special nuclear material; the imposition of a civil penalty for failure to identify and correct degradations of the material access area boundary; an order modifying NFS' license and imposition of a civil penalty for accumulation of uranium-235 in the ventilation system; and a proposed civil penalty (paid and not contested by the Licensee) for violations involving exposures of workers to release of radioactive materials.

¹¹ The elements of this program were discussed in meetings with the NRC Region II staff on April 9 and August 7, 1985. The Licensee's oral commitments are documented in a letter to NFS from J. Philip Stohr, Director, Division of Radiation Safety and Safeguards, dated September 30, 1985. During subsequent meetings and inspections, the NRC has noted that NFS has made significant progress in carrying out the details of the program although a number so these elements are long-range tasks.

and out of the protected area of the NFS facility and over the fact that he subsequently fired this weapon in an area located outside of the protected area of the plant. While the NRC recognizes the seriousness of the violence that occurred, to the extent that this matter concerns an incident which took place outside of the protected area, it does not involve a matter which is under the jurisdiction of the NRC. With respect to the alleged entry of the weapon into the protected area of the Erwin facility, the NRC conducted a special inspection on December 13, 14, and 18, 1985, to determine the circumstances surrounding this event, and whether NFS conducted a reasonable search of the driver and the vehicle prior to entry into the protected area.¹²

The NRC issued a Confirmation of Action Letter to NFS on December 17, 1985, regarding improvements in its security procedures. Enforcement conferences were held with NFS on January 7 and 21, 1986, to discuss this matter. In accordance with the NRC Enforcement Policy, a violation involving a failure to perform an adequate search, resulting in the entry of a weapon on the site, is normally classified as a Severity Level III violation and warrants consideration by the NRC of the proposed imposition of a civil penalty. In this case, the appropriate enforcement action is still under review. While significant and unacceptable, a violation involving an inadequate search would not ordinarily lead to issuance of an order to cease operation. Regardless of whether a violation occurred, in this instance NFS has committed to make substantive improvements in its security procedures to prevent recurrence of the incident. The NRC resident and region-based inspectors will follow up on the Licensee commitments made in response to the security incident as well as other corrective actions for noncompliance with NRC requirements to ensure that planned Licensee actions are implemented. It should be noted, however, that the potential security failure in question is related to the site guard force who are contractor personnel and are not directly affected by the strike of the OCAW bargaining unit or the reduced plant operation.

III.

On the basis of the allegations discussed in § II and the Appendix to this Decision, the OCAW asked the Commission to take a number of actions to investigate the allegations, suspend operations at the Erwin

¹² NFS is required to conduct an appropriate search of personnel and vehicles prior to entry into the protected area. General detection capability of devices and procedures must be maintained at an NRC-approved level; nevertheless, acceptable search levels may not always detect the presence of a weapon.

facility, and initiate public hearings on continued operation of the facility. The NRC Staff has initiated, as the OCAW requested, appropriate investigations of the allegations raised in the petition. The regional staff undertook a number of inspections related to the allegations, and the Licensee was asked to examine the allegations and provide the Staff information on the Licensee's investigation and any corrective actions taken as a result of its investigation. These efforts have provided an adequate basis on which to determine whether enforcement action is necessary on the OCAW requests.

The OCAW asked that the Commission suspend the "amendments" to the license which it believed permitted the continuation of reduced operations at the Erwin facility during the strike. As noted at the outset of this decision, the OCAW's request is based on the erroneous premise that the NRC had to issue license amendments to permit NFS to undertake current operations at the facility during the ongoing strike. No such amendments were required. Based on its review of the Licensee's intended activities, as described in NFS' "Planning Guidance for the Period of Reduced Operations," dated July 16, 1985, the NRC Staff determined that continued operation would not pose a threat to public health and safety or the common defense and security, and hence, the Staff did not act to prevent continued operation of the facility. Upon its review of the allegations in the OCAW's petition, the Staff does not believe suspension of operations is necessary. While inadequacies have been identified in the Licensee's operations over the past 3 years, these inadequacies are not sufficiently significant to warrant license suspension. Most of the inadequacies were identified prior to the current labor dispute, and the Licensee initiated appropriate actions to correct them. While the December 1985 incident involving the introduction of a weapon into the protected area of the Erwin facility was a serious one, it does not warrant suspension of operations.

The OCAW also asked for public hearings on continued operation of the Erwin facility. In the absence of agency action to grant, amend, suspend, or revoke a license, the Commission is not required to initiate public hearings under § 189a of the Atomic Energy Act of 1954, as amended, or the Commission's regulations in 10 C.F.R. Part 2. *See, e.g., Southern California Edison Co. (San Onofre Nuclear Generating Station, Unit 1), CLI-85-10, 21 NRC 1569, 1575 (1985). See also San Luis Obispo Mothers for Peace v. NRC, 751 F.2d 1287, 1314 (D.C. Cir. 1984), vacated in part on other grounds, 760 F.2d 1320 (D.C. Cir. 1985).* No proceedings have been initiated that would give rise to the opportunity for public hearings, nor does the Staff believe that holding a public hearing as a matter of discretion is appropriate.

Thus, for the reasons stated in this Decision, the OCAW petition, with the exception of its request for investigation of its allegations, has been denied. As provided in 10 C.F.R. 2.206(c) a copy of this Decision will be filed with the Secretary for the Commission's review.

James M. Taylor, Director
Office of Inspection and
Enforcement

Dated at Bethesda, Maryland,
this 3rd day of March 1986.

APPENDIX

OCAW ALLEGATIONS AND NRC RESPONSE REGARDING EACH ALLEGATION

All of the allegations raised by OCAW in its petition had already been presented to the NRC. The following analysis reflects the Staff's investigation of these concerns, based on initial contact with the individual whom the Staff considered to be the source of each allegation. Additional information concerning a number of these allegations was provided during interviews with OCAW members on February 19-21, 1986. When that information has been fully evaluated, changes to some of these responses may be appropriate. The responses given below are based on the results of inspections made prior to the date of these interviews.

A. Allegation

Current plant procedures which utilize a computer to randomly select areas to be surveyed for contamination do not provide comprehensive coverage for all areas.

Response

Not substantiated. The allegor had identified an example of nonrandomness as having occurred on November 2 and 9, 1983, when the selected survey points were the same except for one location.

NFS stated that this occurrence was probably caused by failure to generate new random numbers during early implementation of the program that had been initiated in October 1983. Based on the NRC inspector's review of test data that were generated to determine whether the program would provide comprehensive coverage and on an examination of survey records, the inspector concluded that comprehensive coverage was being provided. NFS initiated its current program of using computer-generated random numbers in October 1983, in response to NRC criticism that the then-existing survey program was nonrandom in a statistical sense and thus probably lacked comprehensive coverage. *See* Inspection Report 70-143/85-27.

B. Allegation

Radiation monitoring personnel who perform contamination surveys in the computer-selected areas are not permitted to deviate.

Response

Not substantiated. The NFS procedure instructs radiation monitors to perform surveys in the locations designated by the computer but also instructs them to perform surveys where spills are suspected. (Inspection Report 70-143/85-27.) The NFS operating procedures further instruct operations personnel to identify any suspected spills. Health and safety personnel then perform surveys of these areas.

C. Allegation

A clear oil-based spray has been applied to benches in the lunchroom to fix contamination instead of removing the contamination.

Response

Not substantiated. The paint was applied to the benches to facilitate cleaning of the benches, not to seal or fix contamination. Contamination levels were below the Licensee's administrative action limit before the paint was applied. (Inspection Report 70-143/85-40.)

D. Allegation

A table area surveyed for contamination was found to contain 200,000 dpm and was invalidated by a foreman because it was in a dike area.

Response

Substantiated. Although no evidence was found regarding a contaminated table, high contamination levels were found in a box in a diked area of Buildings 302 and 303. The Licensee identified one case where a radiation monitor supervisor had invalidated a survey which had found 40,000 dpm smearable contamination inside the box because the box was exempted from the Licensee's routine survey requirements and license conditions. Neither license conditions nor the routine smear survey procedure required diked areas to be surveyed for contamination at any specific frequency and no action levels were specified for contamination control in diked areas. The situation did not represent a violation of NRC requirements or significantly impact health and safety in that air samples that indicated worker intakes of radioactive material were below NRC regulatory limits. However, NFS has since revised its procedure NFS-HS-B-2 to establish action levels for special dike areas to control contamination levels. (Inspection Report 70-143/85-40.)

E. Allegation

An area in Building 111 was surveyed for contamination and found to contain 20,000 dpm and the foreman exempted the area because it was over a catchpan.

Response

Substantiated. Apparently the survey was performed on March 12, 1984. However, the equipment in question is an evaporator, which is protected with Plexiglas sheeting and with a catchpan to make it neither accessible nor a working surface. Routine work is not performed at this location, and its inaccessibility prevents accidental exposure to contamination. If work were to be performed at this location, a radiation work permit would be required which would specify measures for worker protection. Catchpans or columns are not required to be part of the Licensee's routine survey program. For this reason the smear test was exempted for the reason documented on the survey sheet by the radiation monitor supervisor.

(Inspection Report 70-143/85-40; NFS Letter of November 1, 1985.)

F. Allegation

Paint was supplied in Building 303 before a contamination survey could be conducted, which was a violation of procedures.

Response

Substantiated. Hand rails and structural supports in Building 303 were painted on January 4, 1985, without performance of a contamination survey that demonstrated the contamination levels were within prescribed limits prior to painting. However, this violation of procedures would not have resulted in an exposure of workers to radioactive contamination. The requirement to survey prior to painting has been established due to the possibility that, if the item were ever surveyed to determine releasability for unrestricted use, the paint would prevent detection of contamination, resulting in a remote possibility of ingestion of radioactive material upon removal of the paint. This occurrence was identified to plant management by the building supervisor the day after it happened. On January 6 and 7, 1985, all supervisors were reinstructed on procedure NFS-HS-GH-15, Covering of Plant Surfaces, to preclude recurrence of this type of event. As NFS promptly identified and corrected this violation, in accordance with the NRC Enforcement Policy, it was not cited for this violation. (Inspection Report 70-143/85-40.)

G. Allegation

Vending machines in the lunchroom were contaminated; in particular, a milk vending machine was checked and found to be contaminated with 25,000 dpm. The Licensee is aware of about twenty hot spots outside of the plant and nothing has been done to decontaminate them.

Response

With regard to the vending machines, the allegation was substantiated. Although contamination had been measured inside the vending machines, this did not violate any specific regulatory requirement, but represented an excess over the action limit specified

in NFS' license. The Licensee's application established an action limit for initiating decontamination for transferable (smearable) contamination of 1000 dpm/100 cm² and for a direct reading per probe area of 5000 dpm. An NRC review of the survey records of the Licensee disclosed that on April 11, 1985, eight vending machines were surveyed for contamination. The levels of contamination were below the action limit, with the exception of the radiator section of the milk machine refrigerator unit which showed a direct reading of 6000 dpm. This contamination was not in contact with any food products, and the radiator is inaccessible to workers using the lunchroom. The Licensee subsequently made certain commitments in order to facilitate contamination control in its responses dated August 6 and 27, 1985, to Inspection Reports 70-143/84-39 and 85-08, and is carrying out a quarterly survey and cleaning procedure for the inside of the vending machines. During an NRC inspection in September 1985, described in Inspection Report 70-143/85-34, the NRC Staff observed a quarterly radiation survey of the vending machines and determined that all radiation readings were below the action level specified in the license. (Inspection Report 70-143/85-34.)

With regard to alleged hot spots outside the plant, the allegation was not substantiated. Low levels of radioactive material do exist in some outside controlled areas within the plant security barriers but these are controlled within the action points specified in the license. Periodically the Licensee has found spots of contamination above action points outside of controlled areas but these have been cleaned up as required. NFS has committed to a program of reduction of outside areas containing low levels of contamination with an eventual elimination of areas outside of buildings with uranium contamination. (Inspection Report 70-143/85-40.)

H. Allegation

Hot spots are not being decontaminated within the prescribed period of time.

Response

Substantiated. However, this violation did not significantly impact worker health and safety. While action limits in the license provide for decontamination within 24 hours if the level is between 5000

dpm/100 cm² and 10,000 dpm/100 cm², and for immediate decontamination for areas contaminated above 10,000 dpm/100 cm², the purpose of these limits is to keep the level of contamination from building up over a period of time to high levels that might result in elevated airborne radioactivity levels in the workplace. The failure to clean up a small number of spots of contamination within the prescribed time frame would not affect the health of the workers. The NRC was aware of this problem prior to OCAW's petition, and issued a Notice of Violation to the Licensee on July 10, 1985, as a result of the inspection described in Inspection Report 70-143/85-08, for failure to begin decontamination in the prescribed time frame. The violation was classified as a Severity Level IV violation. Subsequently, no instances of failure to comply with the time limits have been identified during NRC inspections of the Licensee. (Inspection Report 70-143/85-40.)

I. Allegation

A forklift was partially surveyed for contamination on May 15, 1985, and was not completely surveyed before it was removed from the plant site.

Response

Substantiated. A Notice of Violation was issued on December 3, 1985, for failure to perform an adequate survey of the forklift prior to releasing it for unrestricted use. The Licensee surveyed the forklift tires for contamination, but failed to survey the seat or pedals. However, the violation did not significantly affect public health and safety, as any contamination that might have existed on the seat or pedals probably would have been of a very low level. The violation was classified as a Severity Level IV violation. Subsequently, a complete contamination survey was performed and no contamination was found on the forklift. (Inspection Report 70-143/85-34.)

J. Allegation

Several workers in the lunchroom had contamination on their hands because only five to eight hand monitors are operational at a given time, showing management's unconcern for the safety of the workers.

Response

Not substantiated. Licensee procedure NFS-HS-GH-1, Procedure for Contamination Control, requires personnel to survey themselves prior to entering the lunchroom and to report any instrument problems to the Safety Department. It is a fact that instruments used to detect alpha contamination are inherently susceptible to damage and contamination. For this reason, NFS does not merely depend on checks of instrument operability by radiation monitors, but also requires notification by any employee of instrument problems. A check of 5 months of NFS personnel survey records (January through May 1985) showed only one employee to be in excess of the limits for personnel contamination. Based on the NRC's direct observation of current practices at the plant, the inspector found that the Licensee's program for personnel surveys was adequate. (NRC Inspection Report 70-143/85-40.)

K. Allegation

Workers were sent to the plutonium building to work and no contamination survey was performed in the area before the work began. When the workers questioned this, they were told by the health and safety foreman that he would determine if the area was safe to work in and that they should go back to work.

Response

Not substantiated. Neither the date of the alleged occurrence nor a description of the alleged work in the plutonium building has been provided by the allegor. Health and safety personnel interviewed by the NRC inspector did not recall any such incident where such statements were made to workers. From a review of the sign-in log for the plutonium building, the inspector determined that two maintenance mechanics installed air sample lines through a wall in February 1985. The radiation work permit indicated that no contamination survey was performed or required before work was begun. However, the work permit did require use of respirators and special air sampling. This practice is consistent with plant procedures and license requirements. (Inspection Report 70-143/85-27.)

L. Allegation

Approximately 6 months ago there was a release of airborne activity from the finishing unit. The foreman hid the material in Unit J for 3 days because he did not know what to do with it.

Response

Not substantiated. Air sample records indicate that airborne levels were higher than normal; however, no regulatory limit was exceeded. The Licensee stored this material from the finishing unit temporarily in Unit J until an approved Letter of Authorization (LOA) required by Licensee procedure could be written and approved to unload and clear the tube which housed this special developmental finishing run. The NRC inspector reviewed the approved LOA for the process and concluded that it was adequate to prevent excessive radiation exposure to personnel. (Inspection Report 70-143/85-40.)

M. Allegation

Some of the foremen are not competent enough in training personnel to run the plant during the strike. A specific foreman asked a worker to triple the amount of material being placed into a dissolver so that he could increase production, which could have caused criticality safety problems had the worker complied.

Response

Not substantiated. This allegation was referred to the Licensee. The Licensee found no evidence of instructions given for triple batching. NRC inspectors found the Licensee's response consistent with prior NRC inspection findings. The Licensee's training program was inspected by the NRC and found adequate. (Inspection Report 70-143/85-38. See also Inspection Reports 70-143/85-24 and 70-143/85-34.)

N. Allegation

On February 4 and 5, 1985, contaminated overhead areas inside the plant were being cleaned by individuals in respirators and dust fell on the workers below, who were not wearing respirators.

Response

Not substantiated. Based on air sample records, no respiratory protective equipment was required. Both high-volume air samples and stationary air samples gave results that indicated the radioactivity in the air was normal and created no hazard to personnel. The Licensee did not have any elevated bioassay results which could be attributed to this cleaning effort. (Inspection Report 70-143/85-40.)

O. Allegation

Union workers have to use the grievance procedure to bring health and safety issues to the attention of management.

Response

Not substantiated. Section 19.12 of 10 C.F.R. provides that workers must be allowed to raise health and safety issues to management. However, the NRC does not specify or mandate the particular system which must be used to raise such issues. According to Licensee management, workers are free to approach and do approach NFS management. They also have used the union grievance procedure to bring health and safety issues to the attention of NFS management. It was observed during the NRC inspections that notices describing license requirements and the rights of employees were posted at the facility in accordance with the requirements of 10 C.F.R. Part 19. Workers at NFS have also raised allegations of violations of license requirements to the NRC resident inspector and other NRC representatives. (NFS Letter of November 1, 1985, and Inspection Report 70-143/85-40.)

P. Allegation

Workers are concerned about the urinalysis program and that they are not notified properly of the results of urinalysis of their urine samples, and workers restricted from working in radiation areas are being harassed by the plant management to go back to their normal contaminated work areas. Many feel that if they do not comply, they will be fired.

Response

Not substantiated. When a worker's urinalysis result exceeds the restriction limit, the worker and his supervisor are promptly noti-

fied in writing. In accordance with provisions in the license, workers are restricted from working in contaminated areas until their urinalysis results are below the action level. The NRC has not received any allegation that contained sufficient detail to enable it to investigate to determine whether harassment occurred in a specific case. To the knowledge of the Staff, no worker has initiated discrimination proceedings under § 210 of the Energy Reorganization Act. (Inspection Report 70-143/85-40.)

Q. Allegation

A sample of sludge was found from Pond #3 containing excessive amounts of radioactive material.

Response

Substantiated. A sample of sediment of Pond #3 collected on June 10, 1984, did exceed the action limit of 0.0012 gram U²³⁵/cc; however, the inspector found actions taken by the licensee were adequate and subsequent samples were below Licensee action limits. No violation of NRC requirements was identified by the inspector. (Inspection Report 70-143/85-40.)

R. Allegation

There is concern of water mixing with plutonium residues after observing puddles of water in the plutonium dry boxes.

Response

Not substantiated. An NRC inspector toured the plutonium building with the Decommissioning Manager to observe any roof leaks. The Manager identified one roof leak where ceiling tile had been damaged. He stated that rainwater did leak onto the floor during heavy rains and was cleaned up. The inspector evaluated the situation and determined that it was unlikely that rainwater entered the dry boxes. The roof has been scheduled for repair. No visible damage to the roof was observed when it was examined by the NRC inspector. (Inspection Report 70-143/85-27.)

S. Allegation

On numerous occasions, operators were ordered by supervisors to put rags of ammonia in the scrubber system to manipulate the system and keep it from reading high. The Building Manager ordered operators to hide material (raffinate) in a tank during the inventory.

Response

Not substantiated as to use of rags of ammonia. The inspector found no ammonia-soaked rags in the ventilation system. Furthermore, the identified radiation monitor is in the process ventilation system and measures the amount of radioactivity released into the ventilation system. If an ammonia-soaked rag were placed in the ducting at the identified location, it would decrease the amount of radioactive material entering the ventilation system since it would partially filter the effluent. The sampler would still detect the amount of radioactive material that actually entered the system and the rag would not cause a false radiation reading. (Inspection Report 70-143/85-27.)

The NRC Staff was unable to corroborate the allegation that the Building Manager ordered operators to hide material. However, an NRC inspector confirmed that a tank contained special nuclear material which had not been included in the plant inventory. The NRC inspector found that the tank designated as Station 56 in Building 111 was full, although the Building Manager said that it was empty. Based on a sample of the material in the tank, the tank contained about 1.5 grams of low-enriched uranium per liter of solution. There was no record of the identity of the solution, the quantity of special nuclear material it contained, or its source. A Notice of Violation was issued on October 16, 1985, citing the Licensee for violations identified in connection with this incident, including failure to maintain current knowledge of the solution in Station 56, and failure to follow procedures in conducting inventory and to inspect the tank. These violations were classified as Severity Level IV violations. However, the quantity of material involved was small and this failure to inventory appears to have been an isolated instance and does not indicate a pervasive problem with the Licensee's physical inventory practice as evidenced by the fact that the differences between the "book inventory" and the physical inventory have been maintained regularly within the limit established in the license.

T. Allegation

Material was coming out of a furnace and producing excessive airborne contamination. Management was made aware of it numerous times, even to the point that a grievance was filed, but would do nothing about it.

Response

Not substantiated. NFS determined that a grievance had been filed on April 3, 1985, alleging excessive airborne contamination at the Area 10 furnace in Building 302. NRC reviewed air sampling data at that location for the fourth quarter of 1984, and the first quarter of 1985, and found that the weekly average at each air sampler did not exceed 25% of the permissible concentrations in Appendix B of 10 C.F.R. Part 20. The quarterly average concentrations for those air samples were less than 10% of the permissible concentrations specified in the regulation. (Inspection Report 70-143/85-42.)

U. Allegation

Nuclear material (even though low-enriched) was hidden from inventory.

Response

Not substantiated. The allegor indicated that the buckets that were allegedly hidden from inventory were not labeled in any way. The inspector examined the area where the buckets were reported to have been hidden. During an inspection conducted from July 8 through August 16, 1985 (prior to the date of the submittal of OCAW's petition or NRC's request that NFS investigate the allegations), the NRC inspector did not find any containers of special nuclear material. Inventory personnel stated that the area where the buckets were allegedly hidden was routinely checked during the inventory listing. No buckets had been found there when the last inventory was listed. (Inspection Report 70-143/85-27.)

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

OFFICE OF NUCLEAR REACTOR REGULATION

Harold R. Denton, Director

In the Matter of

Docket Nos. 50-440
50-441
(10 C.F.R. § 2.206)

CLEVELAND ELECTRIC ILLUMINATING
COMPANY, *et al.*
(Perry Nuclear Power Plant,
Units 1 and 2)

March 18, 1986

The Director of the Office of Nuclear Reactor Regulation denies a petition filed by Donald L. Schlemmer on behalf of the Western Reserve Alliance and denies in part a petition filed by Susan Hiatt on behalf of Ohio Citizens for Responsible Energy. The petition filed by the Western Reserve Alliance requested that the Commission suspend construction and other activities at the Perry plant on the grounds that the seismic design of the facility is inadequate in light of an earthquake which occurred January 31, 1986, and take other actions with regard to the Perry facility. The petition filed by Ohio Citizens for Responsible Energy requested that the Commission not authorize fuel loading or issue an operating license for the Perry plant until certain actions have been completed in connection with the earthquake, including inspecting the facility for damage which may have resulted, investigating the earthquake, and reevaluating local seismicity. The Director determined that the Staff had already extensively investigated the earthquake and its effects upon the Perry structure and equipment and is reevaluating the geology and seismology, and that no adequate basis existed to grant the additional relief requested by the petitioners.

RULES OF PRACTICE: SHOW-CAUSE PROCEEDING

The Commission has ruled that § 2.206 is not an appropriate avenue for relief where an issue is pending, or has been considered, or could have been raised before a board in an ongoing adjudication.

TECHNICAL ISSUE DISCUSSED: SEISMIC DESIGN CRITERIA

Under 10 C.F.R. Part 100, Appendix A, the design basis for earthquakes must be determined through evaluation of the geologic and seismic history of the site and surrounding region. The largest earthquakes occurring in the site region must be assessed.

TECHNICAL ISSUE DISCUSSED: SEISMIC DESIGN CRITERIA

It is not unusual for an earthquake to have high-amplitude, high-frequency peak accelerations of limited duration. These high-frequency peak accelerations are not used in scaling Regulatory Guide 1.60 design spectra because they are usually of short duration and have little energy and are not representative of spectral response at the lower, more significant frequencies.

TECHNICAL ISSUE DISCUSSED: SEISMIC DESIGN CRITERIA

Appendix A to 10 C.F.R. Part 100 describes procedures to be followed in determining whether a fault is capable and whether the nuclear power plant is required to be designed to withstand the effects of surface faulting.

RULES OF PRACTICE: SHOW-CAUSE PROCEEDING

Section 2.206(a) of 10 C.F.R. requires that a petitioner "set forth the facts that constitute the basis for the request." Absent such a showing, no action need be taken on a request.

RULES OF PRACTICE: SHOW-CAUSE PROCEEDING

The Director, upon receipt of a request to initiate an enforcement proceeding, is not required to accord presumptive validity to every assertion

of fact by a petitioner. Rather, his role is to make an inquiry appropriate to the facts asserted, and to obtain and assess the information he believes necessary to make that determination.

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

INTRODUCTION

By petition dated February 3, 1986, Ms. Susan Hiatt, on behalf of Ohio Citizens for Responsible Energy (OCRE), requested that the Director of the Office of Nuclear Reactor Regulation not authorize fuel loading or issue an operating license for the Perry Nuclear Power Plant, Units 1 and 2, until certain actions have been completed. Specifically, OCRE requested that, prior to licensing, the plant be thoroughly inspected for damage which may have resulted from an earthquake which occurred on January 31, 1986; that post-earthquake functional testing of all plant systems be completed; that a comprehensive investigation of the earthquake and reevaluation of local seismicity be conducted by the NRC, the Licensee, and other scientific entities; that the Atomic Safety and Licensing Appeal Board complete a hearing and issue a decision on a new contention submitted by OCRE in the Perry operating license proceeding concerning the adequacy of the seismic design of the facility; and that installation of any required seismic upgrading on the Perry plant be completed. As grounds for its request, OCRE asserts that the magnitude of the January 31 earthquake indicates that the FSAR analysis of site seismicity needs to be redone and that conclusions in the FSAR and the Staff's SER (NUREG-0887, May 1982) are erroneous.

By letter dated February 4, 1986, Donald L. Schlemmer, on behalf of the Western Reserve Alliance (WRA), requested that the Commission take a number of immediate actions with regard to the Perry plant, Units 1 and 2. Specifically, WRA requested that the Commission: (1) permanently suspend all construction and other activities at the Perry plant, except for removal of radioactive material; (2) require an independent design and construction verification program to assess the integrity and implementation of the Perry quality assurance (QA) programs; and (3) review and require an audit of an application by Centerior Energy Corporation (CEC) seeking the approval of the Securities and Exchange Commission (SEC) to acquire all outstanding shares of Cleveland Electric Illuminating Company (CEI) and Toledo Edison (TE) and of mergers by which this will be accomplished.

WRA asserts, as grounds for its request that construction be suspended, that the seismic design of the Perry plant is inadequate, particularly in light of the earthquake which occurred on January 31, 1986. As grounds for its request that an independent design and construction verification program be undertaken, WRA claims that CEI and its contractors have failed to implement an acceptable QA program that meets the requirements of 10 C.F.R. Part 50, Appendix B. As grounds for its request that the application of CEC before the SEC should be audited, WRA asserts that the application will adversely impact the ability of CEI and TE to meet the requirements of 10 C.F.R. Part 140. In accordance with the usual NRC practice, the WRA Petition was referred to the Staff for appropriate action in accordance with 10 C.F.R. § 2.206.

By letter dated February 19, 1986, the Licensee responded to the WRA petition and by letter dated February 25, 1986, the Licensee responded to the OCRE petition.

With the exception of OCRE's requests that appropriate evaluation of the earthquake and site seismicity be undertaken and that the facility be inspected for damage which may have resulted from the January 31 earthquake, I have determined that the petitions should be denied for the reasons stated in this Decision. As discussed below, the Staff has conducted an extensive investigation of the effects of the earthquake upon the Perry structure and equipment, and has reevaluated the geology and seismology of the Perry site. On the basis of its review to date, the Staff does not believe that an adequate basis exists to deny further licensing or order the other measures requested by the Petitioners.¹

¹ Apart from the merits with respect to the seismic design issue, the petition may be independently denied on procedural grounds. OCRE's petition requests, among other things, that the Staff decline to permit fuel load or operation of the facility, relief that concerns initial licensing of the facility and not enforcement action such as is usually contemplated under § 2.206. See *Cleveland Electric Illuminating Co.* (Perry Nuclear Power Plant, Units 1 and 2), DD-85-14, 22 NRC 635, 642 n.4 (1985); *Detroit Edison Co.* (Enrico Fermi Atomic Power Plant, Unit 2), DD-84-11, 19 NRC 1108, 1110 n.2 (1984). OCRE has also filed a motion before the appeal board to reopen the operating license proceeding to consider its new seismic design contention. In other circumstances, the Commission has ruled that § 2.206 is not an appropriate avenue for relief where an issue is pending or has been considered before a board in an ongoing adjudication. *General Public Utilities Nuclear Corp.* (Three Mile Island Nuclear Station, Units 1 and 2; Oyster Creek Nuclear Generating Station), CLI-85-4, 21 NRC 561, 563-64 (1985); *Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), CLI-81-6, 13 NRC 443, 444 (1981). Therefore, since a forum is available where the same issue may be raised, a § 2.206 petition is not an appropriate avenue for relief.

DISCUSSION

Impact of January 31 Earthquake on the Plant

The OCRE petition requests several actions with regard to the Perry facility. Chief among these is that, prior to licensing for fuel load and operation of Unit 1, the Perry plant be thoroughly inspected for damage resulting from the January 31 earthquake, that any necessary corrective action be taken, that installation of any required seismic upgrading be completed, and that the earthquake be investigated and local seismicity be reevaluated. These requests have been essentially satisfied.

Both the NRC Staff, which was notified of the earthquake immediately following its occurrence, and the Licensee have undertaken extensive investigations of the consequences and potential implications of the January 31 earthquake. The Staff is also reevaluating the geology and seismology of the Perry site, including a review of the seismic design bases for the Perry plant. The Staff has documented its investigations and conclusions in a Supplemental Safety Evaluation Report (NUREG-0887, Supp. No. 9) issued March 5, 1986 (hereafter SSER No. 9).

Immediately following the earthquake on January 31, Perry plant operations personnel were dispatched into the plant to survey for damage. The initial reports indicated no damage. Subsequently, a utility team of approximately sixty-five engineers and technicians was organized to perform a detailed walkdown of all plant areas. These inspections found no damage to any systems, structures, or components. The hairline cracks in concrete walls that were observed have been reviewed by the Licensee and the Staff and were found to be typical of those expected in reinforced concrete structures which have not experienced seismic events. Numerous safety-related systems in operation or on standby readiness continued to operate without interruption during and after the earthquake.

The NRC Staff also conducted a review at the Perry facility on February 1-2, 1986, of preliminary seismic recordings, and performed a walk-through inspection of buildings and equipment. No significant damage was observed at the plant. See Inspection Reports 50-440/86005 and 50-440/86006. See also Trip Report dated February 25, 1986.

A Seismic Qualification Review Team (SQRT) subsequently conducted another site audit on February 6, 1986, primarily to investigate the effect of the earthquake on the plant's safety-related equipment. During the audit, the Licensee and its architect-engineer, Gilbert/Commonwealth Associates, Inc. (GAI), presented brief background information on the event and implications of their views of the recorded motions at

various locations of the plant. *See* CEI Report submitted by letter dated February 12, 1986, and NRC Trip Report dated February 25, 1986. Preliminary observations were that the recorded response spectra had exceeded the Perry Operating Basis Earthquake (OBE) and Safe Shutdown Earthquake (SSE) in the high-frequency range (above 15 Hertz (Hz)). On the basis of its qualitative evaluation of the safety impact of the event on plant equipment, GAI stated that, in view of the short duration (strong motion portion is less than 1 second), and the high-frequency characteristics of the recorded motion, the impact of the exceedance on plant equipment and structures would be minimal from an engineering viewpoint. In addition to the technical discussions with GAI and the Licensee, the SQRT performed a walkdown and observed some representative equipment that was a part of the detailed review of the SQRT audit of August 1984. The equipment inspected included the H13-680 Unit Control Console, Division 1 battery and rack, motor control center, and Reactor Core Isolation Cooling (RCIC) turbine and its related pipings and accessories. No damage that could be attributed to the January 31, 1986, earthquake was observed on the equipment itself, the equipment supports, or the mounting configuration. Furthermore, no apparent structural damage was observed during the walkdown.

In addition, a special safety inspection was conducted by the NRC's Region III Staff on February 5-7, 1986. *See* Inspection Reports 50-440/86005 and 50-440/86006. This included a post-earthquake walkdown and visual inspection (involving a total of some 90 inspector-hours) of an extensive list of safety-related systems and components. The scope of the walkdown and visual inspection included: (1) an assessment of the general condition of the systems and components selected for inspection to determine whether there was visible evidence of damage or significant movement as a result of seismic activity; (2) examination for bent or deformed pipe support structures or components; (3) inspection for loose anchor bolts or cracked concrete associated with anchor bolts and embedded plates; (4) inspection for signs of significant movement such as damaged pipe insulation and scraped or cracked paint at support locations; (5) examination of pipe snubbers and spring cans for changes in initial settings; (6) examination of exterior and interior of electrical and control panels for cracks in frames, termination integrity, instrument damage, and glass breakage; (7) inspection of components for misalignment, foundation cracks, and fluid leakages; and (8) inspection of movement and cracks in battery racks, and batteries and leaking cell jars. No damage or significant movement that could be attributed to seismic activity was identified during the walkdown or the detailed visual inspections at the Perry facility.

In addition to the above walkdowns and visual inspection activities, the safety impact of the earthquake on future Perry plant operation has also been evaluated from an engineering viewpoint by the Licensee and the Staff. The Licensee analyzed both the significance of high-frequency acceleration on the structural design and the impact of the earthquake on the seismically qualified safety-related equipment. The Staff's own analysis and review of the Licensee's analysis is described in SSER No. 9 §§ 3.7.2 and 3.10. With regard to the impact of the earthquake on the structural design of the Perry facility, the Licensee found that the dynamic stresses due to the recorded earthquake were substantially lower than the corresponding design stresses and not of any safety significance. The Staff, in concurring with this assessment, determined that the earthquake represented a negligible effect on the future safe operation of the Perry plant, and reaffirmed its original findings as set forth in its Safety Evaluation Report, NUREG-0887, issued in May 1982 (hereafter SER) that the structural seismic design of the facility is acceptable. With regard to the impact of the earthquake on plant equipment, the Licensee reassessed the seismic capability of a sample of equipment types. Components were selected by the Licensee to compare qualification spectra with corresponding estimated response spectra derived from measured earthquake responses for various types of equipment in different buildings at different elevations. The estimated spectra and testing response spectra at proper elevations were compared to indicate ample margin to accommodate the recorded January 31 earthquake. The Staff reviewed the information provided by the Licensee in this regard and agrees with the results. *See* SSER No. 9 § 3.10.

On the basis of the results of detailed walkdowns conducted by the NRR staff and its consultants, Region III, and utility personnel, no significant equipment or structural damage has been found that could be attributed to the Ohio earthquake of January 31, 1986. On a reassessment of the seismic capability of a sampling of equipment types and structure, the Staff does not view the earthquake as having an impact on the plant equipment and structures. In other words, though the design-basis earthquake may have been exceeded at some high, narrow frequency region of the response spectra, the adequacy of the original overall plant seismic design has not been affected. Therefore, the Staff has concluded that the previous conclusions regarding the adequacy of the applicant's plant seismic design and seismic qualification program remain valid. *See* SSER No. 9 § 3.10. From the inspection and analysis performed to date, the Staff has determined that no seismic upgrading of the facility is required and no corrective actions or repairs are needed.

OCRE also requested that post-earthquake functional testing of all plant systems be completed, including containment integrated leak rate testing and hydrostatic testing of the reactor coolant pressure boundary. These tests are required as part of preoperational testing for licensing under 10 C.F.R. Part 50, Appendix A, and were satisfactorily completed for the Perry facility prior to the January 31 earthquake. As indicated above, the Staff has concluded from the results of inspections and analyses by the Licensee and Staff that the earthquake which occurred near the Perry plant did not have a significant effect on plant systems and structures. The effect of the earthquake did not impose any loads that were outside of the original equipment and structural code allowables. Therefore, there is no need to repeat either the containment integrated leak rate test or hydrostatic test of the reactor coolant pressure boundary.

Site Seismicity

OCRE and WRA make several claims in support of their assertion that the seismic design of the Perry facility is inadequate and the conclusions in the FSAR and SER are erroneous. Both WRA and OCRE assert that the January 31 earthquake has demonstrated that, contrary to information in the FSAR, the plants have been constructed on a fault line, that the plant site is not in an area of low seismicity,² and that the plants are subject to seismic acceleration forces which were greater than they were designed to withstand.

As indicated earlier in this Decision, following the January 31, 1986 earthquake, the Staff began a reevaluation of the geology and seismology of the Perry site. See SSER No. 9 § 2.5. The Staff's preliminary conclusion is that there is no adequate basis to revise its previous conclusions regarding site seismicity and the appropriate seismic design parameters for the Perry plant. The earthquake which occurred on January 31, 1986, was a magnitude 5.0 event and occurred about 10 miles south of the Perry plant. Under 10 C.F.R. Part 100, Appendix A, the design bases for earthquakes must be determined through evaluation of the geologic and seismic history of the site and surrounding region. The largest earthquakes occurring in the site region must be assessed. The Perry site lies in the Central Stable Region tectonic province. The largest earthquake that cannot be correlated with a geological structure in this province is a magnitude 5.3 event, and in the operating license review the

² In this connection, WRA asserts that the epicenter of the earthquake was extremely close to the plants and that there may be future earthquakes with epicenters closer to the Perry facility.

Staff evaluated the site ground motion produced by a nearby magnitude 5.3 event. *See* SER § 2.5.2. Thus, the size and proximity of the January 31 earthquake are consistent with historical seismicity in the Central Stable Region. During the operating license review, the Perry SSE (a Regulatory Guide 1.60 spectrum anchored to 0.15g) was found acceptable since it exceeded the 84th percentile ground motion spectrum from a set of recordings from nearby magnitude 5.3 ± 0.5 events. As explained in § 2.5.2 of the SER, the Perry SSE was compared to accelerograms recorded at epicentral distances of less than 16 miles from a magnitude 5.3 ± 0.5 event. The January 31 earthquake triggered the in-plant seismic monitoring instruments. The earthquake motion recorded was of short duration (about 1 second) and contained predominantly high-frequency elements. The SSE anchor is a high-frequency anchor point for a design response spectrum (a frequency-dependent description of earthquake motion useful to design engineers). For most frequencies of the January 31 earthquake recordings, the design spectrum of the SSE was conservative. At high frequencies (above 15 Hz) there were some in-plant recordings that exceeded the OBE and SSE.

It is not unusual for an earthquake to have high-amplitude, high-frequency peak accelerations of limited duration. These high-frequency peak accelerations are not used in scaling Regulatory Guide 1.60 design spectra because they are usually of short duration and have little energy and are not representative of spectral response at the lower, more significant frequencies. As at Perry, these high frequencies have not resulted in any significant damage. This conclusion has been arrived at based on the results of previous studies. *See* SSER No. 9 §§ 2.5, 3.7.2, and 3.10.

The NRC discussed the issue of whether the Perry facility was constructed on a fault line in the SER and in its Supplement No. 3 to the Construction Permit SER (issued in November 1975). As described in § 2.5 of the SER, the Staff determined that no known capable faults exist in the plant area. No evidence has been found to indicate that the faults encountered in the intake and discharge (cooling water) tunnels are capable, or that the potential exists for future nontectonic movement of the faults. As described in § 2.5 of the SER a series of minor folds and shallow faults were identified within the excavations for the plant's main structures as a result of geologic mapping and photographing during plant site excavations. These features were examined by the applicant, the NRC Staff, U.S. Geological Survey, and U.S. Army Corps of Engineers geologists. The shallow faulting and associated limited surficial deformation, which was underlain by horizontal, undeformed bedrock, was determined to be of nontectonic glacial origin and consequently presented no hazard to the Perry facilities.

WRA also raises other concerns with regard to the January 31 earthquake and geologic and seismic issues. WRA asserts that CEI filled a fault line with cement and said that it was a glacial scar, that a fault line can move at any time, and that, because of the vibration and ground acceleration, the soil conditions at the Perry site subject the plant to greater degrees of seismic acceleration forces than would occur in other parts of the world.

With regard to WRA's assertion that CEI filled the fault line with cement, the fractured and otherwise structurally deformed bedrock encountered in the plant excavation was over-excavated and backfilled with lean concrete. See FSAR at 2.5-122-2.5-123, Figures 2.5-43, 2.5-44. These were noncapable faults and the applicant's activities were normal construction activities.

With regard to WRA's assertion that fault lines can move at any time, as noted earlier, the Staff made a determination that no known capable faults exist in the plant area.³ Noncapable faults are not assumed to be capable of future movement, and WRA provides no basis for its assertion.

WRA asserts that soil conditions subject the Perry facility to a greater degree of seismic forces than would occur in other parts of the world. No basis is provided for this assertion. Most seismic category I structures are founded on shale rock. No site-dependent amplification is expected and such conditions are not unique. The diesel generator and offgas buildings are founded on Class A fill, and the radwaste building is founded on lower till soil. These foundation soil conditions are typical of those found at other nuclear power plants.

Finally, WRA suggests that asserted delays in receiving information on the earthquake from seismic instrumentation and the Licensee's reliance on vendors to read the instrumentation reflect poorly on the Licensee's (and the NRC's) performance. It is assumed that this allegation pertains to the delays experienced in finalizing seismic instrumentation data, and the WRA is asserting that CEI is incapable, without assistance from its seismic instrumentation manufacturers, to read its own instruments. To the contrary, the seismic recording instrumentation (manufactured by Kinometrics, Inc., and Engdahl, Inc.) was promptly read by CEI following the January 31 earthquake. The manufacturers also read the instruments since they were at the plant calibrating their respective

³ Appendix A to 10 C.F.R. Part 100 describes procedures to be followed in determining whether a fault is capable and whether the nuclear power plant is required to be designed to withstand the effects of surface faulting.

instruments in preparation for Perry licensing at the time the event occurred. The Kinemetrics orthogonal accelerometers (which record motion time histories on a magnetic tape) would normally be read by the manufacturer since the raw data obtained by these accelerometers needs to be processed by computer for development of the information in the form in which it can be interpreted. The Engdahl response spectra recorders' data were read preliminarily at the plant site and, under customary practice, the final interpretation of the Engdahl instrument data was performed by the manufacturer. There was some delay experienced in interpreting the Engdahl instrument data. Some of those instruments provided indications later found not to have been attributed to the earthquake, but instead were indications caused by shocks imparted by construction activities.⁴ The circumstances do not suggest inadequate or improper performance by the Licensee.

As a result of the various reviews of the January 31 earthquake and its impact on the plant, the Staff did identify certain confirmatory activities to be undertaken by the Licensee and to be reviewed by the Staff. These activities, as described in § 1.2 of SSER No. 9, are an evaluation of fault plane solutions of the earthquake and its aftershocks and the search for a possible source structure; evaluation of a possible relationship between the earthquake and the injection of chemical wastes into wells; assessment of faults near the plant site; consideration of the impact of enriched high-frequency content; further generic evaluations of energy content and potential safety significance of high-frequency, short-duration earthquakes; relocation of seismic instrumentation; modification of specific plant procedures; and additional assessment of seismic qualification of equipment. The Staff will report the results of its review of these actions in future SSERs. It is not anticipated that the results from the confirmatory studies will be of such a nature that repairs or corrective actions will be necessary. The Staff has reaffirmed the adequacy of the seismic design of the facility and has concluded that it is unlikely that the results of the confirmatory studies will show any information which would necessitate a significant change in the design of the facility.

Nonseismic Issues

In addition to its request that action be taken with regard to the Perry facility due to inadequate seismic design, WRA also requests immediate

⁴ The seismic instrumentation at the Perry plant is extensively discussed in SSER No. 9 § 3.7.3.

action based on its allegations with regard to inadequate quality assurance over construction of the plant and CEC's application before the SEC seeking to acquire the shares of CEI and TE and seeking approval of the mergers by which this will be effectuated.

The adequacy of the Perry quality assurance program was litigated in the operating license proceeding and found to be satisfactory. See LBP-83-77, 18 NRC 1365, 1396 (1983), *aff'd*, ALAB-802, 21 NRC 490 (1985). As indicated in a recent § 2.206 decision on the Perry plant, Region III conducted an assessment in late 1984 of the quality of design and construction and found adequate implementation of the QA program and acceptable plant construction. See DD-85-14, *supra* note 1, 22 NRC at 638. Nonetheless, WRA challenges the integrity of the Perry quality assurance program and, in support of its assertion that CEI has failed to implement an acceptable design and construction program that meets the requirements of 10 C.F.R. Part 50, Appendix B, WRA lists in its petition forty-eight allegations apparently derived from information provided to it by the Government Accountability Project. These allegations are stated in the most general terms. Although the petition refers to affidavits that support the allegations, no affidavits or supporting documents were submitted to the NRC with the petition. The NRC requested affidavits and supporting documents but as of March 17, 1986, has not received this material.

Section 2.206(a) of 10 C.F.R. requires that a petitioner "set forth the facts that constitute the basis for the request." See *Public Service Co. of Indiana* (Marble Hill Nuclear Generating Station, Units 1 and 2), CLI-80-10, 11 NRC 438, 443 (1980). Absent such a showing, no action need be taken on a request. See, e.g., *Philadelphia Electric Co.* (Limerick Generating Station, Units 1 and 2), DD-85-11, 22 NRC 149, 154 (1985); *Philadelphia Electric Co.* (Limerick Generating Station, Units 1 and 2), DD-82-13, 16 NRC 2115, 2121 (1982). The Director, upon receipt of a request to initiate an enforcement proceeding, is not required to accord presumptive validity to every assertion of fact by a petitioner. Rather, his role is to make an inquiry appropriate to the facts asserted, and to obtain and assess the information he believes necessary to make that determination. See *Northern Indiana Public Service Co.* (Bailly Generating Station, Nuclear-1), CLI-78-7, 7 NRC 429, 432-33 (1978).

In this instance, from a review of the petition and the information of which the Staff is currently aware bearing on the allegations, the Staff has determined that none of the allegations appear to have significant implication for the safety of the plant, nor is there a sufficient basis to refuse to authorize fuel load or licensing of the facility. A number of these allegations refer to issues which have previously been investigated

by the Staff.⁵ The Staff has recently conducted inspections to investigate these concerns to the extent possible, based upon the limited information provided. The results of these inspections will be documented in a Region III inspection report. All outstanding issues, to the extent determinable and understood by the NRC Staff, have been resolved.

Thus, there is insufficient information in the petition to warrant granting the immediate relief requested by WRA. Nonetheless, the Staff intends to pursue the allegations further and has been in contact with the Government Accountability Project (GAP) which WRA states provided it with the allegations, to obtain more specific information on the allegations that may exist. In discussions with the Staff, on March 5, 1986, Ms. Billie Garde, who on behalf of GAP has been advising and assisting WRA with regard to these allegations, was requested to provide the Regional Staff with further details regarding the allegations. Ms. Garde agreed to provide written documentation in GAP's possession, and to assist the Staff in arranging interviews with persons who may have specific information regarding the allegations. When this information is received, a prompt review will be conducted by the NRC Staff in accordance with the Commission's normal practices for reviewing allegations, and the Staff will take enforcement action as appropriate on the basis of the results of its further investigations.

Apart from its allegations concerning quality assurance at the Perry plant, WRA contends that the affiliation of CEI and TE in a new holding

⁵The following allegations (as numbered in WRA's petition) are related to matters previously inspected:

- (14) welds in the containment building are cracked (Inspection Report 85072);
- (15) most nuclear plants use metal boots around penetrations but CEI uses plastic. If the plastic boot around the penetration fails, the system could belch and radiation could go out (Inspection Report 86002);
- (16) design of Dresser valves is inadequate (Inspection Report 85089);
- (17) Borg-Warner valves are inadequate (Inspection Reports 84006 and 85080);
- (20) CEI failed to successfully complete the Integrated Leak Rate Test (ILRT) (Inspection Reports 85061 and 86002);
- (22) welders have illegally taken tests without supervision (Inspection Report 85023);
- (31) the sprinkler system came on accidentally or for unknown or undisclosed reasons, affecting portions of the containment vessel (Inspection Reports 85010, 85017, 85053, and 85056);
- (33) paint quality is not uniform (Inspection Reports 85-64 and 85-84);
- (36) voids exist in the bioshield wall (Inspection Report 84-02);
- (40) defects exist in the polar crane support beam (Inspection Reports 82006 and 85078);
- (41) quality control inspectors have been harassed and intimidated (Inspection Reports 83037 and 84007);
- (42) harassment and intimidation of quality control inspectors affected diesel generator inspection (Inspection Reports 83037, 84005, 84007, 85045, and 85071) (the Office of Investigations (OI) is investigating this matter);
- (43) verification work was not done in the main control room due to shortage of quality control inspectors (Inspection Reports 85032 and 85037);
- (46) cracks exist in the stainless steel clad in the containment vessel (Inspection Reports 83032 and 85035);
- (47) welds in the fuel pools are bad (Inspection Report 83002); and
- (48) Unit 1 crane girder is bad (Inspection Reports 82006 and 85078).

company will result in the violation of 10 C.F.R. Part 140 because of the financial danger it creates for the companies. WRA has provided no specific information to support this contention.⁶ On the contrary, the formation of holding companies is often expressly undertaken to improve the financial posture of the combined entities, which, in the case of CEI and TE, should prove beneficial to their respective nuclear and non-nuclear operation.⁷ CEI has kept the NRC fully informed as to the proposed CEI/TE affiliation. By letters dated August 14, 1985, November 13, 1985, January 8, 1986, January 31, 1986, and February 13, 1986, the Licensee has forwarded to the NRC the relevant CEI/TE filings with the SEC. Furthermore, in a meeting on December 17, 1985, the NRC Staff raised questions about the CEI/TE holding company affiliation and the effect it would have on the management and operation of the Perry plant. The NRC was concerned that the organizational structure and plant operating staff previously approved by the NRC as documented by CEI in the FSAR would be changed as a result of the holding company formation. In a letter from R.M. Ginn (Chief Executive Officer for CEI) to H.R. Denton (NRC) dated December 20, 1985, CEI satisfactorily responded to the NRC's concerns. In this letter, the Licensee explained that the planned affiliation would involve the formation of a holding company, Centerior Energy Corporation, which would own all common stock of CEI and TE and that a service company would be formed, but that the affiliation would not involve any significant changes with respect to the management of Perry. The Licensee further stated that it would keep the NRC fully informed with regard to decisions on the service company's role, and would request appropriate amendments to the Perry operating license in the event such amendments were required to implement future management organization changes. Therefore, the NRC Staff sees no plant organizational-management impediment associated with the planned holding company formation which would prevent the licensing of the Perry plant.

Nor does the proposed affiliation indicate that there is or will be a violation of 10 C.F.R. Part 140. These regulations require for an operating nuclear power reactor that the Licensee maintain \$160 million in finan-

⁶ WRA alludes in its petition to "other issues" which it has raised in its filings before the SEC that, it asserts, tend to show how the CEC's application before the SEC "will aid in the continuing violation of other NRC rules and regulations." WRA did not provide these filings with its petition or otherwise provide specific information concerning these charges.

⁷ In an earlier Director's Decision denying a request by OCRE for relief based upon the Licensee's alleged precarious financial condition, it was noted that the Staff was aware that CEI and TE are considering a merger, and that that fact did not alter the analysis set forth of the adequate financial qualifications of the Licensee, as one stated purpose of the merger was to strengthen the combined financial position of CEI and TE. See DD-85-14, *supra* note 1, 22 NRC at 641 n.3.

cial protection plus secondary financial protection in the form of private liability insurance available under an industry retrospective rating plan providing for deferred premiums. As indicated in its response to the WRA petition, CEI has in force liability insurance policies (American Nuclear Insurers Policy No. NF 291 and Mutual Atomic Energy Liability Underwriters Policy No. MF 124) which provide for \$160 million in financial protection. An indemnity agreement with the NRC (No. B-98) was issued on March 7, 1985, and will be amended at the time the operating license is issued. CEI has also submitted to the NRC Certificates of Insurance for deferred premiums under Nuclear Energy Liability Insurance Association/Mutual Atomic Energy Liability Underwriters Master Policy No. 1. This insurance provides an aggregate of \$30 million per event in the event that utilities are unable to meet deferred premium obligations. CEI and the other co-owners of the Perry plant are also required to submit to NRC the certified financial statements pursuant to 10 C.F.R. § 140.21(e), as CEI and Toledo Edison have annually done with respect to the Davis-Besse plant. In sum, WRA raises no substantial issue with respect to the ability of the Licensee to meet its obligations under Part 140 or the effect of the proposed CEI/TE affiliation on compliance with Part 140.

CONCLUSION

For the reasons discussed above, I have concluded that no adequate basis exists for suspending the existing construction permits, withholding the operating license for Unit 1, or ordering the other relief requested by the Petitioners. Thus, with the exception of OCRE's requests for inspection of the Perry facility for damage resulting from the January 31 earthquake, identification of any necessary corrective action or plant upgrading, and an investigation of the earthquake and reevaluation of local seismicity, OCRE's and WRA's petitions have been denied. As provided in 10 C.F.R. § 2.206(c), a copy of this Decision will be filed with the Secretary for the Commission's review.

Harold R. Denton, Director
Office of Nuclear Reactor
Regulation

Dated at Bethesda, Maryland,
this 18th day of March 1986.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

OFFICE OF NUCLEAR REACTOR REGULATION

Harold R. Denton, Director

In the Matter of

Docket No. 50-353
(10 C.F.R. § 2.206)PHILADELPHIA ELECTRIC COMPANY
(Limerick Generating Station,
Unit 2)

March 21, 1986

The Director, Office of Nuclear Reactor Regulation, denies a petition filed pursuant to 10 C.F.R. § 2.206 by Marvin I. Lewis on behalf of himself and Citizen Action in the Northeast requesting the immediate suspension and ultimate revocation of the construction permit for the Limerick Unit 2 facility. The Petitioners argued that recent findings by an Administrative Law Judge of the Pennsylvania Public Utility Commission demonstrate that Unit 2 is economically unviable, that the cost/benefit ratio required to be evaluated by the NRC under the National Environmental Policy Act is now unfavorable and, consequently, the construction permit should be revoked.

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

INTRODUCTION

On July 28, 1985, Mr. Marvin I. Lewis, on behalf of himself and Citizen Action in the Northeast (Petitioners), filed with the Director of the Office of Nuclear Reactor Regulation a petition seeking that the Director immediately suspend the construction permit for Unit 2 of the Limerick Generating Station and institute proceedings to determine whether to revoke the construction permit. Construction Permit No. CPPR-107 (construction permit or CP) was issued to the Philadelphia Electric

Company (Licensee or PECO) on June 19, 1974, authorizing construction of the Limerick Generating Station, Unit 2. Petitioners base their petition upon a recent recommendation by Administrative Law Judge Allison K. Turner to the Pennsylvania Public Utility Commission which the Petitioners allege shows that Unit 2 is not economically viable. The petition argues that this new information demonstrates that the cost/benefit ratio required to be evaluated by the NRC under the National Environmental Policy Act (NEPA) is now unfavorable and that therefore the construction permit was illegally and improperly issued.

On August 30, 1985, I acknowledged receipt of the petition and informed the Petitioners that the petition would be treated under 10 C.F.R. § 2.206 of the Commission's regulations and that a formal decision with respect to it would be issued within a reasonable time. Notice of receipt of the petition was published in the *Federal Register* (50 Fed. Reg. 36,934 (Sept. 10, 1985)).

The Licensee submitted comments on the petition of Mr. Lewis on September 18, 1985, and I have considered them in reaching my decision. My decision in this matter follows.

DISCUSSION

Current Status of Limerick Generating Station

A full-power operating license for Unit 1 of the Limerick Generating Station was issued on August 8, 1985, and Unit 1 subsequently began a startup testing program of about 6 months duration prior to placing the unit in a commercial operation status. Construction Permit No. CPPR-107 for Limerick Unit 2 was issued on June 19, 1974. Construction on Unit 2 has, until recently, been suspended by the Philadelphia Electric Company in response to an order by the Pennsylvania Public Utility Commission. At present, Unit 2 is approximately 30% complete. Hearings were held before Administrative Law Judge (ALJ) Allison K. Turner of the Pennsylvania Public Utility Commission (PUC) in early 1985 and on July 12, 1985, a Recommended Decision of the ALJ was issued to the PUC. On December 5, 1985, the PUC issued an order wherein it set forth the terms and conditions of a cost containment and operating incentive plan under which the PUC would approve continuation of Limerick Unit 2. On December 23, 1985, PECO announced that it had decided to complete construction of Limerick Unit 2 under those terms and conditions and had so notified the PUC.

Since the Recommended Decision also discusses PECO's arguments to the PUC regarding the status of NRC licensing activities for Unit 2, I

shall comment briefly on that subject here. A large portion of the NRC licensing activities necessary to facilitate the issuance of an operating license for Unit 2 have been completed. For example, the Final Safety Analysis Report review and the Environmental Report review for Unit 2 are virtually complete except for certain issues specific to Unit 2 which cannot be addressed until later, such as the qualifications of the Unit 2 operating staff. Furthermore, new regulatory requirements will be imposed only in accordance with the Commission's backfitting policy in 10 C.F.R. § 50.109. The four partial initial decisions resulting from the NRC's Atomic Safety and Licensing Board hearings encompass issues which in almost all cases are applicable to Unit 2 as well as unit 1. Inspection activities associated with Unit 2 completion, some additional Advisory Committee on Reactor Safeguards review and additional consideration by the Commission at the time of authorization of full-power operation would constitute the majority of the remaining expected NRC licensing activities to be completed for Unit 2. This assessment is of course conditioned on a general absence of proposed changes to the Unit 2 design by PECO.

Analysis of Petition

The petition alleges that the Recommended Decision¹ by Administrative Law Judge Allison K. Turner to the Pennsylvania Public Utility Commission provides new information which shows that Unit 2 of the Limerick Generating Station is not economically viable. The petition argues that, on this basis, the NRC Staff's assessment of costs and benefits which supported issuance of the construction permit is invalid and accordingly, the construction permit should be suspended and proceedings initiated to determine whether it should be revoked. The petition essentially argues that the facility is no longer needed or economical and thus the benefit from the facility, i.e., the power it will generate, no longer outweighs the environmental costs of the facility and the Commission should reconsider its decision to grant a construction permit for the facility.

The results of the Staff's assessment of the Unit 2 costs and benefits which support issuance of the Unit 2 construction permit are reported in the Final Environmental Statement issued in November 1973. As indicated therein, a variety of costs were evaluated including capital and

¹ Recommended Decision (RD) of Allison K. Turner, Administrative Law Judge, dated July 12, 1985, before the Pennsylvania Public Utility Commission, Limerick Unit No. 2 Nuclear Generating Station Investigation No. I-840381.

operational costs; land usage; water usage; thermal, chemical, and radiological impacts on the environment; and biological impacts. A variety of benefits were evaluated including the electric energy and improved reliability from increased electric capacity to be supplied. The overall assessment of the costs and benefits resulted in various conclusions as stated in the FES, the last of which was that the net impact of the construction and operation of the station would be beneficial. Thus, the direct economic costs and benefits were not the only parameters considered by the NRC Staff in its evaluation of the station for National Environmental Protection Act (NEPA) purposes.

The petition is essentially a collection of comments and unsupported assertions regarding the Pennsylvania PUC Recommended Decision. The investigation by the Pennsylvania PUC as carried out by the ALJ was concerned with economic issues as they relate to monetary rates for electricity and the degree of service to be provided to the public. The specific issues concerned the adequacy of PECO power generation margins; cost effectiveness of alternates such as cogeneration, conservation, or purchased power; the financial health of PECO; the acceptance or rejection of securities filings by PECO; treatment of sunk Unit 2 costs; a plan to induce cost-efficient and timely construction; construction costs and capacity factors; fossil fuel prices; load growth projections; and Unit 2 operating and maintenance expenses and capital additions during its projected life.

The Recommended Decision is extensive (over 400 pages) and includes the opinions of the ALJ and assessments of the views of the eight parties to the proceeding followed by a summary and conclusion and proposed Findings of Fact, Conclusions of Law, and a proposed Order. The differing viewpoints of the parties on the numerous issues are assessed in the Recommended Decision. The ALJ also discusses the inherent uncertainties in assessing many of the individual issues based, as they are, largely on forecasts of future happenings in a changing industry and economy. The ALJ concluded that power equivalent to that which would be provided by Limerick Unit 2 would be needed to meet future requirements. The ALJ concluded that, although Limerick Unit 2, *per se*, is not required to meet these future needs, power equivalent to what Unit 2 could provide would need to be provided in the time frame beyond 1991. This appears to also be the approximate time frame in which Unit 2 could be completed for use.

The petition provides no citations to the Recommended Decision nor any other indications regarding which specific aspects of the Recommended Decision constitute the basis for its request beyond asserting that the new information in the Recommended Decision directly

demonstrates the economic nonviability of Unit 2 of the Limerick Generating Station. However, as indicated above, the full Pennsylvania PUC has not evaluated the ALJ's recommendation and has established a plan of cost containment and operating incentives under which it will permit continuation of construction of Limerick Unit 2. Thus, the PUC has concluded that, within the limitations it has established, the costs for the Limerick facility are acceptable. PECO has agreed to resume construction on that basis.

The petition provides a discussion that is not directly related to or supported by citations to the Recommended Decision on the analyses of costs and benefits required by the NRC regulations in 10 C.F.R. Part 51 in a manner which suggests that the Petitioners believe that an overall numerical value of costs to benefits, a cost/benefit ratio, must be developed and compared to a specific acceptance criterion (of "positive" or "negative" value). In the NRC Staff assessment of the various environmental costs and benefits of construction of Unit 2 reported in the FES in November 1973, the costs and benefits are not reduced to single values or parameters due to their dissimilarity and the resulting lack of meaning any such value would have. Therefore, there is no overall numerical value of cost to be compared to an overall numerical value of benefits.

As described above, the benefit side of the analysis is the power that will be generated by the facility. The Commission's regulations governing the consideration of need for power for a plant which already has a construction permit are set forth 10 C.F.R. §§ 51.21 and 51.23. The Commission has made a generic determination that in all cases to date and in all foreseeable cases, there will be some benefit from operation of a nuclear plant in terms of either meeting increased energy needs or replacing older, less-economical generating capacity. Thus, once need-for-power and alternative-energy-source issues are resolved in the construction permit proceeding, absent special circumstances shown in accordance with 10 C.F.R. § 2.758 or as otherwise required by the Commission, need-for-power and alternative-energy-source issues will not be considered in operating license proceedings for nuclear power plants.

In previous decisions on petitions filed pursuant to § 2.206, we have noted that NEPA does not require the Commission to reconsider environmental decisions whenever new information developed subsequent to the action becomes available. Rather, it is unnecessary for an agency to reopen the NEPA record unless the new information would clearly mandate a change in result. *See, e.g., Public Service Co. of Indiana* (Marble Hill Nuclear Generating Station, Units 1 and 2), DD-79-17, 10

NRC 613, 621 (1979); *Georgia Power Co.* (Alvin W. Vogtle Nuclear Plant, Units 1 and 2), DD-79-4, 9 NRC 582, 584-85 (1979).

The Petitioners here have identified no information or special circumstances which would cause us to ignore the Commission's generic findings on this issue in this case.

As explained by the Appeal Board in a decision in the *Midland* case on this issue:

Unless the proposed nuclear plant has environmental disadvantages in comparison to possible alternatives, differences in financial cost are of little concern to us. Because a line of our earlier decisions leads us directly to this proposition, we need record our underlying reasoning only briefly here.

In the Atomic Energy Act, Congress did not make this agency responsible for assessing whether a proposed nuclear plant would be the most financially advantageous way for a utility to satisfy its customers' need for power. Such matters remained the province of the utility and its supervising State regulatory commission. Antitrust issues to one side, our involvement in financial matters was limited to determining whether, if we license the plant, the company will be able to build and then to operate it without compromising safety because of pressing financial needs.

The passage of the National Environmental Policy Act increased our concern with the economics of nuclear power plants, but only in a limited way. The Act requires us to consider whether there are *environmentally* preferable alternatives to the proposal before us. If there are, we must take the steps we can to see that they are implemented if that can be accomplished at a reasonable cost; *i.e.*, one not out of proportion to the environmental advantages to be gained. But if there are no preferable environmental alternatives, such cost-benefit balancing does not take place. Manifestly, nothing in NEPA calls upon us to sift through environmentally *inferior* alternatives to find a cheaper (but dirtier) way of handling the matter at hand. In the scheme of things, we leave such matters to the business judgment of the utility companies and to the wisdom of the State regulatory agencies responsible for scrutinizing the purely economic aspects of proposals to build new generating facilities. In short, as far as NEPA is concerned, cost is important only to the extent it results in an environmentally superior alternative. If the "cure" is worse than the disease, that it is cheap is hardly impressive.

Consumers Power Co. (Midland Plant, Units 1 and 2), ALAB-458, 7 NRC 155, 162-63 (1978) (footnotes omitted).

As I have previously stated² in a Director's Decision in response to an earlier 2.206 petition regarding the Limerick plant:

Suspension, modification or revocation of construction permits may be appropriate based upon substantially changed circumstances. The appropriateness of suspending, modifying or revoking construction permits for nuclear facilities based upon alleged changed circumstances has previously been addressed. NEPA does not

² DD-84-13, 19 NRC 1137, 1144 (1984).

require a decision based upon environmental impact statements be reconsidered whenever information developed subsequent to the action becomes available. It is unnecessary for an agency to reopen a NEPA record unless the new information will clearly mandate a change in result. (Footnotes omitted.)

No such new information has been presented here.

CONCLUSION

For the reasons discussed above, the information identified by the petition does not warrant the initiation of the requested proceedings. Accordingly, the Petitioners' request for action pursuant to § 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 for the Commission's review.

Harold R. Denton, Director
Office of Nuclear Reactor
Regulation

Dated at Bethesda, Maryland,
this 21st day of March 1986.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

COMMISSIONERS:

Nunzio J. Palladino, Chairman
Thomas M. Roberts
James K. Asselstine
Frederick M. Bernthal
Lando W. Zech, Jr.

In the Matter of

Docket Nos. 50-440-OL
50-441-OL

**CLEVELAND ELECTRIC ILLUMINATING
COMPANY, *et al.***

**(Perry Nuclear Power Plant,
Units 1 and 2)**

April 18, 1986

The Commission reiterates that the Board must decide motions to reopen on the pleadings before it. The Commission finds that the Appeal Board's uncertainty as to whether Intervenor's motion to reopen raised an issue of safety significance should have resulted in the Board's denial of the motion rather than its orders setting up exploratory hearings. The Commission notes that the issues raised by the orders can be handled by Staff outside of the adjudicatory context. Because the Board did not find the pleadings were sufficient to reopen, the Commission vacates the Board's orders and denies Intervenor's motion to reopen.

NRC: SUPERVISORY AUTHORITY

The Commission's inherent supervisory authority over the conduct of NRC adjudications gives it the authority to intervene in a proceeding at any time.

RULES OF PRACTICE: REOPENING OF RECORD

The standards for reopening a closed record require consideration of three factors: (1) whether the motion to reopen is timely; (2) whether the information raises a significant safety (or environmental) concern; and (3) the motion must demonstrate that a materially different result would be or would have been likely had the newly proffered evidence been considered initially. *See, e.g., Metropolitan Edison Co.* (Three Mile Island Nuclear Station, Unit 1), CLI-85-2, 21 NRC 282, 311 (1985).

RULES OF PRACTICE: REOPENING OF RECORD (SATISFACTION OF REQUIREMENTS: BURDEN ON MOVANT)

The burden of satisfying reopening requirements is on the movant. A Board is to decide a motion to reopen on the information before it and has no authority to engage in discovery in order to supplement the pleadings before it. *Louisiana Power & Light Co.* (Waterford Steam Electric Station, Unit 3), CLI-86-1, 23 NRC 1 (1986).

LICENSING BOARDS: REOPENING OF PROCEEDINGS (NEW CONTENTIONS)

The fact that newly proffered contentions raise serious issues is insufficient justification to reopen the record to consider them as Board issues when they are being dealt with in the course of ongoing NRC investigation and Staff monitoring. *Cincinnati Gas and Electric Co.* (William H. Zimmer Nuclear Power Station, Unit 1), CLI-82-20, 16 NRC 109 (1982).

MEMORANDUM AND ORDER

I.

For the reasons set forth below, the Commission has determined that the Atomic Safety and Licensing Appeal Board's actions in this proceeding warrant intervention in order to clarify a misinterpretation of Commission case law and precedent. The Commission's inherent supervisory authority over the conduct of NRC adjudications gives it the authority to intervene.

On January 31, 1986, an earthquake occurred in northeastern Ohio. The earthquake measured 5.0 in magnitude and its epicenter was located approximately 10 miles south of the Perry nuclear facility. Three days later, on February 3, intervenor Ohio Citizens for Responsible Energy (OCRE) filed a motion to reopen the record in the Perry operating license proceeding for the purpose of admitting a new contention challenging the adequacy of the facility's seismic design. The Applicants and Staff opposed the motion to reopen primarily on the ground that the earthquake and its effects did not present a significant safety question. The Appeal Board, unable to decide whether the issue raised by the motion to reopen had true safety significance, decided to hold an exploratory hearing to aid it in its determination of safety significance. See Appeal Board Orders of March 20 and April 8, 1986 (unpublished).

II.

The standards for reopening a closed record require consideration of three factors: (1) whether the motion to reopen is timely; (2) whether the information raises a significant safety (or environmental) concern; and (3) the motion must demonstrate that a materially different result would be or would have been likely had the newly proffered evidence been considered initially. See, e.g., *Metropolitan Edison Co.* (Three Mile Island Nuclear Station, Unit 1), CLI-85-2, 21 NRC 282, 311 (1985). The Board, in its analysis of the motion to reopen, found that the motion to reopen was timely. Order of March 20, 1986, at 4 n.7. However, the Board was not convinced that the motion had safety significance. If the Board, after considering the parties' submissions, was not convinced that the motion raised a matter of safety significance, it should have denied the motion to reopen.

In *Louisiana Power & Light Co.* (Waterford Steam Electric Station, Unit 3), CLI-86-1, 23 NRC 1 (1986), we addressed the issue of whether an Appeal Board has the authority to seek additional information before ruling on a motion to reopen. Our *Waterford* decision holds that a Board is to decide the motion to reopen on the information before it and has no authority to engage in discovery in order to supplement the pleadings before it. Simply put, the burden of satisfying reopening requirements is on the movant, and Boards must base their decisions on what is before them. That the movant did not meet this burden in the view of the Appeal Board is evident from the Board's order of April 8, 1986, in which it states that it needs the exploratory hearing to aid its "determination respecting *whether the new issue raised by the OCRE motion has true safety significance.*" (Emphasis added.) Accordingly, the Board had no

authority to pursue this matter as it did.¹ See also *Metropolitan Edison Co.* (Three Mile Island Nuclear Station, Unit 1), CLI-85-7, 21 NRC 1104, 1106 (1985).

Additionally, we note that OCRE in its reply to the Staff and Applicant responses in opposition to its motion to reopen conceded "that the high frequency exceedances of the SSE design acceleration recorded in the January 31, 1986 earthquake do not have engineering significance." OCRE Reply to Staff and Applicant Responses to OCRE's Motion to Reopen the Record and to Submit a New Contention at 1. OCRE also concedes that the earthquake caused little or no damage to the plant. *Id.* Assuming *arguendo*, that the Appeal Board was correct in stating that the burden of going forward shifted to the Applicants and Staff when OCRE called "attention to the apparent fact that the earthquake exceeded the design basis SSE in at least one respect," these concessions appear to negate any *prima facie* case of safety significance. See Order of March 20, 1986, at 4 n.7, and at 6.

The earthquake has already received a great deal of attention. The NRC Staff has already completed one study (SSER No. 9), and some additional confirmatory work must be completed before the granting of a full-power license. Matters which need to be addressed before licensing can be handled by the Commission and its Staff outside of the adjudicatory context. See *Cincinnati Gas and Electric Co.* (William H. Zimmer Nuclear Power Station, Unit 1), CLI-82-20, 16 NRC 109 (1982).

III.

The Appeal Board's orders setting up the exploratory hearings are VACATED. The petition to reopen is DENIED. The Staff, however, should be prepared to discuss the matters raised by the Board in its March 20, 1986 Order in its presentation before the Commission on the full-power license. The Applicants and the Intervenor will also be afforded an opportunity to make presentations to the Commission on these matters.

Chairman Palladino has additional remarks which are attached. Commissioner Asselstine disapproved this Order; his dissenting views are attached.

¹ Nor did the Appeal Board here have the authority *sua sponte* to seek to obtain information relevant to the motion to reopen. Boards have the authority to examine issues not placed in controversy by the parties only where specific facts are brought to their attention indicating that there is a serious safety, environmental, or common defense and security matter. See 10 C.F.R. § 2.760a; *Texas Utilities Generating Co.* (Comanche Peak Steam Electric Station, Units 1 and 2), CLI-81-24, 14 NRC 614, 615 (1981). The Appeal Board made no such finding here.

It is so ORDERED.

For the Commission

SAMUEL J. CHILK
Secretary of the Commission

Dated at Washington, D.C.,
this 18th day of April 1986.

SEPARATE VIEWS OF CHAIRMAN PALLADINO

While I support the *Waterford* doctrine referred to in the Commission's Order, I would have sought clarification of the Appeal Board's reasons behind its March 20, 1986 Order.

Notwithstanding the above, I find compelling the fact that Intervenor has abandoned the theory of their February 3, 1986 Motion to Reopen the Record as described in the Commission's order. Thus, I support the Commission's order denying the Motion to Reopen.

DISSENTING VIEWS OF COMMISSIONER ASSELSTINE

I do not agree with the Commission's action today. The Commission should not have interposed itself into the Appeal Board proceeding but should simply have permitted the Appeal Board to proceed as it outlined in its orders. At a minimum, the Commission should *not* have summarily vacated the Board's orders and summarily denied the motion to reopen without first hearing from the parties.

The action of the Appeal Board in this case is an eminently sensible solution to a difficult problem. The Board was told that, in at least one respect, the 1986 Ohio earthquake exceeded the SSE for the Perry

plant.¹ The Applicants and NRC Staff asserted that, even though the earthquake did exceed the SSE, the event did not present a significant safety issue for operation of Perry. The Appeal Board felt, however, that it needed more information before it could make a final determination of safety significance. The Board stated:

Even with regard to so seemingly simply an issue as safety significance, it is difficult to make an informed judgment on the basis of preliminary written materials where, as here, the combined and complicated fields of geology, seismology and engineering mechanics come into play. In this connection, our examination of the documentary submissions of the Applicants and Staff have given rise to several questions that, in our view, require further exploration before we can decide with any degree of confidence whether a reopening of the record is justified.

Appeal Board Order dated March 20, 1986, at 6.

Given these circumstances, the Appeal Board decided to hold a 1-day "mini hearing" to obtain answers to its questions in order to make a decision on whether the Ohio earthquake presents a significant safety issue. Thus, the Board established a procedure by which it could ensure an adequate examination of the issue of safety significance without all of the trappings of a full-blown hearing. Rather than reining in the Appeal Board, the Commission should be encouraging the Board in its efforts to consider all the evidence carefully and to have a more complete record before deciding upon a motion to reopen.

Unfortunately, the Commission feels compelled to apply its decision in *Waterford* to this case. *Louisiana Power and Light Co.* (Waterford Steam Electric Station, Unit 3), CLI-86-1, 23 NRC 1 (1986). I disagreed with that decision as well, and for good reason. That decision denies Board members the opportunity to obtain answers to questions raised as a result of the parties' filings on a motion to reopen. The *Waterford* decision, when combined with the Commission's standards for reopening and the Commission's rules on raising issues *sua sponte*, ties the hands of the Boards. By setting such high standards in all of these areas, the Commission has made it extremely difficult for an intervenor to raise new issues.

¹ In its Order (p. 236), the Commission seems to attach some significance to the fact that OCRE has conceded in its response to Staff and Applicant filings "that the high frequency exceedances of the SSE design acceleration recorded in the January 31, 1986 earthquake do not have engineering significance" and that the earthquake caused little or no damage to the plant. This is largely irrelevant to the question at issue here. The Intervenor has not abandoned its claim that the earthquake raises questions about the adequacy of the seismic design basis for the plant and of compliance with NRC regulations. These are the very subjects on which the Appeal Board wished to obtain additional information from the Applicants and Staff.

In addition, the Commission has now made it virtually impossible for the Boards to obtain additional information, which is not in the parties' initial filings, in order to satisfy themselves that an issue does or does not present a significant safety issue. Thus, in the future, whether a Board can consider a safety issue in some detail before ruling on a motion to reopen will depend upon how adept a particular intervenor is in meeting these stringent pleading requirements on the first round of pleadings. If the intervenor does not make an open and shut case in his initial pleading, he will not get a second chance. Further, the Board will not be permitted to ask for additional information no matter how many questions the Board has, unless the Board grants the motion to reopen. This could have either of two results, neither of which is particularly beneficial. Either the Boards will read the *Waterford* and *Perry* orders strictly and will not grant a motion to reopen without a seemingly irrefutable pleading from the intervenor, in which case fewer issues will be resolved with input from the public. Or, rather than treat the issue superficially, the Boards will be more inclined to grant a motion to reopen if they have unanswered questions and thus begin a full-blown hearing. The action of the Appeal Board here seems to be a sensible compromise to avoid either extreme.

The Commission's devotion to technical pleading requirements with regard to motions to reopen is certainly understandable because proceedings must come to an end sometime. Such devotion to the Commission's rules and precedents might even be admirable, if it were applied uniformly to all parties. However, when I contrast this case with the Commission's recent orders in the *Braidwood* proceeding, it is apparent that the Commission does not require the same level of performance from all parties. (See *Commonwealth Edison Co. (Braidwood Station, Units 1 and 2)*, Docket Nos. 50-456 and 457, Commission Orders dated December 5, 1985, and March 20, 1986 (both unpublished). In that case the Commission went out of its way to give the applicant a second chance to make its case on a motion on which it clearly had not met its burden as movant.

Aside from all of the above, however, the Commission's decision today suffers from an additional infirmity. At a minimum, the Commission should in this case have heard from the parties before deciding whether to issue this order. The Commission should not have interposed itself into the *Perry* proceeding, without being asked by any party, and then summarily disposed of both the Appeal Board "mini-hearing" and the intervenor's motion to reopen. Allowing the parties an opportunity to speak for a few minutes on this issue at the Commission meeting,

during which the Commission usually decides whether to issue a full-power license, is hardly an adequate substitute for a close look at this issue by the Appeal Board.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

COMMISSIONERS:

Nunzio J. Palladino, Chairman
Thomas M. Roberts
James K. Asselstine
Frederick M. Bernthal
Lando W. Zech, Jr.

In the Matter of

Docket Nos. 50-456-OL
50-457-OL

COMMONWEALTH EDISON COMPANY
(Braidwood Nuclear Power Station,
Units 1 and 2)

April 24, 1986

The Commission dismisses intervenors' quality assurance contention because the Licensing Board erred in its finding that the contention satisfies the five-part balancing of factors test set forth in 10 C.F.R. § 2.714(a)(1). The Commission finds that the contention would not satisfy the test even if reevaluated in light of the developments since admission. The Commission directs the Board to evaluate the admissibility of intervenors' inspector harassment contention, which was admitted by a Board-approved stipulation, under the criteria set forth in 10 C.F.R. § 2.714(a)(1).

RULES OF PRACTICE: ADMISSIBILITY OF CONTENTIONS

Acceptance or rejection of nontimely filings is controlled by the five-factor test 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; and
- (v) The extent to which the petitioner's participation will broaden the issues or delay the proceeding.

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

Absent a showing of good cause for late filing, a "compelling" showing of the other four factors must be made. *Cincinnati Gas and Electric Co.* (William H. Zimmer Nuclear Power Station, Unit 1), LBP-83-58, 18 NRC 640, 663 (1983); *Mississippi Power and Light Co.* (Grand Gulf Nuclear Station, Units 1 and 2), ALAB-704, 16 NRC 1725 (1982).

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

The second and fourth prongs of the test are accorded less weight, under established Commission precedent, than the other three factors. *South Carolina Electric and Gas Co.* (Virgil C. Summer Nuclear Station, Unit 1), ALAB-642, 13 NRC 881, 895 (1981).

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

In addressing criterion (iii) of the test, a petitioner should set out with as much particularity as possible the precise issues it plans to cover, identify its prospective witnesses, and summarize their proposed testimony. *Mississippi Power and Light Co.* (Grand Gulf Nuclear Station, Units 1 and 2), ALAB-704, 16 NRC 1725, 1730 (1982).

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

In weighing the contribution which a party is likely to make in the development of a sound record, the performance of its counsel in a different proceeding is not a relevant consideration.

RULES OF PRACTICE: NONTIMELY SUBMISSION OF CONTENTIONS (SIGNIFICANCE VERSUS DELAY)

The five-factor test assumes that a contention's significance under factor (iii) may have to be balanced against the likelihood of delay under factor (v), as part of an overall balancing of factors. It is inappropriate, however, to balance significance versus delay in evaluation of the fifth factor alone.

RULES OF PRACTICE: NONTIMELY SUBMISSION OF CONTENTIONS (DELAY)

Voluntary withdrawal of other, unrelated contentions from a proceeding does not serve to counterbalance the delaying effect of a late-filed contention.

RULES OF PRACTICE: NONTIMELY SUBMISSION OF CONTENTIONS (WAIVER OF OBJECTION)

Even a waiver of objections by all parties does not serve to render an otherwise untimely contention admissible. *Boston Edison Co.* (Pilgrim Nuclear Power Station), ALAB-816, 22 NRC 461, 466 (1985).

MEMORANDUM AND ORDER

I. INTRODUCTION

On March 20, 1986, the Commission issued an order (unpublished) in which it asked the parties to the Braidwood proceeding to address two questions, designed to assist the Commission in determining whether the Intervenors' (Rorem *et al.*) amended quality assurance contention meets the five-part test set forth in 10 C.F.R. § 2.714 for the evaluation of late-filed contentions. Those questions were:

1. Did the Licensing Board apply the five-part test correctly in admitting the Intervenors' amended quality assurance contention?
2. If the Intervenors' contention were to be rejected, and then were to be resubmitted today, would the contention satisfy the five-part test, if it were judged in light of all the information which has developed in the course of the proceeding to date?

Upon consideration of the filings of the parties, we conclude, for the reasons set forth below, that with respect to the Intervenor's amended quality assurance contention, the Licensing Board erred in finding that the five-part test favored admission of the contention. We further conclude that the contention, if resubmitted today and evaluated in light of all the information which has developed to date in the course of the proceeding, would again fail the five-part test. Accordingly, we dismiss the quality assurance contention. Our ruling does not apply to the contention on the harassment of quality assurance inspectors. That contention, which was admitted by the Licensing Board pursuant to a stipulation agreed to by all parties to the proceeding, was not before us for consideration. The history of this proceeding having been amply described in our earlier orders, we need not repeat it here. We therefore proceed to a discussion of the five factors, as they apply to the Licensing Board's decision on the Intervenor's amended contention.

II. THE FIVE-FACTOR TEST

A. Good Cause, if Any, for Failure to File on Time

It is well established in our case law that this first factor is a crucial element in the analysis of whether a late-filed contention should be admitted. If the proponent of a contention fails to satisfy this element of the test, it must make a "compelling" showing with respect to the other four factors. *Cincinnati Gas and Electric Co.* (William H. Zimmer Nuclear Power Station, Unit 1), LBP-83-58, 18 NRC 640, 663 (1983); *Mississippi Power and Light Co.* (Grand Gulf Nuclear Station, Units 1 and 2), ALAB-704, 16 NRC 1725 (1982).

In the present case, the Licensing Board found that the Intervenor had sufficient information to file their contention by August 1, 1984, at the latest, yet failed to do so until March 7, 1985. It therefore found that Intervenor had failed to show good cause for their lateness. LBP-85-11, 21 NRC 609, 628-29 (1985); LBP-85-20, 21 NRC 1732, 1748 (1985). Intervenor, in their brief, assert that May 7, 1984, the publication date of Inspection Report 83-09, is a "reasonable starting point" from which to start counting delay. Brief at 28. Of the 10 months between that date and the filing of Intervenor's contention on March 7, 1985, they say, 2 months were taken up in good faith negotiations aimed at producing agreement on revised contentions, and 3 months were attributable to "the initial review of the reinspection program, illness of counsel and the unavailability of new counsel." *Id.* Five months, according to Intervenor, were spent in a "diligent effort to avoid needless litigation

through close monitoring of an ambitious and promising, but ultimately flawed and delayed reinspection program.”

It is on those 5 months that we continue to focus. Reduced to its essentials, Intervenors’ position is that during that period, they initially believed that their objectives could be achieved without the need for litigation, but later changed their minds. Intervenors assert that their actions were “in accord with the policies of both this Commission and the courts to avoid unnecessary lawsuits.” We cannot agree.

While it may be true that the Commission and the courts prefer that parties seek to resolve their differences without the need for litigation, it is equally true that if a party is to pursue litigation, it must do so in conformity with established standards of timeliness. If Intervenors’ rationale were taken to its logical end point, the more a party delayed, the more it would be given credit for its restraint in refraining from filing suit. Such a result would of course be absurd.

Parties to Commission proceedings must live with the choices they make. Intervenors had the option of pursuing their aims outside the adjudicatory context, or of filing a timely contention, but an untimely filing is not made more acceptable by the fact that the party refrained from burdening the adjudicatory process during the months of delay.

Even assuming that the Intervenors’ explanation for the first 5 months of delay was satisfactory — a question which we need not decide — we find the Intervenors’ explanation of the second 5 months of delay to be unacceptable. Their own submissions preclude a finding of “good cause” for at least 5 months of the untimeliness of their contention. We now turn to the remaining four elements of the five-part test, to see whether Intervenors have made the requisite “compelling” showing on those factors.

B. Availability of Other Means to Protect Petitioners’ Interest

This factor, like the closely related fourth factor (the extent to which other parties will represent petitioners’ interest) is accorded less weight, under established Commission precedent, than factors one, three, and five. *South Carolina Electric and Gas Co.* (Virgil C. Summer Nuclear Station, Unit 1), ALAB-642, 13 NRC 881, 895 (1981). Before the Licensing Board, both the Applicant and the Staff conceded these two factors to the Intervenors, and neither asserts the Licensing Board erred in finding in the Intervenors’ favor on these factors. We agree that the Licensing Board did not err in so finding.

C. Extent to Which Petitioner Can Contribute to Development of a Sound Record

Our case law establishes both the importance of this third factor in the evaluation of late-filed contentions and the necessity of the moving party to demonstrate that it has special expertise on the subjects which it seeks to raise. *Grand Gulf, supra*, 16 NRC at 1730. The Appeal Board has said: "When a petitioner addresses this criterion it should set out with as much particularity as possible the precise issues it plans to cover, identify its prospective witnesses, and summarize their proposed testimony." *Id.* This the Intervenors did not do, even after the Licensing Board, in its Special Prehearing Conference Order, suggested that they do so. Indeed, the Intervenors' showing initially was so deficient that the Licensing Board was able to find in the Intervenors' favor only by including in its analysis its judgment on the capabilities of the Intervenors' attorneys:

The third factor in 10 C.F.R. § 2.714(a)(1) compels the Board to prospectively ascertain whether Intervenors' participation in the proceeding will assist in developing a sound record. From the QA/QC contention Intervenors submitted, our answer to the above question might be negative. But the Board's background knowledge encompasses the fact that BPI, the law firm which now represents Intervenors, contributed to the development of a sound record in the *Byron* operating license hearing by bringing Commonwealth Edison's QA/QC deficiencies at the Byron plant to that Licensing Board's attention.

LBP-85-11, *supra*, 21 NRC at 629-30.

When the amended contention was filed, the Licensing Board again found in favor of the Intervenors on the third factor, although it noted that the Intervenors had not followed its suggestion that they identify their intended witnesses and the subjects on which they would testify. The Licensing Board reiterated its reliance on the fact that the law firm representing the Intervenors had also represented the *Byron* Intervenors, notwithstanding that Judge Smith, Chairman of the *Byron* Licensing Board, had complained that in *Byron*, BPI had "raise[d] every conceivable issue" without adequate followup. May 30, 1984 *Byron* Transcript at 8173-80; LBP-85-20, *supra*, 21 NRC at 1747. In the Licensing Board's view, the fact that Judge Smith "articulated his frustration" at the attorneys did not "negate[] the service they performed," and the Board asserted that it would by its own actions "limit the problem of unfocused litigation which arose in *Byron*." 21 NRC at 1747.

In our view, the Licensing Board's finding in favor of the Intervenors, based upon the contribution of their attorneys to the development of

the record, was erroneous. No principle of law has been called to our attention that allows a court or an agency to make judgments, positive or negative, about the merits of a party's case based upon its evaluation of the performance of its counsel in a different proceeding. The Licensing Board appears to have derived such a principle from the Appeal Board's decision in *Washington Public Power Supply System* (WPPSS Nuclear Project No. 3), ALAB-747, 18 NRC 1167, 1178 (1983). Any such conclusion was incorrect. In that case, the Appeal Board held that the Licensing Board did not err when, in rejecting a late intervention petition, it declined to count in petitioner's favor the fact that the same *petitioner* (rather than its counsel) had participated in other NRC licensing proceedings. The Appeal Board commented that the petitioner there had not even claimed, let alone demonstrated, that the issues sought to be raised in *WPPSS* were the same as those which it had litigated in prior proceedings. It would be difficult to read into that decision, or into the prior NRC decisions cited, strong support even for the proposition that a party's prior participation in NRC licensing proceedings is a weighty factor in weighing a request for late intervention; but there is no basis in that decision for a finding that *counsel's* participation in other proceedings can be taken into account.

Based on the Licensing Board's erroneous consideration of counsel's actions in the *Byron* proceeding, coupled with the Intervenors' failure, even after being urged by the Licensing Board, to provide specifics as to the witnesses to be called and the topics to be pursued, we find that the Licensing Board erred in finding that the third factor weighed in favor of the Intervenors. Since we find the consideration of counsel's participation to be legally irrelevant, we need not consider Judge Smith's critical comments on *Byron* counsel's actions.

D. The Extent to Which Other Parties Will Represent Petitioners' Interest

See § B, above.

E. Broadening and Delay of the Proceeding

The Licensing Board acknowledged that while admission of the Intervenors' quality assurance contention was likely to result in some additional delay of the proceeding, it found that this would not be "an unreasonable delay." LBP-85-11, *supra*, 21 NRC at 630. Even the Intervenors now concede that the Board's evaluation of the likely extent of the delay

resulting from litigation of the contention “may have been overly optimistic.” Brief at 16. The Board relied on a number of factors which in our view were not properly part of the analysis. For example, it observed that the Intervenor had voluntarily dropped a number of contentions through stipulation; this served to “counterbalance” the delaying effect of adding the quality assurance contention. 21 NRC at 632. Furthermore, the Board proceeded to “balance” the potential significance of the contention against its potential for delaying the proceeding.

We believe the Board erred on both counts. The question, in assessing whether a contention will delay the proceeding, is directed to the proceeding as it stands, not to the proceeding as it might have stood but for the withdrawal of other, unrelated contentions. The appropriate place for taking into account the potential significance of a contention is in the evaluation of the third factor, contribution to the record of the proceeding. Implicit in the evaluation of the third factor is that a significant contention contributes more to the development of a sound record than does an insignificant contention. The five-factor test assumes that a party’s showing on that third factor may have to be balanced against the likelihood of delay, under the fifth factor, as part of the overall balancing of factors. It was incorrect, however, of the Board to make its own balancing of significance versus delay in its evaluation of the fifth factor alone.

It is apparent that the admission of the Intervenor’s quality assurance contention had a significant broadening and delaying effect on the proceeding. The contention is some 31 pages long and composed of numerous subparts. In a proceeding from which numerous issues had already dropped out through stipulation, it should have been clear to the Board that admission of the contention would substantially delay completion of the proceeding. On this fifth factor, we find that the Board erred in finding that the fifth factor weighed in favor of the Intervenor. LBP-85-20, *supra*, 21 NRC at 1749.

Taken as a whole, we find that the Intervenor failed to demonstrate that they prevailed on the five-factor test. Much less did they make the “compelling showing” on factors two through five that was required to overcome their failure to demonstrate good cause, under the first factor, for their failure to file on time.

III. WOULD INTERVENORS PREVAIL UNDER THE FIVE-FACTOR TEST IF THEIR CONTENTION WERE RESUBMITTED TODAY?

In the previous section of this Order, we explained why the Licensing Board erred in finding that the Intervenor's quality assurance contention, as admitted, satisfied the five-part test of § 2.714. In this section, we address the question of whether, in the light of developments since the Licensing Board's admission of the contention, a different result would be reached today. We conclude that it would not, for the reasons which follow.

The first factor, good cause for delay, would continue to weigh against the Intervenor; accordingly, they would still have to make a "compelling showing" on the remaining four factors. Factors two and four (other means and other parties to protect Intervenor's interests) would continue to weigh in Intervenor's favor, notwithstanding that the Intervenor's contention is grounded in oversight activities being conducted by another party, the NRC Staff. See *WPPSS, supra*, 18 NRC at 1175. These factors are, however, as noted previously, given less weight than factors one, three, and five.

On the third factor, we believe that Intervenor would be unable to demonstrate a significant contribution to the development of a sound record in the proceeding. Their contention continues to be grounded in NRC inspection reports, some years old. They have failed to identify any experts whom they intend to call. Rather, they have, in February of this year, offered a list of NRC Staff personnel and Applicant personnel whom they intend to call as witnesses in the event that they are not called as witnesses by another party. In other words, Intervenor intend to make their case through cross-examination of other parties' witnesses, calling other parties' employees as witnesses only if they have not already been called to testify by the Applicant or the Staff. In supplying their names to the Licensing Board, Intervenor stated that "since most of these witnesses are not subject to Intervenor's control the exact nature and scope of their personal knowledge or belief on these subjects is not known to Intervenor at this time. . . . [T]he identification of a witness with a specific subject or contention subpart is not meant to establish conclusively that the witness has admissible evidence to offer on that subject. . . ." Intervenor's Identification of QA Witnesses, Feb. 28, 1986, at 2.

In our view, this falls far short of demonstrating affirmatively that the Intervenor would be able to contribute significantly to the development of a sound record.

On the fifth and last factor, it is now indisputable that litigation of Intervenor's quality assurance contention, 31 pages long and composed of some 65 subparts, would significantly delay completion of the proceeding, since apart from quality assurance issues, the hearings are now concluded. On this issue, the case against admission of the contention is thus stronger than it was when the contention was submitted to the Licensing Board, when the course that the proceeding would take was far more a matter for conjecture.

Taken together, therefore, we find that the Intervenor, if they were to resubmit their contention today, would not be able to prevail on the five-factor test; as before, they would still less be able to demonstrate the "compelling case" on factors two through five that is needed to overcome a failure to show good cause for lateness. Accordingly, we direct the Licensing Board to dismiss the Intervenor's quality assurance contention.¹

IV. INTERVENORS' CONTENTION ON INSPECTOR HARASSMENT

As we noted, the analysis in §§ II and III of this Order did not deal with that subpart of Intervenor's contention which dealt with harassment and intimidation of quality assurance inspectors at Comstock, Applicant's electrical contractor. That subpart was admitted separately, pursuant to a stipulation, signed by all parties and approved by the Licensing Board. Our earlier orders in this proceeding were directed to the elements of the quality assurance contention which were admitted pursuant to the Board's orders of April 17 (LBP-85-11) and June 21, 1985 (LBP-85-20); this subpart was admitted separately, on July 23, 1985.

The admission of subpart 2C is therefore not formally before the Commission for decision today; our dismissal of the Intervenor's quality assurance contention does not encompass subpart 2C. Our review of the record indicates, however, that the Licensing Board does not appear to

¹ In their brief, Intervenor asserts that their quality assurance contention had bases other than the deposition of Mr. Keppler and Mr. Warnick, and as evidence, they offered the Commission certain documents, enclosed in sealed envelopes, and not served on the other parties. Apparently, Intervenor is concerned that the Commission's decision on the admissibility of their contention may turn on the Licensing Board's legal error in authorizing the deposition of the Staff witnesses at a time when no contention had been admitted. Any such concern is misplaced. The Commission's ruling that the contention failed to satisfy the five-factor test in no way hinges on whether the Board should have authorized the Keppler and Warnick depositions. Accordingly, there is no need for us to entertain the documents submitted in the sealed envelopes, and we do not do so. We encourage the Intervenor, however, to make available to the Staff any documents which they believe to have safety significance, and we direct the Staff to contact the Intervenor for that purpose.

have conducted the formal balancing of factors called for by § 2.714. That regulation states that a Licensing Board must find that the five-factor test is satisfied in order to “entertain” a late-filed contention. The regulation makes no exception for stipulated contentions, and the Appeal Board has recently declared explicitly that even a waiver of objections by all parties would not serve to render an otherwise untimely contention admissible. *Boston Edison Co. (Pilgrim Nuclear Power Station)*, ALAB-816, 22 NRC 461, 466 (1985). Accordingly, we direct the Licensing Board to evaluate the admissibility of subpart 2C in light of the five-factor test of § 2.714, as contemplated by the regulation.

Commissioner Roberts has separate views, which are attached. Commissioner Asselstine disapproved the order; his separate views are attached.

It is so ORDERED.

For the Commission²

SAMUEL J. CHILK
Secretary of the Commission

Dated at Washington, D.C.,
this 24th day of April 1986.

ADDITIONAL VIEWS OF COMMISSIONER ROBERTS

I would have directed the Licensing Board to dismiss the entire QA contention, including the portion alleging harassment of Comstock QC inspectors. The Licensing Board, when admitting the portions of the QA contention that we direct it to dismiss, deferred ruling on the portion alleging harassment of QC inspectors to allow the Intervenors to supplement their filing on that issue. The Intervenors filed a new motion seeking admission of the harassment portion of their QA contention on July 12, 1985. They did not affirmatively show in this new motion that the lateness factors balanced in favor of admitting the harassment portion of their QA contention or even attempt to do so. Therefore, to the extent

² Commissioners Bernthal and Asselstine were not present when this order was affirmed. If Commissioner Bernthal had been present he would have approved it; if Commissioner Asselstine had been present he would have disapproved it.

that it was admitted on the basis of a balancing of factors the harassment portion of the contention was admitted by the Licensing Board on the basis of the same flawed balancing of factors as were the portions of the QA contention that we direct the Board to dismiss, since the Board did not again balance the factors in admitting it.

Our Appeal Board pointed out over 5 years ago that our Rules of Practice are most explicit in establishing the criteria by which late-filed petitions must be judged. It emphasized that 10 C.F.R. § 2.714(a) provides that a nontimely petition will not be entertained by a Board absent its determination that the petition should be granted based on a balancing of the five lateness factors. *Duke Power Co.* (Perkins Nuclear Station, Units 1, 2, and 3), ALAB-615, 12 NRC 350, 352-53 (1980). The Appeal Board also stressed that a late petitioner must address each of the five factors in its late petition and affirmatively demonstrate that on balance the factors favor granting the petition. *Id.* The Appeal Board recently reaffirmed that the requirement for a petitioner to address and a Board to balance the lateness factors is a jurisdictional one:

There is no conceivable merit to [a] claim that [the] duty to confront the five lateness factors [does] not materialize until after the applicant and the staff [have] responded to the [late-filed] petition and raised the matter of its untimeliness. To begin with, on its face section 2.714(a)(1) lays to rest [the] suggestion that the lateness of such a petition is in the nature of an affirmative defense, to be considered by a licensing board only if the board is asked to do so by a party to the proceeding. In plain terms, the section permits a licensing board to grant an untimely petition only if, upon a consideration and balancing of the lateness factors, it determines that the petition should be granted: "Nontimely filings *will not be entertained absent a determination* by . . . the atomic safety and licensing board designated to rule on the petition and/or request, that the petition and/or request should be granted based upon a balancing of the [lateness factors]." In short, it is of no consequence whether, in an opposition to the late petition, one of the other litigants points to the untimeliness. Even if all of the parties are inclined to waive the tardiness, the board nevertheless is duty-bound to deny the petition on its own initiative unless it is persuaded that, on balance, the lateness factors point in the opposite direction.

It is equally clear that the burden of persuasion on the lateness factors is on the tardy petitioner and that, in order to discharge that burden, the petitioner must come to grips with those factors in the petition itself. *See Duke Power Co.* (Perkins Nuclear Station, Units 1, 2, and 3), ALAB-615, 12 NRC 350, 352-53 (1980). The underlying reason for this requirement is particularly apparent in the context of the first factor. A licensing board hardly could determine whether there was justification for the untimely filing without knowing why the petition was not submitted by the prescribed deadline — information peculiarly within the possession of the petitioner. Likewise, in most instances at least, the board will not be able to assess confidently the third factor (the extent to which the petitioner's participation may reasonably be expected to assist in developing a sound record) without having before it the petitioner's reasons for believing that the factor weighs in his or her favor.

Boston Edison Co. (Pilgrim Nuclear Power Station), ALAB-816, 22 NRC 461, 466-67 (1985) (footnote omitted).

Thus, even where the parties stipulate the admissibility of a late-filed issue, as was done in this case with respect to the harassment issue, a Licensing Board is duty-bound to deny admission of the issue on its own initiative unless the factors balance in favor of admission. Moreover, a petitioner has no *right* to a second opportunity to show that the lateness factors balance favorably to granting its petition. *Id.* at 468. Our Rules of Practice and the case law interpreting them are very clear on the requirements for untimely-filed petitions. Both lawyers and laymen in NRC proceedings are obligated to familiarize themselves with our Rules of Practice. *Houston Lighting and Power Co. (Allens Creek Nuclear Generating Station, Unit 1)*, ALAB-609, 12 NRC 172, 173 n.1 (1980). They fail to do so at their peril.

Because to the extent that it was admitted on the basis of a balancing of factors the harassment portion of the QA contention was admitted on the basis of the same erroneous balancing of factors as were the portions of the QA contention that we direct the Board to dismiss, we should have directed the Licensing Board to dismiss that portion of the contention also. We would have violated no party's *rights* had we done so. In addition, we would have conveyed an even stronger message.

DISSENTING VIEWS OF COMMISSIONER ASSELSTINE

In my separate views on the March 20, 1986 Order issued in this matter, I stated that the fact that the Commission itself had decided to conduct a case-specific balancing of the five factors in 10 C.F.R. § 2.714(a)(1) did not bode well for further Licensing Board consideration of Intervenors' quality assurance contention. It appears that I was right. The Commission has now decided to dismiss the QA contention from the Licensing Board proceeding. However, the Commission was not satisfied with merely dismissing that contention. Because there remains one other contention (subpart 2C) still to be litigated, the Commission has decided to contrive a new requirement for the stipulated admission of late-filed contentions, thereby raising the possibility that subpart 2C might also be dismissed. I cannot support either action.

The Commission's actions in this case are an unwarranted intrusion into the licensing process. In the various orders dealing with this issue, the Commission has spent quite a bit of time discussing the importance of following rules, precedents, and policies. The Commission has then

proceeded to ignore those rules and policies which are inconvenient. First, the Commission ignored the fact that the movant has the burden of showing he is entitled to prevail on a motion for directed certification. The Commission could not make that finding in its first order so it decided to give the Applicant a second chance to make its case. *See Commonwealth Edison Co.* (Braidwood Station, Units 1 and 2), Docket Nos. 50-456 and 50-457, Commission Order dated December 5, 1985. Then, even though Applicant did not make its case after a second try, the Commission was unwilling to live with that result. Instead, it chose to interpose itself further into the adjudicatory process to hear an issue which no party did or could, at this point in the process, properly raise before the Commission. *See Commonwealth Edison Co.* (Braidwood Station, Units 1 and 2), Docket Nos. 50-456 and 50-457, Commission Order dated March 20, 1986. The Commission has now decided to overrule the Licensing Board and dismiss the QA contention.

The Commission did not stop there, however. Even though subpart 2C was not before it, the Commission decided to consider that contention as well. The Commission could not itself conduct a balancing of the factors in § 2.714(a)(1) because it had not given the parties notice that it intended to review the admissibility of contention 2C. Therefore, the Commission decided to provide "guidance" to the Licensing Board and remand the issue to the Board for consideration. This guidance consists of the establishment of a new requirement for the stipulated admission of contentions. The Commission has now decided that before a Licensing Board can entertain a late-filed contention it must first balance the factors in § 2.714(a)(1), even if all parties have agreed by stipulation to the admission of the contention.¹ This requirement makes no sense at all. If the parties have agreed to the admission of a contention, why should the Board also have to make the findings in § 2.714? Presumably, if the Applicant and Staff had thought there was a benefit to challenging admission of the contention, they would have done so. This requirement merely elevates form over substance. It also undercuts the Commission's policy favoring stipulations and settlements by the parties.

The Commission's handling of this case is evidence of an increasingly disturbing trend on the part of the Commission to interpose itself into the adjudicatory process. In both this case and the *Perry* case (*Cleveland Electric Illuminating Co.* (Perry Nuclear Power Plant, Units 1 and 2), CLI-86-7, 23 NRC 233 (1986)), the Commission has been unwilling to

¹ The Commission attempts to portray this requirement as one which has always existed. The Commission relies primarily on the language of § 2.714 itself which does not mention stipulations. The Commission also relies on dicta in a case which was not factually similar to this case and which was decided after the Braidwood Board had accepted the stipulated contention.

await the completion of the normal adjudicatory process. It has been unwilling to wait until in due course those matters the parties consider to be still at issue come to the Commission for consideration. Rather, the Commission has chosen to interject itself into the process out of turn. This is not only disruptive of the normal processes, but it demonstrates a lack of trust in the process and, more importantly, in the Boards who were constituted to manage the process.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Administrative Judges:

**Thomas S. Moore, Chairman
Dr. Reginald L. Gotchy
Howard A. Wilber**

In the Matter of

**Docket No. 50-352-OLA
(Check Valve)**

**PHILADELPHIA ELECTRIC COMPANY
(Limerick Generating Station,
Unit 1)**

April 4, 1986

The Appeal Board denies the licensee's motion for directed certification of a Licensing Board ruling conditionally admitting an intervenor in this operating license amendment proceeding.

RULES OF PRACTICE: INTERVENTION

Even though a late petitioner seeking to intervene demonstrates standing to be heard and good cause for being late, unless that petitioner also submits an acceptable contention, intervention may still be denied. *Cincinnati Gas and Electric Co.* (Wm H. Zimmer Nuclear Power Station), ALAB-595, 11 NRC 860, 865 (1980).

RULES OF PRACTICE: INTERLOCUTORY REVIEW

The basic structure of an ongoing adjudication is not changed simply because the admission of a contention results from a licensing board ruling that is important or novel, or may conflict with case law, policy,

or Commission regulations. Similarly, the mere fact that a party must litigate an additional issue, or that a matter will be subject to adversarial exploration rather than staff review, does not alter the basic structure of the proceeding in a pervasive or unusual way so as to justify interlocutory review of a licensing board decision. *Commonwealth Edison Co.* (Braidwood Nuclear Power Station, Units 1 and 2), ALAB-817, 22 NRC 470, 474-75 (1985).

RULES OF PRACTICE: INTERLOCUTORY REVIEW

Claimed violations of the Commission's Rules of Practice, standing alone, are not enough to warrant invocation of the Appeal Board's discretionary interlocutory review of a licensing board ruling. This is especially true where another remedy is provided by the Rules of Practice.

RULES OF PRACTICE: INTERLOCUTORY APPEALS (INTERVENTION ORDERS)

The grant of a petition to intervene is appealable immediately on the question whether the petition should have been wholly denied. *See* 10 C.F.R. § 2.714a(c); *Zimmer*, 11 NRC 860; *Detroit Edison Co.* (Greenwood Energy Center, Units 2 and 3), ALAB-472, 7 NRC 570 (1978).

APPEARANCES

Troy B. Conner, Jr., Robert M. Rader, and Nils N. Nichols, Washington, D.C., for licensee Philadelphia Electric Company.

Robert L. Anthony, Moylan, Pennsylvania, intervenor pro se and for intervenor Friends of the Earth.

Benjamin H. Vogler and Joseph Rutberg for the Nuclear Regulatory Commission staff.

MEMORANDUM AND ORDER

We have before us Philadelphia Electric Company's (PECo) motion for directed certification of the Licensing Board's March 13, 1986 ruling

on Robert L. Anthony's petition to intervene and request for a hearing in this operating license amendment proceeding. That ruling conditionally granted the petition subject to the Board's later finding that at least one of Mr. Anthony's proffered contentions is admissible.

This matter began on December 18, 1985 when PECO applied for an amendment to its operating license for the Limerick Generating Station, Unit No. 1, located in Montgomery County, Pennsylvania. The amendment sought to revise the plant's Technical Specifications to allow a one-time-only extension of the interval between surveillance tests of the excess flow check valves in certain instrumentation lines. Such tests normally must be performed at least every 18 months and only when the plant is shut down. Under the requested amendment, the surveillance would be performed during a scheduled shutdown beginning no later than May 26, 1986 — a date some 96 days beyond the originally designated time for the testing. PECO sought the extension to allow continued operation of the plant until the time other more extensive surveillance testing would be performed, and for which plant shutdown already would be required.¹

On December 26, 1985, the Commission published in the *Federal Register* a notice of consideration of the requested license amendment. The notice explained the technical details of the amendment, the reason for the request, and the Commission's proposed "no significant hazards" determination. It then provided a 30-day comment period on the Commission's proposed determination and stated that petitions for leave to intervene and requests for a hearing must be filed by January 26, 1986. Finally, the notice indicated that the Commission's proposed "no significant hazards" determination would become final absent a hearing request.²

On January 30, 1986, Mr. Anthony submitted to the Commission a letter requesting a hearing on the proposed license amendment and seeking leave to intervene. The Chief of the Docketing and Service Branch declined to docket the letter because it failed to comply with the Commission's rules. Mr. Anthony was informed of this determination orally

¹ 50 Fed. Reg. 52,874 (1985).

² *Id.* at 52,874-76. Under section 189a(2)(A) of the Atomic Energy Act of 1954, as amended, 42 U.S.C. § 2239(a)(2)(A), upon an initial determination by the Commission that an amendment to an operating license involves no significant hazards, that amendment may become immediately effective prior to the holding of any hearing required under the Act. Pursuant to 10 C.F.R. § 50.92(c), the Commission may make a "no significant hazards" determination if operation of the facility in accordance with the proposed amendment would not:

- (1) Involve a significant increase in the probability or consequences of an accident previously evaluated; or
- (2) Create the possibility of a new or different kind of accident from any accident previously evaluated; or
- (3) Involve a significant reduction in a margin of safety.

on February 5, 1986, and in writing on February 6. Thereupon, by a pleading dated February 5, 1986 (and received by the Commission on February 7), Mr. Anthony submitted an amendment to his January 30 letter, which the Docketing and Service Branch accepted and referred to the Atomic Safety and Licensing Board Panel for consideration. In the interim, on February 6, the Commission issued the requested operating license amendment. Unit No. 1 of the Limerick facility is currently operating under that authority.

Both PECO and the NRC staff opposed Mr. Anthony's intervention petition, although not on precisely the same grounds. Taken together, they claimed that he lacked standing to intervene, his petition was untimely, and his asserted intervention interests were not within the scope of the notice of opportunity for hearing.

The Licensing Board considered Mr. Anthony's submissions of January 30 and February 5, 1986 as making up his intervention petition.³ Despite the fact that in his petition Mr. Anthony failed to address the five criteria in 10 C.F.R. § 2.714(a)(1) that a late petition must satisfy, the Licensing Board concluded "that the petition should not be denied on the grounds of tardiness."⁴ The Board also found that Mr. Anthony's petition satisfied the other "threshold requirements for admission set out in § 2.714."⁵ The Board then scheduled a prehearing conference for March 27, 1986, to consider, *inter alia*, the admissibility of Mr. Anthony's contentions.⁶

On March 19, 1986, PECO requested that we direct certification of the Licensing Board ruling. In short, PECO argues that the net effect of the ruling is to create an amendment proceeding where none would otherwise exist, and that this circumstance clearly meets the well-known requirement for directed certification that the challenged ruling "affect[] the basic structure of the proceeding in a pervasive or unusual manner."⁷ Mr. Anthony opposes the grant of directed certification asserting generally that the Licensing Board's ruling is fair. The NRC staff, on the other hand, takes the position that PECO's motion is premature.

PECO's motion for directed certification is denied. The motion is premature because the Licensing Board's March 13, 1986 ruling did not have the effect of admitting Mr. Anthony as a party to the proceeding.

³ See LBP-86-6A, 23 NRC 165, 167 (1986).

⁴ *Id.* at 169.

⁵ *Id.* at 171.

⁶ *Id.*

⁷ *Public Service Co. of Indiana* (Marble Hill Nuclear Generating Station, Units 1 and 2), ALAB-405, 5 NRC 1190, 1192 (1977).

Under the Commission's Rules of Practice, Mr. Anthony cannot become a party to the proceeding until the Licensing Board rules on the admissibility of Mr. Anthony's proposed contentions and admits at least one of them.⁸ Until that happens, there is no adversarial hearing and PECO has suffered no real harm. Indeed, if the Board finds none of Mr. Anthony's contentions acceptable, PECO's instant complaint will be moot. As we have said before, "even though a petitioner seeking to intervene demonstrates standing to be heard and good cause for being late, unless that petitioner also submits an acceptable contention, intervention may still be denied."⁹ Thus, even assuming PECO's complaint is meritorious, PECO should have deferred seeking our intercession until the Board granted intervention to Mr. Anthony.

Even putting the timing of the instant motion aside, we note that the Licensing Board's ruling would not be a strong candidate for directed certification. The gist of PECO's argument is that the Licensing Board's ruling violates the Commission's rules and precedents. But as we said only recently,

[t]he basic structure of an ongoing adjudication is not changed simply because the admission of a contention results from a licensing board ruling that is important or novel, or may conflict with case law, policy, or Commission regulations. Similarly, the mere fact that a party . . . must litigate an additional issue, or that a matter will be subject to adversarial exploration rather than staff review, does not alter the basic structure of the proceeding in a pervasive or unusual way so as to justify interlocutory review of a licensing board decision.¹⁰

Simply stated, claimed violations of the Commission's Rules of Practice, standing alone, are not enough to warrant invocation of our discretionary interlocutory review of a Licensing Board ruling.¹¹ This is especially true

⁸ 10 C.F.R. § 2.714(b), (g).

⁹ *Cincinnati Gas and Electric Co.* (Wm. H. Zimmer Nuclear Power Station), ALAB-595, 11 NRC 860, 865 (1980).

¹⁰ *Commonwealth Edison Co.* (Braidwood Nuclear Power Station, Units 1 and 2), ALAB-817, 22 NRC 470, 474-75 (1985) (footnotes omitted).

The licensee takes pains to point out that, in this case, the result of the Licensing Board decision may be the "initiation of an adjudicatory proceeding which otherwise would never take place." Licensee's Motion for Directed Certification of the "Memorandum and Order Ruling on Robert L. Anthony's Petition for Leave to Intervene" (March 19, 1986) at 3-4, 24. Although this factor was not present in *Braidwood*, the difference is not significant. It may be true that interlocutory review of the Board's ruling might obviate the hearing completely. The same consideration would be present, however, had the Licensing Board wrongly admitted, over objection, a *timely* intervenor. Certainly, in that case, it could not be argued successfully that directed certification would be warranted. See *Virginia Electric and Power Co.* (North Anna Power Station, Units 1 and 2), ALAB-741, 18 NRC 371, 376 (1983), (*quoting Duke Power Co.* (Catawba Nuclear Station, Units 1 and 2), ALAB-687, 16 NRC 460, 464 (1982), *vacated in part on other grounds*, CLI-83-19, 17 NRC 1041 (1983)).

¹¹ *But see Braidwood*, 22 NRC at 476-79 (Mr. Moore dissenting).

where another remedy is provided by the Rules of Practice, as is the case here.

Should any of Mr. Anthony's proposed contentions be admitted by the Licensing Board, PECO would be free to seek our review of the grant of intervention to Mr. Anthony under 10 C.F.R. § 2.714a(c).¹² That section provides that, "[a]n order granting a petition for leave to intervene and/or request for a hearing is appealable by a party other than the petitioner on the question whether the petition and/or the request for a hearing should have been wholly denied." Contrary to PECO's assertion that the Licensing Board's intention to attempt to complete the proceeding before the May 26 scheduled shutdown renders an appeal under section 2.714a impractical, such an appeal would offer meaningful relief. In light of the Licensing Board's stated intention to proceed on an expedited schedule, PECO may file its appeal immediately upon the issuance of any Licensing Board order accepting one or more of Mr. Anthony's contentions. At the same time, PECO is free to request that the schedule for responses to its brief be expedited if there is a basis for such relief. Because the principal issues in such an appeal likely already have been addressed in the directed certification pleadings, there does not appear to be any obstacle to such expedition.

The motion for directed certification is *denied*.

It is so ORDERED.

FOR THE APPEAL BOARD

C. Jean Shoemaker
Secretary to the
Appeal Board

¹² See *Zimmer*, 11 NRC 860; *Detroit Edison Co.* (Greenwood Energy Center, Units 2 and 3), ALAB-472, 7 NRC 570 (1978).

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Administrative Judges:

Christine N. Kohl, Chairman
Gary J. Edles
Dr. Reginald L. Gotchy

In the Matter of

Docket Nos. 50-352-OL
50-353-OL

PHILADELPHIA ELECTRIC COMPANY
(Limerick Generating Station,
Units 1 and 2)

April 9, 1986

The Appeal Board denies an intervenor's motion to reopen the record and introduce a new contention in this operating license proceeding.

RULES OF PRACTICE: REOPENING OF PROCEEDINGS

To prevail on a motion to reopen the record, a movant must demonstrate that (1) the motion is timely; (2) it addresses a significant safety or environmental issue; and (3) a different result might have been reached had the newly proffered material been considered initially. *Louisiana Power & Light Co.* (Waterford Steam Electric Station, Unit 3), ALAB-753, 18 NRC 1321, 1324 (1983), *review declined*, CLI-85-3, 21 NRC 471, 473 n.1 (1985). The most important of these criteria is whether the motion raises a significant safety or environmental issue. ALAB-828, 23 NRC 13, 19 (1986).

APPEARANCES

Frank R. Romano, Ambler, Pennsylvania, for intervenor Air and Water Pollution Patrol.

Troy B. Conner, Jr., Mark J. Wetterhahn, and Nils N. Nichols, Washington, D.C., for applicant Philadelphia Electric Company.

Ann P. Hodgdon for the Nuclear Regulatory Commission staff.

MEMORANDUM AND ORDER

We have before us a motion to reopen the record filed by intervenor Air and Water Pollution Patrol (AWPP).¹ As explained below, we deny the motion.

To prevail on a motion to reopen the record, a movant must demonstrate that (1) the motion is timely; (2) it addresses a significant safety or environmental issue; and (3) a different result might have been reached had the newly proffered material been considered initially.² The most important of these three criteria is whether the motion raises a significant safety or environmental issue.³ AWPP's motion clearly does not. That being so, the motion fails and we need not address the other two criteria.

The Environmental Protection Agency (EPA) has established maximum contaminant levels for certain radionuclides (e.g., radium-226 and other alpha emitting isotopes, and radium-228) in community water systems.⁴ At an earlier stage of this proceeding, AWPP sought to introduce a contention alleging that neither the applicant nor the NRC staff had adequately considered the potential release of radium-226 and other alpha emitters, and radium-228, from the Limerick facility.⁵ AWPP suggested

¹ See Air & Water Pollution Patrol [Motion to Reopen] (September 27, 1985). AWPP filed the motion with the Licensing Board. Because that Board had already issued several partial initial decisions resolving all issues in this proceeding, it referred the motion to us. Licensing Board Notice of October 4, 1985 (unpublished). See *Metropolitan Edison Co.* (Three Mile Island Nuclear Station, Unit No. 1), ALAB-699, 16 NRC 1324, 1326-27 (1982).

² *Louisiana Power & Light Co.* (Waterford Steam Electric Station, Unit 3), ALAB-753, 18 NRC 1321, 1324 (1983), review declined, CLI-85-3, 21 NRC 471, 473 n.1 (1985).

³ ALAB-828, 23 NRC 13, 19 (1986).

⁴ See 40 C.F.R. § 141.15 (1985).

⁵ New AWPP (Romano) Contention re Gross Alpha (June 26, 1984).

that these radionuclides, presumably if added to those occurring naturally, could result in exceeding the EPA standards, thus requiring the closure of many wells, particularly municipal wells within 10 to 15 miles of the Limerick plant.

The Licensing Board rejected the contention. It essentially concluded that the Limerick plant does not release the radionuclides mentioned in the contention, so that the operation of the facility can have no bearing on the maximum allowable levels of these radionuclides prescribed by the EPA regulations.⁶ In reaching this conclusion, the Licensing Board indirectly referred to the Limerick Final Safety Analysis Report (FSAR), which indicates that radium-226 and radium-228 are not among the gaseous or liquid effluents that may be released from the Limerick plant.⁷ AWPP did not appeal the Board's determination.

AWPP's motion here renews the claim that emissions from the Limerick plant could elevate the levels of radium-226 and other alpha emitters or radium-228 in the drinking water supply. In support of this claim, AWPP now relies on an August 16, 1985, letter from the Pennsylvania Department of Environmental Resources, advising community water suppliers of a change in the monitoring requirements for these radiological contaminants.⁸ But nothing in that letter suggests that the Limerick facility is contributing to any radioactivity in the drinking water supplies. Nor does the letter or AWPP's motion to reopen contradict the Licensing Board's earlier conclusion that the Limerick plant does not release the radionuclides that are the subject of the motion and the recently changed monitoring requirements. Moreover, the Final Environmental Statement indicates that radium-226 and other alpha emitting radionuclides, and radium-228 are not expected to be released from the Limerick facility.⁹ That being so, AWPP has not demonstrated that any significant safety or environmental issue related to Limerick is presented by

⁶ Licensing Board Memorandum and Order of August 24, 1984 (unpublished) at 14-16.

⁷ *Id.* at 15, citing Applicant's Answer to New Proposed Contention by Air & Water Pollution Patrol Relating to "Gross Alpha" (July 10, 1984) at 7 n.13. See Limerick FSAR (Rev. 3) (March 1982), Table 11.2-11; Limerick FSAR (Rev. 16) (January 1983), Table 11.3-1.

⁸ See Letter from Frederick A. Marrocco, Chief, Division of Water Supplies, Bureau of Community Environmental Control, Department of Environmental Resources, Commonwealth of Pennsylvania (August 16, 1985), appended to the NRC Staff Response to Air and Water Pollution Patrol's Motion to Reopen the Record (October 22, 1985).

⁹ NUREG-0974, Final Environmental Statement Related to the Operation of Limerick Generating Station, Units 1 and 2 (April 1984), at D-4, D-7.

the Commonwealth's change in monitoring requirements for drinking water.¹⁰

AWPP's motion to reopen is *denied*.

It is so ORDERED.

FOR THE APPEAL BOARD

C. Jean Shoemaker
Secretary to the
Appeal Board

¹⁰ It is therefore unnecessary for us to decide whether AWPP's motion — which proposes a contention not previously admitted for litigation — also satisfies the five criteria of 10 C.F.R. § 2.714(a)(1), governing the consideration of late-filed contentions. See *Waterford*, 18 NRC at 1325 n.3, (citing *Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), CLI-82-39, 16 NRC 1712, 1714-15 (1982)).

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Administrative Judges:

Thomas S. Moore, Chairman
Dr. Reginald L. Gotchy
Howard A. Wilber

In the Matter of

Docket No. 50-352-OLA-1
(Check Valve)
Docket No. 50-352-OLA-2
(Containment Isolation)

PHILADELPHIA ELECTRIC COMPANY
(Limerick Generating Station,
Unit 1)

April 11, 1986

The Appeal Board denies intervenor's motion for a stay of the effectiveness of two license amendments under which Unit 1 of the Limerick Generating Station is currently operating.

RULES OF PRACTICE: STAY OF AGENCY ACTION

Whether requesting a stay from an appeal board under 10 C.F.R. § 2.788 or one under its broader authority as the Commission's delegate under 10 C.F.R. § 2.785, a movant must show that it is entitled to this equitable relief based on an analysis of four factors:

- (1) Whether the moving party has made a strong showing that it is likely to prevail on the merits;
- (2) Whether the party will be irreparably injured unless a stay is granted;

- (3) Whether the granting of a stay would harm other parties; and
- (4) Where the public interest lies.

See *Northern Indiana Public Service Co.* (Bailly Generating Station, Nuclear-1), ALAB-224, 8 AEC 244, 272 (1974), *reh'g denied*, ALAB-227, 8 AEC 416 (1974), *rev'd on other grounds*, *Porter County Chapter of the Izaak Walter League v. AEC*, 515 F.2d 513 (7th Cir. 1975), *rev'd and remanded*, 423 U.S. 12 (1975).

RULES OF PRACTICE: STAY OF AGENCY ACTION (IRREPARABLE INJURY)

The second of the four stay factors, irreparable injury, is often the most important in determining if a stay is warranted. *Philadelphia Electric Co.* (Limerick Generating Station, Units 1 and 2), ALAB-789, 20 NRC 1443, 1446 (1984).

RULES OF PRACTICE: STAY OF AGENCY ACTION (IRREPARABLE INJURY)

Speculation about a nuclear accident does not, as a matter of law, constitute the imminent, irreparable injury required for a stay. *Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), CLI-84-5, 19 NRC 953, 964 (1984).

RULES OF PRACTICE: STAY OF AGENCY ACTION (IRREPARABLE INJURY)

A party seeking a stay is required to demonstrate that the claimed irreparable injury is both certain and great. *Cleveland Electric Illuminating Co.* (Perry Nuclear Power Plant, Units 1 and 2), ALAB-820, 22 NRC 743, 747 (1985).

MEMORANDUM AND ORDER

We have before us the motion of Robert L. Anthony for a stay of the effectiveness of two license amendments under which Unit 1 of the Limerick Generating Station is currently operating. For the reasons set out below, the motion is denied.

On December 18, 1985, the licensee, Philadelphia Electric Company (PECo) applied for two amendments to its operating license for Limerick. Amendment No. 1 sought a one-time-only extension of the interval between surveillance tests of the excess flow check valves in certain instrumentation lines. Such tests normally must be performed at least every 18 months and only when the plant is shut down. Under the requested amendment, the surveillance would be performed during a scheduled shutdown beginning no later than May 26, 1986 — a date some 96 days beyond the originally designated time for the testing. PECO sought the extension to allow continued operation of the plant until the time other more extensive surveillance testing would be performed, and for which the plant already would be shut down.¹ Amendment No. 2 sought a similar extension for the testing of primary containment isolation valves.²

Notices of opportunity for hearing were published for each amendment in the *Federal Register* on December 26 and December 30, 1985, respectively. In the notices, the Commission stated that it had made proposed determinations that both amendments involve “no significant hazards.” The notices also indicated that the proposed determinations would become final absent a timely hearing request. As noted above, the amendments have been issued and the plant is currently operating pursuant to that authority.

Mr. Anthony filed an intervention petition after the deadline for such submissions given in the notices, and then petitioned the Licensing Board for an immediate stay of the operation of the plant, pending Board action on the intervention request. In a prehearing conference held March 27, 1986, the Licensing Board denied the stay, claiming a lack of jurisdiction.³ Thereupon, on April 1, Mr. Anthony filed a meager one-page motion for a stay with us. On April 2, he sought to supplement his motion with his earlier filed March 24 motion to the Licensing

¹ 50 Fed. Reg. 52,874 (1985).

² 50 Fed. Reg. 53,226, 53,235 (1985).

³ Tr. 8-11.

Board.⁴ Although Mr. Anthony's procedures are a bit unorthodox, we will consider both filings together.⁵

Because the instant motion is easily resolved on the merits, we are denying the application for a stay without awaiting replies from the licensee and the NRC staff. Thus, we do not address the potentially significant question raised by the Licensing Board concerning its jurisdiction to stay these license amendments.⁶

In his motion, Mr. Anthony states that he seeks a stay from us pursuant to 10 C.F.R. § 2.788. Whether requesting a stay under that section or one under our broader authority as the Commission's delegate under 10 C.F.R. § 2.785, a movant must show that it is entitled to this equitable relief based on an analysis of four factors:

- (1) Whether the moving party has made a strong showing that it is likely to prevail on the merits;
- (2) Whether the party will be irreparably injured unless a stay is granted;
- (3) Whether the granting of a stay would harm other parties; and
- (4) Where the public interest lies.⁷

As we have stated before, the second factor, irreparable injury, is often the most important in determining if a stay is warranted.⁸ Mr. Anthony's "analysis" of this element, however, amounts to nothing more than his own ipse dixit that "[s]kipping the valve tests makes [the]

⁴ In a decision dated April 4, 1986, the Licensing Board designated to rule on the intervention petitions of Mr. Anthony and a second petitioner terminated the intervention proceeding. It ruled that Mr. Anthony's petition on Amendment No. 1, which the Board had conditionally granted in LBP-86-6A, 23 NRC 165 (1986), should not have been admitted in the first place and that Mr. Anthony had failed to proffer any admissible contentions. As to Amendment No. 2, the Licensing Board denied Mr. Anthony's petition for being untimely. The second intervention petition on Amendment No. 1 was denied because it failed to raise any issue within the scope of the proceeding. See LBP-86-9, 23 NRC 273, 277 (1986). In that same decision, the Licensing Board also reaffirmed its oral ruling denying Mr. Anthony's motion for a stay. *Id.* at 280.

⁵ We note that throughout his involvement with the *Limerick* proceedings Mr. Anthony has often failed to prepare his filings in accordance with the Commission's Rules of Practice, 10 C.F.R. Part 2. He has been warned about this on numerous occasions. See, e.g., LBP-86-6A, 23 NRC at 167 n.3; ALAB-778, 20 NRC 42, 46 n.4 (1984); Appeal Board Operating License Proceeding Order of Aug. 5, 1985 (unpublished) at 2-3. In the future, should his filings with us related to these license amendments fail to conform to the regulations, they either will not be docketed (and no leave to refile will be granted), or will be summarily denied for failure to conform to the rules.

⁶ Although we do not reach this issue, we question the Licensing Board's conclusion regarding its jurisdiction because its purported reasoning is so cryptic.

⁷ See *Northern Indiana Public Service Co.* (Bailly Generating Station, Nuclear-1), ALAB-224, 8 AEC 244, 272 (1974), *reh'g denied*, ALAB-227, 8 AEC 416 (1974), *rev'd on other grounds*, *Porter County Chapter of the Izaak Walton League v. AEC*, 515 F.2d 513 (7th Cir. 1975), *rev'd and remanded*, 423 U.S. 12 (1975).

⁸ *Philadelphia Electric Co.* (Limerick Generating Station, Units 1 and 2), ALAB-789, 20 NRC 1443, 1446 (1984).

probability [of a nuclear accident at Limerick] imminent.”⁹ He offers no foundation or substantiation for his belief. Such argument is manifestly insufficient to support the issuance of a stay. As the Commission has observed, “[i]t is well-established that speculation about a nuclear accident does not, as a matter of law, constitute the imminent, irreparable injury required for [a stay].”¹⁰ Further, we have recently concluded that “[a] party moving for a stay is required to demonstrate that the injury claimed is ‘both certain and great.’”¹¹ Thus, it is apparent that Mr. Anthony has failed to show that he will suffer irreparable harm if not granted a stay. Similarly, he offers no concrete indication of why the staff’s “no significant hazards” determinations are erroneous, and thus fails to show a likelihood of success on the merits. Additionally, Mr. Anthony offers little more on the third and fourth stay criteria (harm to other parties resulting from a grant of stay relief and public interest considerations) that would provide a basis for a decision in his favor. The motion is, therefore, *denied*.

It is so ORDERED.

FOR THE APPEAL BOARD

C. Jean Shoemaker
Secretary to the
Appeal Board

⁹ Motion by R.L. Anthony/FOE to ASLB for an Immediate Stay on the Operation of Limerick #1 Reactor Pending the Outcome of Hearings on Amendment #1 & 2 (March 24, 1986) at 3.

¹⁰ *Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), CLI-84-5, 19 NRC 953, 964 (1984).

¹¹ *Cleveland Electric Illuminating Co.* (Perry Nuclear Power Plant, Units 1 and 2), ALAB-820, 22 NRC 743, 747 (1985).

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

**Ivan W. Smith, Chairman
Richard F. Cole
Gustave A. Linenberger, Jr.**

In the Matter of

**Docket No. 50-352-OLA-1
(ASLBP No. 86-522-02-LA)
(Check Valves)
Docket No. 50-352-OLA-2
(ASLBP No. 86-526-04-LA)
(Containment Isolation)**

**PHILADELPHIA ELECTRIC COMPANY
(Limerick Generating Station,
Unit 1)**

April 4, 1986

**MEMORANDUM AND ORDER DENYING AND
DISMISSING PETITIONS FOR LEAVE TO
INTERVENE AND TERMINATING PROCEEDING**

I. BACKGROUND AND SUMMARY

The background of these consolidated proceedings is set out in our Orders of March 13 (LBP-86-6A, 23 NRC 165) and March 14, 1986 (LBP-86-6B, 23 NRC 173). In summary, on December 18, 1985, the Licensee, Philadelphia Electric Company, applied for Amendments No. 1 and 2 to the Limerick Operating License. Amendment No. 1 involved a one-time-only extension of time for the surveillance and testing of

instrument-line, excess-flow check valves ("check valves"). Amendment No. 2 involved a one-time-only amendment authorizing an extension of time for local leak-rate testing on primary containment isolation valves ("containment isolation"), and an exemption from certain 10 C.F.R. Part 50, Appendix J requirements.

The amendments were issued before any hearing upon a determination by the NRC Staff that they involved "no significant hazards considerations" under § 189a(2)(A) of the Atomic Energy Act (as amended by the "Sholly" Amendment). Notices of opportunity for hearing were published in the *Federal Register* on December 26, 1985 (Amendment No. 1) and December 30, 1985 (Amendment No. 2).

Mr. Robert L. Anthony petitioned for a hearing and leave to intervene on Amendment No. 1 (check valves) by letters dated January 27 and 30, 1986. On March 13, 1986, the Licensing Board ruled, over the objection of the Licensee and NRC Staff, that Mr. Anthony had established an interest in the Amendment No. 1 proceeding and had identified an appropriate aspect of the proceeding as to which he wished to intervene in conformance with the intervention regulation, 10 C.F.R. § 2.714. We deferred consideration of his contentions, however, until a prehearing conference which we convened in Philadelphia on March 27, 1986.

On February 26, 1986, Mr. Anthony also petitioned to intervene in the Amendment No. 2 (containment isolation) proceeding. That petition was opposed by the Licensee and the NRC Staff on the basis of lateness and on other grounds. Consideration of the containment isolation petition was also deferred to the prehearing conference.

On February 24, 1986, Mr. Frank R. Romano on behalf of the Air and Water Pollution Patrol petitioned to intervene in the check valve proceeding. His petition was also opposed by the Licensee and NRC Staff on the grounds of lateness and on other grounds. The Board also deferred consideration of Mr. Romano's petition until the prehearing conference.

On March 14, 1986, the Board consolidated the proceedings and directed the parties to appear at the prehearing conference noted above.

In the order below we dismiss Mr. Anthony's petition on Amendment No. 1 on the dual grounds that his petition should not have been granted in the first instance and that he failed to submit any contentions within the scope of the check valve proceeding. Mr. Romano's petition on Amendment No. 1 is denied on several grounds, especially on the ground of his failure to raise any issue within the scope of the proceeding. Mr. Anthony's petition in the Amendment No. 2 proceeding is denied on the grounds of lateness. As a consequence of these actions

there is nothing left to adjudicate and we direct that the consolidated proceeding be terminated.

II. AMENDMENT NO. 1 (CHECK VALVES)

A. Mr. Anthony's Petition

The *Federal Register* notice of opportunity to intervene in the Amendment No. 1 proceeding described the instrument-line, excess-flow check valves; the testing procedure for instrument-line, excess-flow check valves; and explained why they cannot be tested during operation. 50 Fed. Reg. 52,874 (1985). In explaining why the testing could safely be delayed from February 19, 1986, until the scheduled plant outage on May 26, 1986, the NRC Staff found:

The consequences of leakage from an instrumentation line are minimal since the one-quarter inch orifice inside containment limits flow, and the majority of the line outside of primary containment is only *three-eighths* inch in diameter. The lines protected by the check valves are also located within the reactor enclosure which is served by the standby gas treatment system so that any release from the line would be filtered and monitored. The failure of an instrument line is an analyzed event in the Final Safety Analysis Report and no aspect of the proposed change to the Technical Specifications would require a change in the safety analysis.

Id.

The Licensing Board inferred, erroneously as we later learned, that there were two discrete safety aspects to Amendment No. 1: (1) leakage through primary containment via the instrument lines or their excess-flow check valves and (2) instrument-line failure as a consequence of a failure of their excess-flow check valves. In our Order of March 13, we noted that Mr. Anthony's petition did not relate to leakage from the containment, but, rather, that his petition related to the second perceived aspect, instrument-line failure. We quoted from his petition:

We are convinced that any extension of time for the tests required to determine the ability of the instrumentation lines to function properly would pose risks to our health and safety since these lines are essential to operator information and functioning in every aspect of the plant's operation and are a key link in the control of the nuclear process and absolutely essential to the safe shutdown of the plant in the event of any accident at the plant which could result in the release of radioactive poisons to the environment, thereby threatening us and the public.

LBP-86-6A, *supra*, 23 NRC 169-170.

The difference in the two perceived aspects of Amendment No. 1 is very important. Had Mr. Anthony sought to intervene on the aspect of

leakage through the containment via the instrument lines or their excess-flow check valves, we would have found that his residence, 20 miles from the Limerick Station, is too far for "any injury in fact" to him as a consequence of any leakage through the small orifices into secondary containment.¹

However, we found that, since Mr. Anthony sought to intervene on instrument-line failure, the consequence of any such failure might be about the same as in a traditional operating license or construction permit proceeding where a distance of about 50 miles has been thought to confer standing to intervene. *Id.* at 170.

Initially the Board construed some of Mr. Anthony's contentions to pertain to check-valve leakage through containment and some to relate to the instrument-line failure. Many are vague and would permit either construction. But at the prehearing conference, after being advised that the Board would not regard leakage-through-containment contentions to fall within the scope of his petition (Tr. 24-26, 51), Mr. Anthony avowed that each of his contentions relates to instrument-line failure. Tr. 40-55. His contentions, he explained, predict the broad operational consequences of instrument-line failure. *E.g.*, Contention 6, discussed at Tr. 43. They are not the consequences of instrument-line failure calling for check-valve actuation followed by check-valve failure with a resultant pathway through containment. *Id.*; Tr. 40-55.

In its pleadings and at the prehearing conference, the Licensee has taken the position that none of Mr. Anthony's contentions on Amendment No. 1 are litigable in this proceeding because both instrument-line, excess-flow check-valve failure and instrument-line failure have been analyzed in the Limerick Final Safety Analysis Report (FSAR) and that their assumed failures have been found to be acceptable. Therefore, Licensee's reasoning goes, since the amendment would not change those analyses, the contentions alleging the effects of the failures are not litigable today. They could have been addressed at the operating license stage. *E.g.*, Tr. 27-36 (Wetterhahn). The Staff agrees in principle with the Licensee's technical/legal argument. Tr. 36 (Vogler).

The Board, however, has not been persuaded by these arguments. Even though the FSAR might assume and find acceptable instrument-line, excess-flow check valve failures and instrument-line failures, the issue under the notice of hearing is whether the "no significant hazards

¹ *But see Virginia Electric and Power Co.* (North Anna Power Station, Units 1 and 2), ALAB-522, 9 NRC 54 (1979) (fuel pool modification). There the Appeal Board did not reject out-of-hand the Potomac intervenors' claim of standing based on a member's residence 35 miles away, finding only that Potomac's claim of interest on that basis was "not as strong." Standing by Potomac was found on the basis of recreational activities in the general vicinity of the plant. *Id.* at 57.

consideration” determination is correct. We would expect that, under § 189a(2)(A) of the Act, an allegation of any significant decrease in the margin of safety flowing from a “no significant hazards consideration” amendment would be a fairly litigable issue notwithstanding the continuing validity of the FSAR. We have no Commission or Appeal Board guidance on this issue, however. Our discussion is simply for the purpose of explaining the ruling on Mr. Anthony’s intervention which turns on a somewhat different point.

Apparently the Licensee and the Staff were also trying to explain to the Board that instrument-line failure *qua* instrument-line failure is not an issue in the proceeding on Amendment No. 1. We have since revisited the application for Amendment No. 1;² the Staff’s Safety Evaluation in support of Amendment No. 1;³ pertinent parts of the Limerick FSAR;⁴ and the explanations by Mr. Martin of the NRC Staff at the pre-hearing conference.⁵ We now understand that the only issue considered in Amendment No. 1 was the effect of the delay in the surveillance and testing of the instrument-line, excess-flow check valves; not on the instrument lines themselves. Instrument lines are relevant because their failure may demand the actuation of the associated check valves. Instrument-line, excess-flow check valves which might fail during the extension of time until the surveillance and testing would not cause a failure of instrument lines. None of the analyses performed in connection with Amendment No. 1 relates to instrument-line failure except as a demand upon check valves. The rather vague statement in the notice of opportunity for hearing to the effect that failure of the instrument line is an analyzed event in the FSAR may pertain to the relative role of instrument lines *vis-a-vis* the check-valve failure.

Accordingly, none of Mr. Anthony’s contentions on Amendment No. 1 are within the scope of the notice of hearing. Nor do they have bases. Nor is the aspect of his proposed intervention as set out in his petition for leave to intervene within the scope of the proceeding. Therefore, the Board does not have jurisdiction to consider Mr. Anthony’s petition or his contentions on Amendment No. 1.

² Attached to letter of March 16, 1986, from Mr. Connor to Licensing Board.

³ Forwarded by letter of March 7, 1986, from Mr. Rutberg to the Licensing Board.

⁴ Attached to Licensee’s Answer to Contentions Proposed by Intervenor Robert L. Anthony on Amendment No. 1 and Contentions Proposed on Amendment No. 2, March 26, 1986.

⁵ *E.g.*, Tr. 76-81 (Martin).

B. Mr. Romano's Petition

The notice of opportunity for hearing on Amendment No. 1 set January 26, 1986, as the date for petitions for leave to intervene. 50 Fed. Reg. at 52,875, *supra*. The Air and Water Pollution Patrol, by its President, Mr. Romano, filed a petition for leave to intervene dated February 24, 1986, asserting that he received his notice from Mr. Anthony on February 21, 1986 — “thus the delay.” Other than that brief comment, the petition does not discuss the five factors under 10 C.F.R. § 2.714 which must be balanced when petitions are filed late.⁶ The NRC Staff points out that Mr. Romano was served with the notice along with others on the Limerick service list with a letter from the NRC to Mr. Bauer of Philadelphia Electric Company on January 27, 1986.

Mr. Romano's petition is late and he has not demonstrated good cause for its lateness. However we do not burden the record with an unnecessary balancing of the four other factors for considering late-filed petitions because Mr. Romano's petition is fatally defective on at least two other counts. The aspect as to which he seeks to intervene is copied from Mr. Anthony's petition including spelling errors. He seeks to intervene on instrument-line failure as an aspect in itself. Therefore the petition is defective for the same reasons we cited above with respect to Mr. Anthony's petition. But his petitioning deteriorates even more in the March 19, 1986 supplement containing his contentions. It is a rambling, argumentative paper, which except for its title, has no discernable relevance to the instrument-line, excess-flow check valve proceeding. Overall his petitioning is without any merit.

III. AMENDMENT NO. 2 (CONTAINMENT ISOLATION)

The notice of opportunity for hearing on Amendment No. 2, published on December 30, 1985, set February 3, 1986, as the date for requests for hearing and petitions for leave to intervene. 50 Fed. Reg. 53,226-27, 53,235. Mr. Anthony filed his petition dated February 26, 1986, stating, as we believe to be the case, that he first received a copy

⁶ Section 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.

of the *Federal Register* notice with the Staff's letter, dated January 27, 1986, to Philadelphia Electric Company's Mr. Bauer. He also stated in his petition that it was within the prescribed time period. Perhaps for that reason he did not address the five factors to be balanced in considering late-filed petitions.

At the prehearing conference, Mr. Anthony was requested to elaborate on his assertion that the petition on Amendment No. 2 was not late. He represented to the Board that he believed that regulations gave him 30 days from the day the Staff served him with the notice of opportunity for hearing. Tr. 115 (Anthony).

The Board has contrasted Mr. Anthony's oral representation with the plain language of the notice of opportunity for hearing and with his statement in his January 30 petition on Amendment No. 1. In his January 30 petition, Mr. Anthony asserted that he could not have responded any earlier to the NRC-to-Bauer letter because it "reached us only on 1/29/86." We are convinced that on January 30, 1986, Mr. Anthony knew that he had to petition immediately on Amendment No. 1 because he implied as much. The best inference is that he also knew that an immediate petition on Amendment No. 2 was required. Accordingly the Board does not accept Mr. Anthony's representation. We find that he has not demonstrated good cause for the late filing of his February 26, 1986 petition on Amendment No. 2.

We have also balanced the other four factors of the intervention regulation (note 6, *supra*) to determine whether his late-filed petition should nevertheless be accepted. He has a heavier burden on the other factors because of the absence of good cause for late filing.

There are no other means by which his interest may be protected and we assign that factor to his favor.

We cannot conclude either way whether his participation in any proceeding might reasonably be expected to assist in developing a sound record. On one hand the vagueness of his contentions does not bode well for a contribution to any record. On the other hand, there will be no record, sound or otherwise, on Amendment No. 2 unless Mr. Anthony assists in developing it. The third factor is neutral.

No other parties will represent his interests. We do not accept Licensee's argument that the NRC Staff will represent Mr. Anthony's interest. This factor favors accepting the late petition.

With respect to the fifth factor, Mr. Anthony's participation would broaden the issues because there will be no issues without his participation. In addressing this same factor with respect to Mr. Anthony's petition on Amendment No. 1, the Board commented that, since that amendment was already in force, his participation would not delay the

proceeding; that any harm to Licensee was obviated when the amendment was issued without considering the petition. Licensee has objected to that analysis in its motion for a directed certification. The Board recognizes some merit in Licensee's complaint. Requiring Licensee to go to hearing, when in fact it may be entitled as a matter of law to have an invalid petition dismissed, would be a harm unwarranted in the present situation. We weigh the fifth factor against accepting the late petition.

The sum of the balancing of the five factors for considering late-filed intervention petitions is that the petition should be denied on the ground of tardiness.

IV. MR. ANTHONY'S PETITION FOR STAY OF PROCEEDINGS

Mr. Anthony has filed with the Board two motions seeking a stay of the proceeding. The first, dated March 13, 1986, seeks leave to petition the Board to intervene with the Commission to set aside the referral to the Staff of Mr. Anthony's petition to the Commission for a stay on Amendment No. 1. See Letter from Chilk to Anthony, March 5, 1986.

The second motion, dated March 24, 1986, is brought under 10 C.F.R. § 2.788 and petitions for an immediate stay. We can select from a handful of grounds for denying both requests. Two come to mind immediately. First we have no jurisdiction to stay this proceeding. The Commission assigned that jurisdiction to the NRC Staff on March 5, 1986, pending *supra* the conclusion of the proceedings before this Board. Chilk letter, *supra*. Second, in view of today's Order terminating the proceeding, Mr. Anthony cannot prevail under § 2.788(e).

V. ORDER

1. Mr. Anthony's petition for leave to intervene on Amendment No. 1 is dismissed. The Board's memorandum of March 13, 1986 (LBP-86-6A, *supra*) granting that petition is vacated.

2. The petition of the Air and Water Pollution Patrol by Mr. Romano is denied.

3. Mr. Anthony's petition on Amendment No. 2 is denied.

4. The consolidated proceedings on Amendments No. 1 and 2 are terminated.

VI. APPEALABILITY

This Order wholly denies the petitions for leave to intervene by the petitioners. Pursuant to the provisions of 10 C.F.R. § 2.714a, this Order may be appealed to the Atomic Safety and Licensing Appeal Board within 10 days after it is served.

ATOMIC SAFETY AND LICENSING BOARD

Richard F. Cole
ADMINISTRATIVE JUDGE

Gustave A. Linenberger, Jr.
ADMINISTRATIVE JUDGE

Ivan W. Smith, Chairman
ADMINISTRATIVE LAW JUDGE

Bethesda, Maryland
April 4, 1986

APPENDIX

During the prehearing conference on March 27, 1986, the Licensing Board inquired of the parties whether a hearing on the amendments would be required under the "Sholly Amendment" if, as it then seemed likely, the Limerick plant would shut down before any hearing and decision. Mr. Anthony and counsel for the NRC Staff believe that a hearing is required in any event. Counsel for the Licensee believes that the proceeding would become moot and that no hearing would be required. Tr. 143-44 (Wetterhahn). The Licensing Board would not have conducted an evidentiary hearing if the matter had become moot by a plant shut-down before any hearing and decision even if we had found litigable contentions. Yet in *Mississippi Power & Light Co.* (Grand Gulf Nuclear Station, Unit 1), LBP-84-23, 19 NRC 1412 (1984), another Licensing

Board would have conducted a hearing even where the amendment and action permitted under the “Sholly Amendment” may have already been completed and the matter had become otherwise moot. *Id.* at 1414.

Counsel for Licensee has suggested that the Licensing Board may wish to certify the issue, if not for this case, then for future cases. In light of the disposition made of this proceeding in today’s order, we do not believe we have jurisdiction or need to certify this issue for use in the Limerick amendments proceeding. Sooner or later, however, a Licensing Board will be faced with the decision as to whether it must conduct a hearing on mooted matters under the Sholly Amendment. Prior guidance from the Appeal Board or the Commission may save either an unnecessary hearing or remand for a hearing.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

Sheldon J. Wolfe, Chairman
Frederick J. Shon
Dr. Oscar H. Paris

In the Matter of

Docket Nos. 50-289-OLA-1
50-289-OLA-2
(Steam Generator
Plugging Criteria)

GENERAL PUBLIC UTILITIES
NUCLEAR CORPORATION
(Three Mile Island Nuclear
Station, Unit 1)

April 9, 1986

The Board issues a Memorandum and Order which, *inter alia*, discusses rulings on admissibility of contentions.

RULES OF PRACTICE: ADMISSIBILITY OF CONTENTIONS

There are five purposes for the basis-for-contention requirement in 10 C.F.R. § 2.714.

RULES OF PRACTICE: ADMISSIBILITY OF CONTENTIONS

The degree of specificity required involves the exercise of judgment by licensing boards on a case-by-case basis.

RULES OF PRACTICE: ADMISSIBILITY OF CONTENTIONS

Section 2.714 of 10 C.F.R. does not require the petition to detail the evidence which will be offered in support of the contentions, and it is not the function of a licensing board to reach the merits of a contention at this stage of the proceeding.

RULES OF PRACTICE: ADMISSIBILITY OF CONTENTIONS

At the petition level, all that a petitioner is required to do is to state the reasons (i.e., the basis) for each contention.

RULES OF PRACTICE: COLLATERAL ESTOPPEL

While the doctrine of collateral estoppel may be raised in opposition to the admissibility of a contention, the petitioner may resist that affirmative defense, in whole or in part, on grounds outside the record of the prior proceeding; e.g., he may claim that, since the conclusion of the prior proceeding, there has been a material change in factual or legal circumstances, or that there exists some special public interest factor in the case. Confronted with such a claim, a licensing board may not reject the contention as barred by the doctrine of collateral estoppel.

MEMORANDUM AND ORDER **(Discussing Rulings on Admissibility of Contentions)**

Memorandum

During the 10 C.F.R. § 2.751a special prehearing conference held on March 27, 1986, in these two currently consolidated cases, as memorialized in the Order of April 2, 1986 (unpublished), the Board heard oral argument upon five identical contentions proposed by Three Mile Island Alert Inc. (TMIA) in each case¹ (Tr. 15-120). In that conference, the

¹ In case OLA-1, at issue is the Licensee's application to amend the steam generator tube technical specifications. This proposed amendment, Technical Specification Change Request (TSCR) 148, would maintain the 40% throughwall limit on the secondary side of tubes but would replace the 40% limit on the primary side of tubes with a sliding scale which goes from 40% to 70% throughwall depending upon the size of the defect. In case OLA-2, at issue is Licensee's application to amend the steam generator tube specifications. That proposed amendment, TSCR 153, would in substance change the repair criteria to allow the Licensee not to repair tubes, under certain circumstances, if a tube has a defect up to 50% tube wall penetration.

(Continued)

Board stated that it would rule at that time only on the admissibility of the contentions in order to expedite the proceeding and thereafter would issue an Order discussing its reasons for rejecting or admitting contentions. The Board then admitted TMIA Contentions 1, 2, as clarified, and 5, as reworded, and rejected TMIA Contentions 3 and 4 in each case (Tr. 120-21).

I. DISCUSSION

A. Legal Standards for the Admissibility of Contentions

The Commission's Rules of Practice, 10 C.F.R. § 2.714(b), require that the bases for each contention be set forth with reasonable specificity. In *Philadelphia Electric Co.* (Peach Bottom Atomic Power Station, Units 2 and 3), ALAB-216, 8 AEC 13, 20-21 (1974), the Appeal Board stated that the purposes of the basis-for-contention requirement in § 2.714 were:

1. to help assure that the hearing process is not improperly invoked, for example, to attack statutory requirements or regulations;
2. to help assure that other parties are sufficiently put on notice so that they will know at least generally what they will have to defend against or oppose;
3. to assure that the proposed issues are proper for adjudication in the particular proceeding — i.e. generalized views of what applicable policies ought to be are not proper for adjudication;
4. to assure that the contentions apply to the facility at bar; and
5. to assure that there has been sufficient foundation assigned for the contentions to warrant further exploration.

Further, with respect to the degree of specificity required, the Appeal Board noted in the *Peach Bottom* decision that this involves the exercise of judgment on a case-by-case basis. Moreover, the Appeal Board has stated that § 2.714 does not require the petition to detail the evidence which will be offered in support of the contentions and that it is not the function of a licensing board to reach the merits of a contention at this stage of a proceeding.² At the petition level all that a petitioner is required to do is to state the reasons (i.e., the basis) for each contention.³

In case OLA-1, TMIA submitted five proposed contentions on March 10, 1986, and the Licensee and the NRC Staff respectively responded on March 20. In case OLA-2, on March 10, 1986, TMIA submitted a request for hearing which set forth five proposed contentions, the Licensee responded on March 20, and the Staff responded on March 25. Since TMIA deleted certain wording from the contentions during the special prehearing conference, the contentions proposed in each case are identical.

² *Mississippi Power & Light Co.* (Grand Gulf Nuclear Station, Units 1 and 2), ALAB-130, 6 AEC 423, 426 (1973); *Houston Lighting and Power Co.* (Allens Creek Nuclear Generating Station, Unit 1), ALAB-590, 11 NRC 542, 548 (1980).

³ *Allens Creek, supra*, 11 NRC at 548.

Finally, while the doctrine of collateral estoppel may be raised in opposition to the admissibility of a contention, the petitioner may resist that affirmative defense, in whole or in part, on grounds outside the record of the prior proceeding; e.g., he may claim that, since the conclusion of the prior proceeding, there has been a material change in factual or legal circumstances, or that there exists some special public interest factor in the case. Confronted with such a claim, a Licensing Board may not reject the contention as barred by the doctrine of collateral estoppel.⁴

B. TMIA's Contentions

Contention 1 states:

Neither the Licensee nor the NRC Staff has demonstrated that allowing degraded tubes to remain in service under the proposed revised plugging criteria will provide reasonable assurance that TMI-1 can operate without endangering the public health and safety, because the form and rate of new tube degradation has not been determined.

Upon the assumption that, in using the words "new tube degradation," TMIA was claiming that corrosion had been reinitiated, the Staff did not oppose the admissibility of this contention. The Staff opined that the contention raised an issue within the scope of the proceeding, was adequately specific, and was supported on a minimally sufficient basis (Staff Response at 6; Tr. 47-49).⁵ The Staff also felt that the doctrine of collateral estoppel did not preclude the admissibility of this contention. First, it believed that TMIA's oral argument had made a particularized showing of changed circumstances (Tr. 50). Second, with respect to the kinetic expansion tube repair case,⁶ the Staff concluded that an integral part of the Appeal Board's conclusion as to the absence of new corrosion or of a different kind of corrosion was based on the assurance that tubes with greater than 40% throughwall would be plugged. The Staff also pointed to the fact that, while noting that the Licensee had requested permission to modify the tube-plugging criteria, the Appeal Board stated that it had not considered the proposed revision and that it took no position regarding its acceptability. Third, the Staff advised that, in its reviews, it questioned the extent of the intergranular attack (IGA),

⁴ *Alabama Power Co.* (Joseph M. Farley Nuclear Plant, Units 1 and 2), ALAB-182, 7 AEC 210, 216, 218-19, remanded on other grounds, CLI-74-12, 7 AEC 203 (1974).

⁵ Since the Licensee's and the Staff's written responses in OLA-1 were substantially similar to those filed in OLA-2, the Board will cite their OLA-1 responses.

⁶ *Metropolitan Edison Co.* (Three Mile Island Nuclear Station, Unit No. 1), ALAB-807, 21 NRC 1195 (1985).

requested additional assurance from the Licensee that the corrosion rate has been arrested, and queried about what expectations it should have as to the extent of the enlargement of the IGA cracks or defects before the next plugging interval or the next cycle when the tubes are inspected (Tr. 53-54).

In its written response at pages 11-12, the Licensee argued that TMIA had provided no basis whatsoever for any of the allegations contained or implied in this contention, and at pages 13-15 urged that collateral estoppel barred the admissibility of the contention. After hearing TMIA's oral argument, the Licensee objected to this procedure in that, for the first time, the Intervenor provided bases for its contention (Tr. 21-22). However, we conclude that, although in a negative way, TMIA did set forth a basis within the four corners of the contention in asserting that neither the Licensee nor the Staff has shown that there is no longer any on-going corrosion (Tr. 34). Faced with Licensee's objection that no basis had been set forth with reasonable specificity, in support of its contention TMIA adverted (1) to transcripts of meetings between Staff and Licensee, (2) to the Licensee's operating experience, and (3) to topical design reports (Tr. 15-18).

At this stage of the proceeding, it is not our function to reach the merits of a contention or to consider the evidence. Moreover, we were not convinced by the Licensee's arguments that all tube corrosion has stopped, since it has proceeded to seek permission to revise the plugging criteria from 40% throughwall to 50% for the short term and to 70% for the long term. Further, against this background of controversy over whether or not there has been a material change in factual circumstances since the ALAB-807 decision,⁷ we could not and will not reject the contention because of collateral estoppel. For these reasons, then, we admitted TMIA Contention 1 in OLA-1 and OLA-2 during the special pre-hearing conference.

Contention 2, as clarified, states:

Neither the Licensee nor the NRC Staff has demonstrated that allowing degraded tubes to remain in service under the proposed revised plugging criteria will provide reasonable assurance that TMI-1 can operate without endangering the public health and safety, because the testing technique relied upon to define degraded tubes is inaccurate and inconclusive, in light of the particular method of degradation characterized by intergranular attack (IGA) and pitting.

⁷ See note 6, *supra*.

As originally submitted by TMIA, Contention 2 did not contain the words "characterized by intergranular attack (IGA) and pitting." In its written response, the Staff urged rejection of this contention because the basis was not set forth with reasonable specificity. The Staff stated that, in using the words "particular method of degradation," TMIA had not made clear whether it was referring to intergranular stress corrosion cracking or to intergranular attack or to some other method of degradation, and it was not clear whether TMIA was challenging the eddy current testing (ECT) technique (Staff Response at 2). The Licensee, as well, objected for these reasons, and in addition argued that TMIA had not explained how the accuracy of eddy current testing was germane to the proposed revision of the plugging criteria (Licensee Response at 17).

During oral argument, TMIA clarified that it was alleging that there were new indications of degradation as characterized by IGA and pitting which eddy current testing would have difficulty in detecting. In support of its contention, TMIA adverted (1) to a statement by an NRC Staff member during a January 1986 meeting with the Licensee, (2) to TDRs 686 and 758, and (3) to statements by the Staff in meetings with the Licensee (Tr. 56-60).

After hearing TMIA's clarification as to what it meant by the words "particular method of degradation," the Staff withdrew its lack-of-basis objection raised in cases OLA-1 and OLA-2. Further, since the added words served to clarify rather than amend the identical contentions, the Staff withdrew its untimeliness objection to adding these words to the OLA-1 contention and did not oppose TMIA's motion to amend in OLA-1 and OLA-2 (Tr. 70-75).

While the Licensee ultimately did not object to TMIA's motion to modify this wording (Tr. 76), it urged that the proposed Contention 2 (even as clarified) lacked a basis, and that there was no nexus between the alleged inaccuracy of the ECT testing and the proposed revised plugging criteria. The Licensee proceeded at length then to discuss the merits and address evidentiary matters (Tr. 60-70).

In the special prehearing conference, we treated TMIA's motion to amend as a motion to clarify or to supplement, and permitted the addition of the above-mentioned wording (Tr. 77). We admitted Contention 2, as clarified in OLA-1 and OLA-2 (Tr. 120). We did so because a basis had been set forth with reasonable specificity, and because, at this stage of the proceeding, we could not consider the Licensee's arguments either upon the merits or upon the evidence. We rejected the Licensee's "lack of nexus" argument because it appeared obvious that if the method of measurement of crack size involves inaccuracies, a relaxation

of the plugging requirements could only be allowed if those inaccuracies did not permit gross underestimation of that crack size.

Contention 3 states:

Neither the Licensee nor the NRC Staff has demonstrated that allowing degraded tubes to remain in service under the proposed revised plugging criteria, which could contribute to the frequency of leakage during plant operations, is consistent with the requirements of GDC 32.

In their written responses and in oral argument, the Licensee and the Staff opposed the admissibility of this contention because TMIA failed to show the relationship between GDC 32⁸ and the proposed change in the plugging criteria (Licensee Response at 18-21; Staff Response at 7-8; Tr. 80-83).

During oral argument, TMIA stated that this matter came to its attention during the course of a Commission meeting with the Staff in February 1985 wherein one Staff member questioned why the Licensee had not demonstrated compliance with GDC 32. TMIA conceded that other than that one question or remark, it had no other independent basis in support of the contention. It alleged that, if the plugging criteria are amended, the current leak rate testing procedure might not be adequate to detect a crack before it ruptures (Tr. 79-80).

The Board agrees with the Licensee and the Staff. We see no nexus between revising the plugging criteria and the GDC 32 requirement that components of the reactor coolant pressure boundary should be designed to permit periodic inspection and testing to assure structural and leak-tight integrity. Neither Staff nor the Licensee could know what they would have to defend against or oppose if we were to admit this contention. Moreover, contrary to the two Notices of Opportunity for Hearing in OLA-1 and OLA-2,⁹ to the extent it solely adverts to inspection and surveillance programs for components of the reactor coolant pressure boundary, this contention does not raise matters that are within the scope of the amendments under consideration. For these reasons we rejected Contention 3, as proposed in both cases, during the special pre-hearing conference.

⁸ General Design Criterion 32, "Inspection of reactor coolant pressure boundary," 10 C.F.R. Part 50, Appendix A, states:

Components which are part of the reactor coolant pressure boundary shall be designed to permit (1) periodic inspection and testing of important areas and features to assess their structural and leaktight integrity, and (2) an appropriate material surveillance program for the reactor pressure vessel.

⁹ See 51 Fed. Reg. 459 (Jan. 6, 1986) and 51 Fed. Reg. 7157 (Feb. 28, 1986).

Contention 4 states:

Neither the Licensee nor the NRC Staff has demonstrated that allowing degraded tubes to remain in service under the proposed revised plugging criteria is consistent with the requirements of GDC 31, in that the criteria does not take into account environmental effects, including possible environmental corrosion even in the absence of active corrosion mechanisms.

In their written responses and in oral argument, the Staff supported admission of this contention and the Licensee opposed its admission. The Staff believes that the contention raises an issue within the scope of the proceeding, is adequately specific, and is supported by a minimally sufficient basis (Response at 8; Tr. 88-89). Licensee argued that the contention is vague, especially as regards the meaning of "environmental corrosion" or how the tubes could experience corrosion in the absence of corrosive mechanisms, and, in any event, urged that it had met the requirements of GDC 31 (Response at 21-24).

During oral argument, the Intervenor explained that "absence of corrosion mechanisms" referred to the absence of the sulfur that caused the 1981 corrosive attack, and that "environmental corrosion" referred to other types of corrosive mechanisms that can affect the tubes (Tr. 84-86). Licensee argued that the Staff had asked about other environmental effects and that it had answered Staff's questions (Tr. 86-87). In response, the Staff argued that no final conclusion as to the adequacy of Licensee's documentation would be available until the Safety Evaluation is issued. Further, Staff pointed out that the issue raised in this contention is among the issues that Staff will be considering in reaching a decision as to whether to grant TSCR-148 and TSCR-153. Therefore Staff views Contention 4 to be set forth with adequate basis and to be relevant to both technical specification change requests (Tr. 88-89).

The Board agrees with the Staff as regards the basis and relevancy of this contention. But we have admitted Contention 1 which raises the general issue of unidentified new sources of tube degradation. Certainly new sources of tube degradation would include any new environmental corrosive mechanisms. Therefore we ruled at the prehearing conference that Contention 4 was subsumed under Contention 1 and hence was inadmissible as a separate contention (Tr. 120).

Contention 5, as reworded, states:¹⁰

Neither the Licensee nor the NRC Staff has demonstrated that allowing degraded tubes to remain in service under the proposed revised plugging criteria will meet GDCs 14, 15 and 31 in that it is inconsistent with Regulatory Guide 1.121, which provides that plugging criteria takes into account variations in tube thickness due to possible corrosion.

(Tr. 117.)

Addressing the original wording of this contention, the NRC Staff said only “the contention raises an issue within the scope of the proceeding, is adequately specific, and is supported by a minimally sufficient basis.” Accordingly the Staff supported the admission of the contention (Staff Response at 9). Licensee strongly objected to the contention’s admission, however, arguing at the outset that Regulatory Guides are not requirements and that therefore a bald assertion that the plugging criteria are inconsistent with the Regulatory Guide “requirements” cannot constitute a viable contention (Licensee Response at 24-25).

At the prehearing conference, Licensee’s attorney made clear Licensee’s view that Regulatory Guides need not be specifically followed and that, in this case, Licensee intended to employ some alternate method to assure safety and compliance with the regulations (Tr. 95-96). Licensee readily agreed that the Board might appropriately hear a dispute as to whether that alternate method was, in fact, effective, but saw no specificity or basis in the contention sufficient to support such a factual dispute (Tr. 97). In short, “they have to first say what we have done wrong and what the basis is for saying that it is somehow inadequate or inconsistent either with a regulation or a requirement” (Tr. 98).

Staff’s position at the conference was that the phrase “is inconsistent with” in the original contention did not merely signify a failure to follow the Guide but implied a failure to give safety protection equivalent to the Guide, a matter perhaps subject to adjudication if properly clarified (Tr. 100).

After some extensive discussion as to the nature of the clarification here needed, and after several attempts to phrase a properly clarified contention, the Board directed the parties to confer upon possible clarification and rewording of Contention 5 (Tr. 100-115).

¹⁰ As proposed, the original Contention 5 stated:

Neither the Licensee nor the NRC Staff has demonstrated that allowing degraded tubes to remain in service under the proposed revised plugging criteria is consistent with Reg. Guide 1.121, which requires that plugging criteria take into account variations in tube thickness due to possible corrosion.

The resulting reworded contention is the one set forth in the text above (Tr. 117). Licensee still opposed the contention's admission, but no longer found the wording objectionable. The other parties had no objection to the contention (Tr. 119).

We believe the contention as reworded is admissible: It challenges neither regulations nor statutes; it is sufficiently clear so that adversary parties know what they must oppose; it is an issue proper for adjudication; it clearly applies to the facility at bar; and it has sufficient foundation to warrant farther inquiry. It seems to us to have the required basis and specificity, and it has clearly not been previously adjudicated. For these reasons, we admitted the reworded contention in OLA-1 and OLA-2 during the special prehearing conference.

Order

1. For the reasons set forth above, the Board confirms its rulings rendered during the special prehearing conference on March 27, 1986, that, in OLA-1 and OLA-2, TMIA Contentions 1, 2, as clarified, and 5, as reworded, are admitted and that TMIA Contentions 3 and 4 are rejected.

2. TMIA is admitted as an intervening party.

3. Pursuant to 10 C.F.R. § 2.714a(c), this Memorandum and Order may be appealed by the Licensee and/or the Staff to the Atomic Safety and Licensing Appeal Board within ten (10) days after service. However,

the Intervenor TMIA may not so appeal because some of its contentions have been admitted as issues in controversy (*see* § 2.714a(b)).

**THE ATOMIC SAFETY AND
LICENSING BOARD**

**Sheldon J. Wolfe, Chairman
ADMINISTRATIVE JUDGE**

**Frederick J. Shon
ADMINISTRATIVE JUDGE**

**Dr. Oscar H. Paris
ADMINISTRATIVE JUDGE**

**Dated at Bethesda, Maryland,
this 9th day of April 1986.**

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

**James L. Kelley, Chairman
Dr. James H. Carpenter
Glenn O. Bright**

In the Matter of

**Docket No. 50-400-OL
(ASLBP No. 82-472-03-OL)**

**CAROLINA POWER & LIGHT
COMPANY and
NORTH CAROLINA EASTERN
MUNICIPAL POWER AGENCY
(Shearon Harris Nuclear Power Plant)**

April 28, 1986

In this Final Licensing Board Decision the Board resolves two remaining contentions in Applicants' favor and authorizes the issuance of an operating license for the Shearon Harris Plant. The Board finds that drug use at the Shearon Harris construction site has not been "widespread" as alleged in the Intervenor's contention, and further finds no evidence that drug use has resulted in any specific deficient work or any specific safety concerns at the Harris Plant. The Board also finds that under summer nighttime conditions the combination of siren, informal alerting, and tone alert radio systems demonstrates compliance with the requirement of "essentially 100%" notification within 15 minutes in the first 5 miles of the Harris Emergency Planning Zone (EPZ).

QUALITY ASSURANCE: REQUIREMENTS

Although the NRC has no regulations specifically addressed to drug use at a nuclear power plant construction site, where the evidence has

established relationships between onsite use and the possibility of deficient work, an effective program to hold employee drug use to a minimum is an essential element of an applicant's Quality Assurance program, whether or not formally so denominated.

RULES OF PRACTICE: FEMA FINDINGS

In any NRC licensing proceeding, a FEMA finding will constitute a rebuttable presumption on questions of adequacy and implementation capability. 10 C.F.R. § 50.47(a)(2). Thus, the FEMA position on an issue may be accepted if that issue is uncontested. But if an intervenor contests such an issue, the rebuttable presumption "dissolves" and the FEMA testimony is given no special weight "beyond that to which [it] would be entitled by virtue of the expertise of the witnesses and the bases presented for their views." *Metropolitan Edison Co.* (Three Mile Island Nuclear Station, Unit 1), ALAB-698, 16 NRC 1290, 1298 (1982), *aff'g* LBP-81-59, 14 NRC 1211, 1460-66 (1981).

EMERGENCY PLANNING: GUIDANCE ISSUED BY FEMA

The NUREG-0654, Appendix 3 provisions concerning percentages of people to be alerted and times for alerting in the 0-5- and 5-10-mile EPZs have the legal status of a Commission interpretation of 10 C.F.R. § 50.47(b)(5) and Appendix E to Part 50, and are thus binding on the licensing board. This legal status does not, however, extend to other provisions of NUREG-0654, Appendix 3.

EMERGENCY PLANNING: NOTIFICATION

Reasonable assurance of an alerting rate higher than 95% under summer nighttime conditions is acceptable in the first 5 miles of the EPZ, and therefore meets the NUREG-0654, Appendix 3 requirement of "essentially 100%" alerting within 15 minutes in the first 5 miles. The 90% alerting within 15 minutes under summer nighttime conditions to be expected of the Shearon Harris system is acceptable for the 5-10 mile EPZ.

APPEARANCES

Thomas A. Baxter, John H. O'Neill, Jr., and Delissa A. Ridgway, Washington, D.C., and **Richard E. Jones, Dale E. Hollar, and Andrew H. McDaniel,** Raleigh, North Carolina, for the Applicants Carolina Power & Light Company and North Carolina Eastern Municipal Power Agency.

John Runkle, Chapel Hill, North Carolina, for the Intervenor Conservation Council of North Carolina.

Wells Eddleman, Durham, North Carolina, *pro se*.

Steve Bryant, H. Al Cole, Jr., Fred R. Gamin, Karen E. Long, and Jo Anne Sanford for the Attorney General of North Carolina.

Stephen Rochlis for the Federal Emergency Management Agency.

Charles A. Barth and Janice E. Moore for the Nuclear Regulatory Commission Staff.

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FINAL LICENSING BOARD DECISION

Introduction and Summary

The Board has issued three Partial Initial Decisions on a range of safety, environmental, and emergency planning contentions in this contested operating license proceeding.¹ This Final Licensing Board Decision resolves two contentions on which evidentiary hearings were held late in the proceeding. Those contentions, concerning alleged widespread drug use at the Shearon Harris site and the adequacy of Carolina Power & Light Co.'s ("CP&L") siren alert system in summer nighttime conditions, are resolved in the Applicants' favor. In addition, we provide reasons for our recent grant of two motions for summary disposition, and

¹ See LBP-85-5, 21 NRC 410 (1985); LBP-85-28, 22 NRC 232 (1985); LBP-85-49, 22 NRC 899 (1985).

for denial of a motion to reconsider rejection, of certain emergency planning contentions.

Our findings on the drug use and siren contentions are set forth at length hereafter. A capsule summary follows.

Alleged "Widespread" Drug Use. Drug use at the Shearon Harris construction site has not been "widespread" as alleged in the Intervenor's contention. The Board considered a range of evidence on this question, including an undercover investigation at the site in late 1984, statistics on terminations of employees for drug activity (proved or suspected), CP&L's multifaceted program to detect and deter drug use (including urinalysis testing and detection dogs), observations of site employees, and indirect indicators, such as comparative workplace accident rates. Because drug use is illegal and clandestine, it is impossible to determine with any precision the level of drug use at the site over time or at any particular time. On the basis of the record evidence, we estimate that drug use has ranged at various times from 3 to 4.5% of the work force at the Shearon Harris site.

CP&L's antidrug program is well conceived and vigorously enforced. This gives us confidence that the actual rate of drug use at the site is no higher than the other evidence indicates. Given the prevalence of drug use in American society today, we do not believe that further antidrug measures could be taken to reduce significantly the rate of drug use at the Harris site, short of cost-ineffective and/or Draconian actions.

There is no evidence that any specific deficient work has been done or that any specific safety concerns exist at the Harris Plant because of drug use. Furthermore, CP&L's quality assurance program is designed and implemented to detect and correct the kinds of mistakes workers are likely to make when under the influence of drugs. The Board was particularly concerned that a number of quality inspectors had been terminated for proven or suspected drug use. The work of these inspectors was reinspected on a random basis; it was convincingly shown that drug use had not affected their work.

Nighttime Emergency Notification. Alerting residents in the 10-mile Emergency Planning Zone (EPZ) around a nuclear power plant is an essential element in planning for possible emergencies. The applicable rule provides, in substance, that the "design objective" of the notification system shall be to essentially complete initial notification within about 15 minutes following a declared emergency. This "design objective" has been elaborated as requiring 15-minute notification of "essentially 100%" of the population within 5 miles of the site and some lesser unspecified (but substantial) percentage of the population in the 5- to 10-mile area.

Intervenor Wells Eddleman sponsored a contention that the Harris siren system would not alert the public during a summer night when most people are asleep. Consultants to both Applicants and the Federal Emergency Management Agency (FEMA) developed analytical estimates of the extent of arousal to be expected from the sirens and rather speculative estimates on the extent of "informal alerting" of the rest of the population by those awakened by the sirens. In our findings, we detail our views on the steps in the analytical procedures, which are separately different in Applicants' and FEMA's testimony. Applicants' and FEMA's estimates were developed independently. However, based on the record at the initial November 1985 hearing, both happened to arrive at similar numerical estimates that approximately 70% of the population would be awakened by the sirens and that roughly 88% would be alerted in 15 minutes as a result of both siren and "informal" alerting.

During the initial hearing, Mr. Eddleman brought to the Board's and parties' attention the existence of a research study conducted in 1962 at the University of Bonn, West Germany, that appeared to be potentially probative of the siren alerting issue. Subsequent to the initial hearing, the NRC Staff counsel had the report translated and served. The Board requested that the FEMA/NRC staffs have the report reviewed by a psychoacoustics professional and ordered a sharply limited reopening of the record to admit the review and allow cross-examination on the review results. A limited supplemental hearing was held in March 1986 for this purpose.

As a further development, in February 1986, Applicants announced their intention to supplement the siren system by providing tone alert radios to all households within the first 5 miles of the EPZ. Testimony on the Applicants' tone alert radio system formed a part of the March 1986 hearing.

Based on the record as finally developed, the Board finds that direct alerting by the siren system can be expected to be approximately 84% of the EPZ households and that, with consideration of "informal" alerting, siren-induced alerting would total approximately 91% throughout the Harris EPZ in 15 minutes. That 91% figure clearly satisfies the 15-minute notification requirement for the 5- to 10-mile outer area of the EPZ. In addition, route alerting with police and fire vehicles is an integral part of the Harris emergency plan. It would cover 30 to 40% of the Harris EPZ population in 15 minutes (most of whom would already be alerted) and can be completed in about 45 minutes. With the route alerting and continued "informal alerting," we find that the required "essentially 100%" coverage of the entire EPZ can be completed in 45 minutes.

With respect to the first 5 miles of the Harris EPZ, the Board finds that the combined effect of sirens and informal alerting — 91% — does not satisfy the required “essentially 100%,” which we equate with greater than 95%. However, the tone alert radio system, if 100% functional and utilized by the residents, can be expected to alert approximately 97% of the households at night. A FEMA survey at the Fort St. Vrain site showed that 13.6% of the residents were not using their radios properly, which might reduce radio alerting to approximately 83%. However, 91% of the 17% not alerted by the radios would be expected to be alerted independently by the sirens and “informal” alerting. That 91% multiplied by 17% increases the percentage of persons alerted by 15.5%, so that the overall alerting level would be 98.5%. The Board concludes that the independence and partial redundancy of the siren and radio systems demonstrate compliance with the requirement of “essentially 100%” alerting in 15 minutes in the first 5 miles of the EPZ.

Findings of Fact

I. ALLEGED WIDESPREAD DRUG USE

A. Introduction

1. On January 18, 1985, the Conservation Council of North Carolina (CCNC) filed a motion for admission of a late-filed contention styled WB-3 (Drug Abuse During Construction). The contention referred to an attached newspaper article published in the *Raleigh News and Observer* on January 11, 1985, concerning an undercover drug investigation conducted by the North Carolina State Bureau of Investigation (SBI) and the Wake County Sheriff’s Department (WCSD) at the Shearon Harris site. The investigation had resulted in the arrest of six workers and the issuance of warrants for the arrest of two others. On March 13, 1985, the Licensing Board admitted Contention WB-3. The contention, as modified by the Board to delete an allegation of widespread alcohol abuse, reads as follows:

Drug use at the Harris Plant is widespread (see the attached newspaper article for details and basis). Employees under the influence of drugs are less able to follow proper procedures and tech specs for the installation of electrical systems, pipe-fitting, and other safety-related work. Applicants’ management has failed to control drug use during the construction and further, has failed to reinspect all safety-related work done by known drug abusers.

2. After the conclusion of discovery, Applicants filed a motion for summary disposition of Contention WB-3. The motion included supporting affidavits describing CP&L's drug detection and control programs. On July 31, 1985, the Attorney General of North Carolina (NCAG) petitioned to intervene, pursuant to 10 C.F.R. § 2.715, and opposed the Applicants' motion for summary disposition. The basis for the North Carolina opposition was an affidavit of SBI Agent S. (Shirley) Burch. The affidavit described the undercover drug investigation referred to in the newspaper article which formed the basis for Contention WB-3. CCNC also filed in opposition to the Applicants' motion, offering an affidavit of Ms. Patty Miriello, a former site employee who alleged that she had witnessed drug use on site.

3. The Board subsequently denied the Applicants' motion for summary disposition, stating the issues for hearing as follows:

- (1) whether drug use at the Harris site is widespread;
- (2) whether the Applicants have failed to control drug use during construction; and
- (3) the possible effects of drug use on safety of construction and the Applicants' corrective actions.

Unpublished Order (Concerning Time, Place and Other Matters Related to Hearing on Drug Use Contention) at 1-2 (September 18, 1985).

4. The Board bifurcated the evidentiary hearing. At the first hearing, held September 30 through October 3, 1985, in Apex, North Carolina, evidence was presented concerning the extent of drug use at the Harris site, including the undercover operation of late 1984, and the Applicants' drug detection and prevention program — essentially issues (1) and (2), above. The second phase was held in Raleigh, North Carolina, on November 12, 1985, the evidence addressing the Applicants' quality assurance program and its ability to detect and correct any errors which might be caused by employees using drugs.

5. The record on Contention WB-3 is extensive — consisting of 1924 pages of transcript and over 1000 pages of prefiled written testimony and exhibits.²

² The Board grants Applicants' unopposed request to amend the evidentiary record to incorporate corrections contained in "Applicants' Proposed Transcript Corrections" (December 11, 1985).

B. Applicable Standards

6. Although the NRC does not have regulations specifically addressed to the use of drugs on a nuclear power plant construction site,³ its quality assurance standards applicable to the construction of nuclear power plants are relevant. Appendix B to 10 C.F.R. Part 50 requires a Quality Assurance (QA) program designed to eliminate the possibility that construction defects of potential safety significance will go undetected and therefore uncorrected. See *Cleveland Electric Illuminating Co.* (Perry Nuclear Power Plant, Units 1 and 2), ALAB-802, 21 NRC 490, 492-93 (1985).

7. The Applicants' proposed findings properly emphasize the importance of their QA program for this drug abuse contention. We quote and adopt portions of those findings, as follows. "CCNC Contention WB-3 postulates construction defects caused by impaired employees under the influence of drugs. In its ruling on summary disposition, the Board raised the question of whether the QA program was designed to cope with the effects of widespread drug abuse. Tr. 8224." Appl. PF 8. Applicants' position concerning the capability of their QA program to identify construction defects is that the "unspecified CCNC postulated defects are not distinguishable from defects which result from other causes. Consequently, to a great extent the litigation of CCNC Contention WB-3 was viewed to be a challenge to the effectiveness of the QA program implemented during construction of the Shearon Harris Nuclear Power Plant." *Id.*

8. "In assessing the execution of construction QA programs, NRC adjudicatory boards appropriately have turned for standards and guidance to the legal findings required for grant of an operating license application. Error-free construction is not a precondition for an operating license under either the Atomic Energy Act or the Commission's regulations. What is required is a finding of reasonable assurance that the plant, as built, can and will be operated without endangering the public health and safety. 42 U.S.C. §§ 2133(d), 2232(a); 10 C.F.R. § 50.57(a)(3)(i); *Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), ALAB-756, 18 NRC 1340, 1345 (1983), *aff'd*, *San Luis Obispo Mothers for Peace v. NRC*, 751 F.2d 1287, 1319-21 (D.C. Cir. 1984), *partial reh'g granted on other grounds*, 760 F.2d 1320 (1985); *Union Electric Co.* (Callaway Plant, Unit 1), ALAB-740, 18 NRC 343, 346 (1983),

³ The Commission has published a proposed rule on fitness for duty designed to prevent persons under the influence of drugs or otherwise unfit for duty from endangering public health or safety at an operating reactor. 74 Fed. Reg. 33,980 (1982).

reconsideration denied, ALAB-750, 18 NRC 1205 (1983), as modified, ALAB-750A, 18 NRC 1218 (1983).” Appl. PF 9.

9. “In examining claims of quality assurance deficiencies, then, boards are to look to the implication of those deficiencies in terms of safe plant operation. *Callaway, supra*, ALAB-740, 18 NRC at 346. Even if it is established that all ascertained construction errors have been cured

there may remain a question whether there has been a breakdown in quality assurance procedures of sufficient dimensions to raise legitimate doubt as to the overall integrity of the facility and its safety-related structures and components. A demonstration of a pervasive failure to carry out the quality assurance program might well stand in the way of the requisite safety finding.

Id. Thus, the two-pronged test for examining CCNC Contention WB-3 . . . is: (1) whether ascertained construction errors caused by employees under the influence of drugs have been corrected; and (2) whether there has been a pervasive failure to carry out the quality assurance program as a result of employees working under the influence of drugs.⁴ See *Louisiana Power & Light Co.* (Waterford Steam Electric Station, Unit 3), ALAB-812, 22 NRC 5, 14-15 (1985); *Long Island Lighting Co.* (Shoreham Nuclear Power Station, Unit 1), ALAB-788, 20 NRC 1102, 1141 (1984).” Appl. PF 11.

10. This is not to say, however, that the Board is not concerned with whether drug use has been “widespread” on the Harris site, as the contention alleges. Given the evidence in this record establishing relationships between onsite drug use and the possibility of deficient work (see Board Findings 143-155), we believe that an effective program to hold employee drug use to a minimum is an essential element in a nuclear construction licensee’s QA program, whether or not formally so denominated. To put it another way, under the pending drug use contention, it is not enough to show a paper record of compliance, without consideration of the extent of drug use that has actually been occurring on the site — particularly where, as here, some QA personnel have themselves been implicated in drug use. Evidence of widespread drug use would also evidence a deficient antidrug program and could, in turn, evidence serious deterioration in the QA program.

⁴ The “pervasive failure” or “breakdown” portion of the test typically is applied in the context of alleged specific quality assurance deficiencies. See *Duke Power Co.* (Catawba Nuclear Station, Units 1 and 2), ALAB-813, 22 NRC 59, 64-72 (1985); *Callaway, supra*; *Perry, supra*, ALAB-802, 21 NRC at 502 (attention focused on specific deficiencies at issue before deciding whether a need existed to expand the scope of the inquiry).

C. Extent of Drug Activity on Site

11. We begin with the knowledge that involvement with drugs has become an ever-increasing problem in American society. According to the National Institute on Drug Abuse, in 1983 there were over 22 million users of marijuana on a once-a-month basis, over 4 million users of cocaine at least once a month, and perhaps as many as 10 million abusers of prescribed medications. Drugs are in schools and universities, in jails, in the armed services, and in athletic teams at all levels. While most drug use occurs in a social setting, and is much less frequent on the job, drugs have also invaded workplaces in the United States — including government and law enforcement agencies. Arrests for drug use and sale have been made at a number of nuclear power plant construction sites throughout the country. Testimony of William J. Hindman, Jr., Michael W. King, D. Glenn Joyner, and Peter B. Bensingner on the Assessment of Employee Drug Activity, ff. Tr. 8893 (hereafter “Applicants’ Assessment Testimony”) at 17-18; Applicants’ Testimony of Dr. Robert L. Dupont, Jr., on the Effects of Employee Drug Use, ff. Tr. 9994 (hereafter DuPont) at 4-5. Applicants’ witness, Mr. Peter Bensingner, a former Administrator of the United States Drug Enforcement Administration, estimated that the level of drug abuse may be from 5 to 12% of the nation’s work force on and off the job. Tr. 8338. It is against this background that we examine the extent of drug activity at the Shearon Harris construction site.

12. The Board heard testimony from several sources concerning the extent of drug activity⁵ at the Harris site. These sources include participants in the undercover investigation at the plant, data on the number of employees terminated for suspected drug activity, CP&L’s policies and implementing procedures on drug use (including testing), data on indirect indicators of drug activity (such as site accident rates, the quantity of drugs confiscated, and the age of site workers), and the judgments of witnesses for CP&L, CCNC, and the NRC Staff who have worked at the Harris site.

⁵ We often use the broader term “drug activity” in preference to the terms “drug abuse” or “drug use” used in the contention. While it is only employee impairment on the job due to drug consumption (“drug abuse”) which has potential safety significance, much of the evidence, for example on employee termination, does not distinguish between consumption and other drug activity — such as possession, purchasing and selling, delivery and other supportive roles or failure to cooperate with site drug policy and procedures. However, it seems reasonable to assume that most drug activity indicates potential drug use or abuse.

D. The Undercover Investigation

13. The undercover drug investigation at the Harris site commenced in early November 1984, and ended in early January 1985. Tr. 9169 (Hensley). (We note that CCNC misstates the record when it claims the investigation began in December 1984. CCNC PF 11.) On this subject the Board heard the testimony of the two undercover operatives who conducted the investigation — Deputy Kenneth G. Hensley of the WCSD (Tr. 9164) and Agent Donald Williams (then of the SBI) (Tr. 9274) — and two supervisors from each agency: Major T.W. Lanier and Lt. R.J. Self of the WCSD (Tr. 9164), and Supervising Agent C.J. Overton and Assistant Supervisor Shirley Burch of the SBI (Tr. 9274). CP&L presented the testimony of its four employees involved in the planning and execution of the investigation: William J. Hindman, Jr., CP&L's Manager, Harris Project Administration and the project-level coordinator of drug information; Michael W. King, Supervisor of CP&L's Construction Security Unit; and the two employees who worked directly with the undercover agents — D. Glenn Joyner of CP&L Security and Michael L. Plueddemann of Daniel Industrial Relations. (Daniel is the principal contractor at the site.) Tr. 8471. In addition, although he played no part in the undercover investigation, Applicants' expert witness Peter B. Bensinger offered his opinion of the investigation. Tr. 8471.

14. The undercover investigation was initiated after CP&L requested such an operation be undertaken by offsite law enforcement. Affidavit of S.L. Burch, ff. Tr. 9274 (hereafter Burch) at 2; Applicants' Testimony of William J. Hindman, Jr., Michael W. King, D. Glenn Joyner, Michael L. Plueddemann, and Peter B. Bensinger on the Undercover Drug Investigation, ff. Tr. 8471 (hereafter "Applicants' Investigation Testimony"), at 10-11. CP&L introduced Deputy Hensley of the WCSD and Agent Williams of the SBI to a confidential informant and supplied the agents with names of twenty-one workers suspected of being involved in illegal drug activity. Applicants' Investigation Testimony at 13-16; Tr. 8568 (King). The informant, a former CP&L employee previously dismissed for drug involvement, worked on site with Hensley and Williams for the duration of the investigation. Tr. 8527-30 (King); Applicants' Investigation Testimony at 13. CP&L provided the agents with necessary "cover" as employees which gave them unrestricted access to any part of the site at any time. The investigation was, however, directed to the first (day) shift, on which approximately 5000 of the approximate total of 6000 employees then worked. Tr. 9216 (Hensley); Tr. 8526-27 (Joyner). Deputy Hensley worked at the site weekdays, except for holidays, from early November 1984 through early January 1985. Tr. 9169

(Hensley). Hensley was instructed to use his cover as an employee at the plant to try to purchase drugs and to obtain information about drug activity. Tr. 9173 (Hensley). SBI Agent Williams was on the Harris site 2 or 3 days a week for a total of about fifteen times. Statement of Donald Williams, Jr., ff. Tr. 9274 (hereafter Williams) at 3. During the investigation, the WCSD spent \$1725 to purchase cocaine, marijuana, hashish, and methamphetamine. Tr. 9207-08 (Hensley); Applicants' Investigation Testimony at 40, Attach. 5. The investigation resulted in the arrest of eight persons for sales to the officers and the identification of fifty-three others suspected of drug activity. Tr. 9173-74 (Hensley).

15. The parties do not dispute the above facts concerning the investigation. However, there are significant disagreements among the parties concerning certain actions CP&L took during the course of the investigation, and the timing of and reasons for the termination of the investigation, as well as what the investigation reveals about the extent of drug activity at the Shearon Harris site. These disagreements are discussed below.

1. Metal Detector Searches

16. SBI Assistant Supervisor of Drug Investigations Burch testified concerning the undercover investigation. Burch was SBI Agent Williams' supervisor during the time he participated in the undercover operation at the Harris site. Burch's testimony criticizes certain of CP&L's actions as impeding the effectiveness of the investigation, endangering the undercover agents, and causing the investigation to be terminated prematurely. Burch at 3-4. Burch testified that shortly after the investigation commenced, CP&L began using hand-held metal detectors to perform random gate exit searches of employees. *Id.* Supervisor Burch alleged, without elaboration, that this procedure slowed the progress of the undercover operation. Burch at 3. Burch testified that Hensley told her that the procedure had never been used before and that the employees from whom Hensley had been purchasing drugs had reported that there was a "snitch" on site. *Id.* at 3-4.

17. CCNC asserts that the initiation of metal detector searches had the effect of making drug users "skittish," and attributes this testimony to Mr. *Joyner*. Tr. 8519-20, 8524, 8555; CCNC PF 17. However, at the relevant transcript page, Mr. *King* refused to agree with the questioner that this would be the effect of the introduction of metal detectors. Tr. 8524 (King). CCNC again misstates the record when it claims that "[g]ate searches also began during the investigation and indeed found two workers with drugs. Tr. 8614" CCNC PF 17. Gate searches did not

begin during the undercover investigation — only the use of hand-held metal detectors as an added element in random exit searches. *See* Appl. PF 36.⁶ Gate searches were already in effect before the investigation commenced. Furthermore, the search which discovered two workers in possession of drugs was not a routine gate search but a planned interception of drugs based on specific information about the two workers gathered during the undercover investigation. Tr. 9221 (Hensley). This incident at the site gate is discussed below; we mention it here only to eliminate any confusion concerning the searches instituted during the course of the undercover investigation.

18. CP&L's Manager, Harris Project Administration, William Hindman, testified that the metal detectors had been requested by the Daniel Construction Company construction manager prior to the inception of the undercover operation and that the detectors' sole purpose was to curb tool theft. Applicants' Investigation Testimony at 16-19.

19. Metal detectors do not detect drugs, and the effect of the use of metal detectors on drug activity appears to be quite limited. Certainly, if an employee is carrying concealed tools or other objects which alert the metal detector, a further search might lead to discovery of any drugs on the employee's person. Thus, the discovery of drugs might well be an incidental benefit resulting from the program designed to curb tool theft. However, we expect the number of persons who would alert the metal detector and then be found to be carrying drugs would be quite small, since employees know they will be searched if they alert the metal detector. Presumably, employees would also realize that the institution of metal detector searches would not signal a "crackdown" on drugs. In addition, since the random gate searches were already in effect when the undercover investigation began, we find the use of metal detector searches to have had little, if any, effect on the undercover operation.

2. Drug Detection Dogs

20. Beginning in February 1985, under the direction of CP&L's security unit, a narcotic detection dog has been on the Harris construction site twice a month on an unannounced schedule to search a random sampling of areas on the site. If specific requests are made, or if information is available concerning the possibility of drugs at particular areas on

⁶ Such searches are conducted during every shift change, at which time lunch boxes, briefcases, and other containers are opened for inspection as employees leave the site, and on a random basis as employees enter the site. Applicants' Assessment Testimony at 5.

site, then those areas are given priority for search by the dog. Applicants' Assessment Testimony at 5-6; Testimony of Francis J. Long, William J. Tobin, and Richard L. Prevatte, ff. Tr. 8653 (hereafter "Long *et al.*"), at 8.

21. The dog handlers, Ms. Dana B. Mackonis and Mr. Kenneth A. Mathias, testified that the dogs used at the Harris site are "aggressive" dogs who will bark, scratch, dig, or bite at the area where they find drugs, and therefore these dogs do not perform body searches. Applicants' Testimony of Dana B. Mackonis and Kenneth A. Mathias on the Use of Drug Detection Dogs, ff. Tr. 8993 (hereafter "Mackonis and Mathias"), at 8. Thus, if an employee is carrying drugs on his or her person, the dog would not signal the presence of drugs on that employee. *Id.*

22. In Board Findings 107-111 we discuss whether the drug dogs were effective and what that indicated about the extent of drug use at the site. In the present context, we address whether the dogs' use obstructed the undercover investigation. SBI witnesses Burch and Overton testified that the undercover operation had to be terminated prematurely because CP&L insisted upon initiation of its program of narcotic detection dog searches at the Harris site. Burch at 7-8; Direct Testimony of C.J. Overton III, ff. Tr. 9274 (hereafter "Overton") at 5-6. CCNC and the NCAG contend that the undercover agents' safety would have been threatened by the presence of drug dogs. CCNC PF 12; NCAG PF 9.

23. As previously noted, the undercover investigation began in early November 1984 and culminated in arrests on January 10, 1985 (although agent activity ceased about the turn of the year). Applicants' Investigation Testimony at 16, 34; Board Finding 14. The first dog search was not actually conducted on site until February 25, 1985, but a misunderstanding appears to have developed between CP&L and the law enforcement personnel as to when the dog searches would begin. Applicants' Investigation Testimony at 37-38; Tr. 9203-04 (Lanier, Hensley, Self). Both CP&L's witnesses and those from the WCSD testified that Sheriff Baker believed that introduction of the dogs during the undercover investigation would endanger the physical safety of the agents on site, and therefore Sheriff Baker wanted the operation terminated. Tr. 9189 (Lanier); Tr. 8561-62 (Joyner); Tr. 8498 (King). Supervising Agent Overton testified that the use of the dogs during the undercover operation would have created the "distinct possibility" that the undercover agents would have been endangered and that the "risk was too great." Yet SBI Agent Overton gave no explanation for the perceived threat from the dogs. Overton at 5-6.

24. Deputy Hensley testified that “if the dogs had been used in a situation where a certain group of people, including myself, knew a stash area or a quantity of drugs would be or who would have them, and if the dog picked up on that, it could cause some fault as to an informer or something being into the plant which could have pointed back towards me.” Tr. 9224. Deputy Hensley explained that if the dogs went directly to a stash area, this might make people believe that there was a “snitch” on site. Tr. 9258. However, SBI Agent Williams testified that in his opinion the investigation could have proceeded with the dog searches in progress. Williams at 12.

25. CP&L’s employees, King and Joyner, who have experience as law enforcement officers, and CP&L’s expert, Mr. Bensinger, testified that the random dog searches would not have posed a threat to the safety of the undercover agents. Applicants’ Investigation Testimony at 38-39; Tr. 8562-65 (King).

26. Although it is not clearly stated in the parties’ testimony or in the proposed findings, it appears to the Board that the most likely way the operatives might have been endangered would have been if the drug dogs were *always* taken to search places the agents had reported as stash areas. There was testimony that the drug dogs might be taken to search a specific place on a tip (Applicants’ Assessment Testimony at 6), however there is no evidence that the dogs were consistently taken to stash areas reported by the undercover agents. Moreover, if this had been standard practice, the agents could have simply asked CP&L not to search consistently in the stash areas of the group with which the agents were working. In any event, Hensley testified that he did not inform CP&L of any stash locations of which he was aware. Tr. 9197. Finally, there seems to have been no reason why site workers should have had greater suspicion about Hensley and Williams than about other workers, other than the fact that the agents were among recent arrivals on site. Although the use of the dogs may have rendered the criminal investigation less effective as a law enforcement operation because of the dogs’ general deterrent effect on drug activity, the Board finds that the occasional presence of dogs on site would not have presented a significant incremental threat to the safety of the undercover agents. Nor does the Board find any evidence that CP&L brought the dogs on site for any reason other than to find drugs and deter drug activity among site employees.

3. Alleged Premature Termination of the Undercover Investigation

27. CCNC and the NCAG claim that the undercover investigation was terminated prematurely. CP&L maintains that the investigation was

winding down in December 1984 in terms of cases being made against suspects (see Applicants' Investigation Testimony at 40-41 and Attach. 5; Tr. 8589 (King)), an assessment with which Hensley agreed, (Tr. 9231-32), and that based on the geographically concentrated area, the informant, and the leads it provided, CP&L understood the investigation would last about 8 weeks. Applicants' Investigation Testimony at 32-33. WCSD personnel testified that they had not intended to leave such an impression with CP&L employees. Tr. 9200-03 (Lanier, Self, Hensley). To resolve this issue, we examine the testimony of the witnesses who offered an opinion on the matter.

28. Major Lanier of the WCSD testified that he believed "more could have been accomplished on the operation, as in any operation, with an extension on the length of time that we might be involved." Tr. 9190. Lt. Self and Deputy Hensley agreed with Lanier. Tr. 9190.

29. SBI Supervisor Burch testified that the SBI had inadequate time to investigate at Shearon Harris. Tr. 9306. Burch stated that the investigation was not terminated because it was complete, nor because the law enforcement agencies conducting it recommended termination, nor because of a lack of suspects. Burch claimed that the operation was terminated because the drug detection dogs would have created a risk to the personal safety of the law enforcement officers, an issue we have just discussed. Burch at 7-8.

30. SBI Supervisor Overton testified that the operation would have been more successful if the investigators had changed shifts, but that bringing in drug dogs would severely hamper the undercover operation. Overton at 4-5. Overton testified that it is not unusual for an operation of the sort performed at Harris to have lasted 6 months and that the operation was not a success from the SBI's point of view. *Id.* at 6.

31. SBI Agent Williams expressed his frustration with the way CP&L pursued its investigation of drug activity at the site, which he characterized as primarily a "policy type investigation rather than law enforcement." Williams at 15. For example, Williams complained that CP&L would search without probable cause and then fire employees, thus hindering drug dealing. *Id.* Williams further testified that if Shearon Harris had "cut down on its security procedures" (the gate searches and the metal detector searches), he believed "a lot more could have been accomplished." *Id.* at 12. He would have preferred that CP&L "[j]ust let it be a mild atmosphere where people could feel like they were getting away with something and we could have made more buys readily." *Id.*

32. We find that much of the disagreement concerning whether the investigation was terminated prematurely stems from the different goals and perspectives of the participants. CP&L's primary goal was to rid the

site of drug activity as quickly as possible. Oriented as it was toward safety in construction, CP&L was reluctant to allow, let alone facilitate, drug use at the site for an extended period of time. CP&L had no direct interest in making arrests or obtaining convictions. The law enforcement officers, on the other hand, were primarily interested in arresting and convicting persons involved in drug activity. To that end, they wanted a site atmosphere in which drug dealing could occur more or less freely. These differences in goals and orientation are illustrated by an incident in which two individuals suspected of bringing marijuana on site were stopped by CP&L employees when the individuals attempted to enter the plant.

33. On December 20, 1984, the informant told Deputy Hensley about two individuals the informant believed were about to bring a large quantity of marijuana on site. Applicants' Investigation Testimony at 21; Tr. 9221 (Hensley). SBI Supervisor Burch claims that Deputy Hensley requested CP&L Security allow the two individuals to pass through the gate. Burch at 4. CP&L's employees, Joyner and Plueddemann, testified that there had never been a request to allow the individuals to pass through the gate. Joyner and Plueddemann claim it was agreed that they should search the employees, since they would be bringing a large amount of marijuana on site for distribution to other employees (Applicants' Investigation Testimony at 21), and because Hensley had said that these two individuals would not sell to him directly. Tr. 9221. We do not find Supervisor Burch's testimony on this matter persuasive for two reasons: (1) it conflicts with the testimony of all other persons involved in the investigation, and (2) Burch was not present at the meeting during which plans to deal with the two individuals were made. We instead rely on the testimony of witnesses who testified from first-hand knowledge.

34. The plan decided upon by Deputy Hensley, Mr. Joyner, and Mr. Plueddemann was to have a sheriff's deputy with a search warrant at the site on the morning of December 21, 1984, to search the two individuals as they attempted to enter. Deputy Hensley agreed with the plan and all involved agreed that it would not compromise the cover of Hensley or the informant. Applicants' Investigation Testimony at 21-22. Joyner testified that both he and Deputy Hensley discussed the plan by telephone with Lt. Self. *Id.* at 22. Although Lt. Self had agreed to provide a deputy with a search warrant, when the deputy did not arrive on the morning of December 21, 1984, Joyner and Plueddemann searched the two individuals rather than allow them to take marijuana on site. One suspect was found with two packages of marijuana in his pants. The other had a package of marijuana and a small amount of cocaine. The

marijuana was packaged in individual glassine bags typically used for distribution. *Id.*

35. CP&L's primary concern in this instance was not with probable cause to search, or, for that matter, with any of the formalities prerequisite to an arrest and conviction. CP&L's overriding concern was with preventing drugs from entering its site. The law enforcement authorities wanted to make arrests, and to do so in such a way as to maximize the chance of conviction, requiring that proper law enforcement procedures be followed. Thus the action which would serve CP&L's objectives was not the same action which would best serve the objectives of law enforcement authorities.

4. Deputy Hensley's Testimony

36. We give separate attention to the testimony of Deputy Hensley because he spent more time on site than did Williams, the other undercover agent, and because Hensley provided the most detailed information about what occurred during the undercover investigation. As noted above, Deputy Hensley was at the Harris site 5 days a week from early November 1984 through early January 1985, excluding holidays. Tr. 9169 (Hensley); Board Finding 14. The first purchase of drugs was accomplished after 1½ hours on site, which might suggest that drugs were easy to acquire. However, this was a "controlled buy," in that the informant actually made the purchase in Deputy Hensley's presence and under Hensley's supervision, after Hensley had given the informant the money with which to make the purchase. Tr. 9229 (Hensley).

37. The investigation resulted in the arrest of eight site employees for sales to officers and in the identification of fifty-three others suspected of drug activity. Tr. 8568 (King); Tr. 9174 (Hensley).⁷ The original twenty-one individuals whose identity was provided by CP&L are included in the sixty-one either arrested for or suspected of drug activity. Tr. 8568 (King). In addition, Hensley testified that he observed about forty other employees, whom he could not identify, either using or being connected with drugs on the job. Tr. 9175. He also stated that he suspected, based on "intelligence" being gathered, another 100 employees. Tr. 9241, 9263-64.

38. CP&L contends that if Hensley was close enough to observe the forty employees allegedly engaging in drug activity he should have been able to identify these employees by their hardhat color and the

⁷ Hensley testified that the number was 51 or 53. Tr. 9174.

identification letters on the hardhats. Appl. RF 27. There are approximately 15 different hardhat colors, and each color identifies a particular craft or function. Tr. 8975 (Joyner). These hats have letters and numbers which also identify the crew. The markings on the hats are approximately 3 inches high. *Id.* CP&L employees wear light blue hats. Tr. 8978 (Joyner). These hats have decals with half-inch identification letters. Tr. 8979 (Joyner). Visitors to the site wear whatever hats are available in the lobby. Tr. 8980 (Joyner). Based on the number of hat colors, the various sizes of letters and numbers on the hats, and the fact that visitors wear a variety of different hats, we do not believe it unreasonable for Hensley to have been unable to identify specific crafts, crews, or individuals on the basis of the hardhat colors and markings. Also, Hensley may have been reluctant to peer closely at hardhat identification markings. Even if he had been able to determine the craft and crew from the markings, Hensley may have had a difficult time keeping notes of such information without attracting attention to himself.

39. We accept Hensley's belief that he observed about forty unidentified employees engaged in drug activity and that as a trained law enforcement officer he was probably correct as to most of those employees.

40. Deputy Hensley's testimony was somewhat ambiguous concerning the scope of his investigation around the site. At the beginning of his cross-examination, he confirmed the accuracy of a statement attributed to him by Lt. Self, and reported in Ms. Burch's testimony, that "Deputy Hensley began to develop intelligence which indicated that there were several cliques dealing drugs at the Harris plant . . ." Burch at 4-5; Tr. 9176. The reference to "several cliques" seems to suggest that there might have been several drug sales operations on site, possibly operating independently of each other. If that were so, and if Hensley had only managed to infiltrate one such operation, serious concerns might arise about the extent of drug activity on site. Similarly, if Hensley had worked primarily in one area of the plant or with one craft (e.g., electricians), that might suggest that the sixty-one definite identifications he made of employees involved in drug activity were a small part of a larger problem. Some other Hensley statements point toward, but more point away, from these concerns.

41. Deputy Hensley testified that the word "clique" (which possibly originated with Ms. Burch) means the same thing to him as "group." He testified that: "The scope was to try to determine as many individuals as there were involved in drugs at the plant as we could, and in order to do that we had to move elsewhere out of this little group." Tr. 9232-33. In a similar vein, Hensley testified that:

HENSLEY: I ...acted on the informant's information. The people he originally started introducing me to that were dealing in drugs, or using drugs, were people that were on his work crew and people that they partied with off the site, and associates by some means or another with other folks.

JUDGE KELLEY: An interrelated group of people?

HENSLEY: Yes, I would say that is correct.

JUDGE KELLEY: Now, did you function while you were there primarily with that group of people?

HENSLEY: While I was on site, yes.

Tr. 9249.

42. On the other hand, other Hensley testimony seems inconsistent with his having been confined to a small area of the site or one or two types of craft workers. Thus, when Hensley spoke of "moving elsewhere out of this little group," he was thinking in terms of moving from the day shift to the night shift. Tr. 9232-33, 9225. At that time, approximately 5000 employees were working the day shift and only about 800 employees were on the night shift. Tr. 8527 (Joyner). Thus if one were to postulate several independent drug dealing "groups" it is reasonable to assume that most, if not all, of them would be working the day shift, which comprised over 85% of total workers. Yet Hensley apparently thought he had no other "group" to go to on the day shift.

43. Although Hensley repeatedly used the words "group" and "groups" in referring to persons involved in drug activity, he noted at one point that "group" is "probably the wrong term to use. The informant we were using was associated with these people." Tr. 9234. Captain Lanier suggested at this point, with Hensley's apparent concurrence, that:

[B]ack during the operation there were several groups within the first shift that the informant associated with either through work or off the site. There were certain suppliers or dealers within each of these groups, but it would only throw suspicion on him if he developed one supplier in one group. There was a closeness between the dealers on site sufficient to the point where if he went to one supplier and placed an order, and then in the same day or in the same work period went to another supplier that it would draw suspicion. They were that close knit a group.

Tr. 9236. Lanier's statement suggests the existence of several "sub-groups" in the first shift whose members knew each other, bought and sold to each other, and were themselves a "group" who dealt with the informant and, to some extent, with Hensley. Given that reading of these rather confusing portions of testimony, one would expect that

Hensley's activities were not confined to a small area of the site or a few crafts. Other testimony tends to confirm that reading.

44. Hensley testified of the informant's associates that "most were electricians, some pipefitters, people that he had been purchasing drugs off of . . ." Tr. 9234-35. Further, he stated that "No, they were not all in the same craft." Apparently, the employees he saw buying drugs included some quality assurance inspectors. Tr. 9224. Furthermore Hensley's "cover" job gave him free access to all parts of the plant. Tr. 8527. His first purchase was made in a cable spreading room (Tr. 9230) and his last purchase was made in the parking lot. Tr. 9238. The following colloquy between counsel for the Applicants and Deputy Hensley illustrates Hensley's mobility on site:

COUNSEL: And when you were undercover and working at the plant site, did you limit yourself in any way geographically to one small area?

HENSLEY: No, I tried to go throughout the whole plant. A lot initially I was restricted to the area of where the people the informant knew were doing drugs.

The longer the operation went on, I started moving through the plant more.

Tr. 9266.

45. The Board can draw no firm conclusions from Hensley's testimony about "groups" engaged in drug activity. His use of the term was very imprecise.⁸ The weight of the evidence suggests, however, that he was referring primarily to a site-wide "group" of dealers on the day shift who had associations with his informant and, to some extent, with him. Taken as a whole and in context, the evidence does not indicate that there were several other "groups" of dealers operating on the day shift that he had been unable to infiltrate.

46. Deputy Hensley testified that based on his observations and on impressions gained from general conversations with people he had dealt with, drug use at the Harris site is "widespread." Tr. 9255. He based this conclusion in part on his estimate that there were an additional 100-200 employees on site involved with drugs than those he was able to identify and that since he could not see or watch everybody on site the actual number of persons involved with drugs had to be more than the number he was able to identify. Tr. 9256 (Hensley). However, since

⁸ In addition to the meanings discussed above, Hensley equated the term "group" with "the general work force," departing completely from the ordinary meaning of a relatively small, cohesive number of people. Tr. 9251.

the Harris investigation was Hensley's first undercover narcotics operation [Tr. 9167-68 (Hensley)] it is difficult to determine what comparative standard, if any, Hensley was using to judge the extent of drug activity at Harris. When asked how his opinion of "widespread" drug use at Harris compared to the 5-12% stated by Bensinger, Hensley responded "[a]s far as overall at Shearon Harris, probably 5-12%, somewhere in that area, would be an accurate statement. I don't know." Tr. 9246 (Hensley). He later testified that he did not have an estimate of the percentage of the site population which might be involved with drugs. Tr. 9256-57 (Hensley).

47. While the Board found Deputy Hensley to be a straightforward and credible witness about what he personally saw and did, we cannot attach much weight to his somewhat inconsistent estimates of overall drug use at the site. We discuss hereafter the significance of the numbers of arrests and identifications made as a result of the undercover investigation with respect to the "widespread use" issue.

5. Assessments of the Results of the Undercover Investigation

48. CCNC and the NCAG claim, based on the results of the undercover investigation, that drug use at Shearon Harris is widespread. CP&L claims that it is not, and bases its conclusion on the undercover investigation, as well as several other factors discussed below. Deputy Hensley's testimony has been discussed in Board Findings 36-47, above. We now consider the opinion of others involved in the undercover investigation.

49. Supervisor Burch testified that the results of the investigation cannot be used to show there is no drug problem at Harris. Tr. 9306. Not only does Burch's testimony evidence a lack of understanding of the issue — in that no one has claimed that there is no drug problem at the Harris site (or, for that matter, at any large construction site) — but her testimony was based almost entirely on what Agent Williams told her. She had virtually no personal knowledge about the factual issues in this case. Supervisor Burch also testified that "widespread" meant that there were drugs in several areas of the site (Tr. 9310), although she later testified she was not using the term in only a geographic sense. Tr. 9311. Her opinion, based on her experience as a law enforcement officer, was that if one dealer in one area was caught, she did not believe he or she could be the only one in that area engaging in drug activity. Tr. 9310. Assuming the accuracy of that statement, we do not believe that a conclusion of widespread use follows from it.

50. Agent Williams, although he spent less time than Hensley at the site, also expressed an opinion concerning the outcome of the investigation. Williams testified that there was drug use and dealing in the CP&L parking lot and at a nearby grocery store. Williams at 8. Based on his "intelligence" gathered at the site, Williams concluded that "there were a lot more drugs at the Harris site and that more people could be caught with drugs," but because of CP&L's policies the undercover agents would have had to make their buys off site. *Id.*

51. CP&L witnesses King and Joyner testified that they had no knowledge about specific persons at the site using drugs and that if they did know of anyone at the site involved in illegal drug activity that individual would be removed from the site. Both further testified that they had no estimate of the number of persons now on site involved in drugs. Tr. 8816-18 (King, Joyner). In its proposed findings, CP&L claims that even accepting the accuracy of Hensley's estimate of 100-200 employees involved in drug activity (including the 40 seen but not identified by name, and the estimate of up to 100 others) this does not represent widespread drug use in a population of over 6000. Appl. RF 34. Mr. Bensinger testified that from 5 to 12% of the working population may be using illegal drugs, on and off the job. His opinion is that "a figure in the upper limits of 10% of all employees at a job site would represent widespread use." Tr. 8338-39. Mr. Bensinger did not venture an opinion as to the percent of the Shearon Harris work force that may be involved in illegal drug activity.

52. The Board will not make a finding concerning alleged widespread drug use at the Harris site on the basis of one undercover investigation. We have discussed that investigation in detail because it provided the original impetus for this contention and because, owing to conflicting testimony, a large portion of the hearing record focuses on it. However, there are other important indicators of the extent of drug use at the site which, taken together, are also significant. We will base our conclusion about alleged "widespread" drug use on a balance of all relevant factors.

E. Employee Terminations for Alleged Drug Activity

53. CP&L reported that "[a] review has been made of Security, CP&L and Daniel records to provide an assessment of the extent of drug activity among employees at the Shearon Harris site (CP&L, Daniel and/or other contractor employees) since February 1978, and

through October 15, 1985. More than 26,000 people have been employed at the site during this time period.”⁹ Appl. PF 69.

54. “CP&L has identified 218 employees as confirmed or suspected of some level of involvement with controlled substances.¹⁰ None of these 218 individuals are now employed at Shearon Harris.” Appl. PF 70. The following data, referred to at the hearing as the “matrix,” indicate the bases for personnel actions on these employees:

Presence of drugs confirmed through urinalysis drug screening:	23
Found to be in possession of a controlled substance on site:	54
Arrested off site:	6
Arrested on site:	8
Refused to submit to a urinalysis test or a search of their person, property, or vehicle:	50
Suspicion, based on less than search or testing:	<u>77</u>
Total as of October 15, 1985	218

Applicants’ Assessment Testimony at 12; Appl. Exh. 51.

55. These statistics do not prove that a terminated employee’s job performance was impaired,¹¹ since terminations were for any suspected drug-related activity, without regard to actual consumption or work impairment. Applicants’ Assessment Testimony at 15. Further, a high rate of detection of drug activity can be caused by a high rate of drug activity or by a high level of enforcement of antidrug policies, or both. Used in isolation, arrests or dismissals for drug activity can be misleading because they can seem to show that the sites with the most effective drug abuse prevention efforts have the highest rate of drug activity (because

⁹ At the time of the hearing, and during the 1984 undercover investigation, the daily employee population was approximately 6000. This number was lower during the earlier years of construction. Tr. 8346-47 (Ferguson).

¹⁰ In addition, by stipulation with CCNC, Applicants agreed to treat five employees of CONAM Inspection, who performed preservice, baseline eddy current testing on the Harris Plant steam generators, in the same manner as employees potentially implicated in drug activity for purposes of reevaluating their work. Tr. 8891-92. A CCNC witness had made certain drug use accusations against certain CONAM employees in prefled testimony. The Board encouraged CCNC and the Applicants to enter into the stipulation withdrawing that testimony as a means of avoiding collateral issues.

¹¹ CP&L knows of no instances of employees being impaired by drugs on site. Tr. 8841-42 (Joyner, King, Hindman).

they have the most arrests and dismissals, for example), when these indicators may actually reflect a relatively low rate of drug activity at a particular site. *Id.* at 19. Appl. PF 71.

56. CCNC asserts, *citing* Tr. 8504, that the 218 employee terminations include 29 individuals identified from a 6-week investigation in 1982, and that these 29 plus the 61 identified in the 1984 investigation show that over 40% of all workers terminated because of drug activity have been identified through the two undercover investigations. CCNC PF 23. There are two flaws in CCNC's argument. First, CCNC fails to acknowledge that prior to the 1984 investigation, CP&L security provided law enforcement officers with a list of twenty-one suspected employees. Tr. 8568 (King). Thus the number of workers identified in the 1984 investigation was forty, not sixty-one. Second, Mr. King did not testify that the twenty-nine individuals identified in 1982 are included in the matrix. *See* Tr. 8813. Mr. King testified that these individuals have been released from the job site, although all of them may not have been released in 1982. Mr. King did not know how many of the twenty-nine were either immediately terminated or later terminated for involvement with drugs. Tr. 8813 (King). (We note the maximum number that could have been terminated in 1982 is eight, since that is the total terminated for all of 1982. *See* Board Finding 57.) In any event, if the 29 were not included in the matrix and the 1984 number is actually forty, then CCNC's claim that over 40% of all workers terminated because of drug activity have been identified through the two undercover investigations is without merit.

57. The number of employees terminated by year since 1979 is as follows:

Year	1979	1980	1981	1982	1983	1984	1985
Number of employees terminated	1	2	9	8	8	27	163
Total number of employees terminated as of October 15, 1985							218

Tr. 8806 (Hindman); Appl. Exh. 51.

58. These figures show a large increase in the number of terminations in 1985 over the year 1984 and previous years.¹² CP&L's witness Hindman offered four reasons why the number increased so markedly in

¹² CP&L asserts that the correct numbers of terminations for 1984 should be 87, and for 1985 should be 103, because 60 of those terminated in 1985 were actually identified in 1984. Appl. RF 35. Under that reasoning, however, the final number for 1985 could be expected to rise significantly, due to persons being "identified" in 1985 and not terminated until 1986.

1985. First, Mr. Hindman cited the general increase in drug use in American society. Second, he pointed to a doubling of the site population in 1984 over 1983. Third, Hindman noted the changing nature of the work site, explaining that in the early years there was not much cover and work was performed by large, closely supervised crews. Finally, he mentioned the heightened awareness of the drug situation.¹³ Tr. 8899-8900, 8902 (Hindman); 8973-74 (Bensinger).

59. The Board finds each of these reasons persuasive to some degree, particularly the doubling of the site work force. However, we believe that CP&L's increased emphasis on drug detection played the largest role in the dramatic increase in terminations in 1985.

60. Applicants claim the drug activity at the Harris site that has been identified by CP&L, its contractors, and law enforcement representatives, as a percent of the site work force is less than one-eighth of the national work forces' percentage of drug abusers. Appl. PF 72. The national figure provided by Mr. Bensinger was 5-12%. Applicants' Assessment Testimony at 17-18. The total number of employees terminated (218) is less than 1% of the total Harris work force of 26,000. If the average of the national average 5-12% is 8%, then 1% compared to 8% is indeed one-eighth.

61. Viewed in isolation, the total number of employees actually terminated over time does not suggest "widespread" drug use, since that statistic represents slightly less than 1% of the total work force over time. However, that termination statistic cannot be viewed in isolation. For one thing, it distorts the dimensions of the problem at particular times, particularly 1985, when about 200 (extrapolated to year's end) employees (over 3% of the current work force) were terminated for drug use. Furthermore, drug sales and use are illegal, clandestine activities, and not all drug dealers and users get caught. Mr. Bensinger estimated that the number of persons involved in drug activity is roughly 20 to 30% higher than the number identified and terminated.¹⁴ Tr. 8967. Thus, termination statistics are a function of the effectiveness of an employer's policies and procedures to prevent drug activity. Even under the best antidrug programs, *some* drug activity will occur and escape detection. We assess further the significance of the Shearon Harris termina-

¹³ Although from Mr. Hindman's testimony it was not entirely clear whether he was referring the Applicants' awareness or the awareness by employees of CP&L's policies, from his later testimony it appears that he was referring to the Applicants' heightened awareness of drug activity and its actions in instituting and enforcing more stringent drug control policies. Tr. 8900-01 (Hindman).

¹⁴ We note that CCNC is mistaken in its assertion that Mr. Bensinger testified that the number of users identified in 1985 represented 20-30% of the total number of persons involved in drug activity. CCNC PF 24.

tion statistics following our discussion of the CP&L drug prevention program.

F. Indirect Indicators of Drug Activity

62. Other significant indicators of the extent of drug activity include site accident rates, the quantity of drugs found on employees and in stash areas over time, and the age of the site work force. We examine each of these in turn.

1. Site Accident Rates

63. We agree with Applicants that “a high rate of arrests and dismissals with a low accident rate would suggest a low relative rate of drug use and effective intervention. A high rate of arrests and dismissals, however, when found with high accident rates would suggest a higher rate of drug abuse. A low rate of arrests and dismissals with a high accident rate would reflect ineffective intervention. Applicants’ Assessment Testimony at 19-20; DuPont at 13.” Appl. PF 73.

64. “The Daniel Construction Company and its subcontractor (Davis Electric Company) have a 0.80 incidence of lost workday accident cases per 200,000 work hours for the period November 1984 through July 1985. For the immediately preceding year (November 1983 though October 1984), the figure was 0.30. By comparison, the North Carolina State Department of Labor, Injury Statistics (1983-Construction) show a 4.7 incidence of lost workday accident cases per 200,000 work hours for heavy construction in North Carolina. The national average — Construction 1984 Edition ‘Accident Facts National Safety Council’ — for heavy construction in this same category is 3.5.”

65. “During 1984, CP&L employees at Harris experienced 0.79 lost workdays from accidents per 200,000 work hours, compared to 1.23 lost workdays for the Company as a whole. Additionally, the Harris project has experienced no fatal accidents. The Board finds this to be an excellent safety record and a strong indication of a low rate of substance abuse. If drug use were widespread at the Harris Plant, one would expect to see a higher accident rate among the site work force. Applicants’ Assessment Testimony at 20; DuPont at 13.” Appl. PF 74.

2. Quantity of Drugs Found

66. Another indirect indicator of the level of drug activity is the quantity of drugs involved in the drug-related incidents at the site. Appli-

cants' estimate, based upon a review of their site security files, is that CP&L security has confiscated misdemeanor amounts of approximately 282 grams of marijuana, 4.5 grams of cocaine, 50 pills (controlled) and 450 pills (nonschedule). CP&L's estimates of drugs collected and given to the WCSO in felony amounts are 16 ounces of marijuana and 3 grams of cocaine. Applicants' Assessment Testimony at 12. These estimates do not include the drugs purchased during the 1984-1985 undercover investigation. Deputy Hensley testified that during the investigation he purchased 7 grams of cocaine, 4.5 ounces of marijuana, 5 grams of crystal (methamphetamine), and 16 ounces of hashish, which cost a total of \$1725. Applicants' Investigation Testimony, Attach. 5; Tr. 9207-08.

67. Both NCAG and CCNC speculate that an unnamed supervisor was bringing pound quantities of cocaine into the site. CCNC PF 14; NCAG PF 5; Tr. 9182-83 (Hensley). They base this claim on information that a worker allegedly told Hensley about pound quantities coming on site from Florida. Tr. 9182 (Hensley). No details, such as the suspected dealer's name, or dates the cocaine might be delivered, were offered concerning this speculation, nor was the testimony corroborated. The Board believes this testimony is too speculative to serve as the basis for a finding that anyone at the plant was dealing in large quantities of cocaine.

68. CCNC attributes to Mr. Bensinger testimony that "drug dealers on site are more of concern than simple use." CCNC PF 27. However, Mr. Bensinger actually testified that "the information on dealing on site is more serious than use . . . although at a work location people generally will sell and exchange and deal to friends, people they know or are introduced to." Tr. 8597. CCNC fails to state the inference to be drawn from this testimony. We agree that larger quantities of drugs, typically possessed by dealers, are a greater cause for concern than simple use of small quantities. However, on this issue the record weighs in Applicants' favor, since the quantities of drugs confiscated generally indicate personal use, rather than large-scale distribution. Tr. 8596-98 (King, Bensinger); Applicants' Assessment Testimony at 12-16; *see also* Tr. 8344, 8575 (Bensinger).

69. In addition, the record includes the results of sixteen drug detection dog searches performed at the Harris site. Most searches were negative, and the positive searches discovered only minute quantities of marijuana. Mackonis and Mathias at 10-12; Tr. 8994-95 (Mackonis).

70. CCNC claims that Ms. Mackonis, handler of the drug detection dog at the site, testified that during one of her searches the dog identified 11 out of the 200-500 cars in the parking lot. CCNC then postulates that since there are usually several thousand cars in the parking lot,

there would be an average of 60-150 cars in the parking lot which would have drugs or residue from drugs in them. CCNC PF 28. If the dog detected drugs associated with 11 out of 200 vehicles this represents 5.5% of the cars. Eleven cars out of 500 is 2.2%. Assuming that, on a given day, 2 to 6% of the cars in the parking lot caused a dog to signal the presence of drugs, these figures would not be inconsistent with our findings about drug activity at the site. See Board Findings 124-139. In any event, searches of ten of the vehicles the following day were negative (one employee refused to permit a vehicle search). Mackonis and Mathias at 11. However, such results are not conclusive since drug odors might have dissipated or drugs might have been removed from the vehicle before it was searched.

3. Age of Site Work Force

71. CCNC cites Dr. DuPont's testimony (although CCNC's citations to the record are incorrect) that males in the 18-25 age group have the highest rate of drug use in American society. DuPont at 5; CCNC PF 49. CCNC then cites age and gender data for current CP&L employees, and concludes that "[t]he Harris work force is primarily young males." CCNC PF 49. The age and gender data for CP&L employees is as follows:

Age	Male		Female		Total
18-25	77		37		114
26-35	444		91		535
36-66	279		27		306
TOTAL	800	+	155	=	955

Appl. Exh. 53 (Supplemental Affidavit of William J. Hindman, Jr., on Gender Age Information About Certain Harris Employees, dated November 26, 1985).

72. The very data identified in CCNC's proposed finding, however, contradict CCNC's conclusion. Appl. RF 39. Only 77 of the 955 CP&L employees are males in the 18 to 25 age group. For Daniel/Davis employees, males under 25 constitute 13% of the employees, and for QA inspectors, they represent only 5% of the employees. Appl. Exh. 53 (Supplemental Affidavit of William J. Hindman, Jr., on Gender and Age Information About Certain Harris Employees, dated November 26, 1985); Appl. RF 39.

73. According to Dr. DuPont, in 1982, 64% of 18- to 25-year-olds had used marijuana at least once in their lives and 28% had used it in the month before the survey. By comparison, 23% of those 26 years of age and older had ever used marijuana, and 7% had used it in the month prior to the survey. The equivalent percentages for cocaine, the second most commonly used illegal drug, were 29% (at least once) and 7% (in the previous month) for 18- to 25-year-olds, and 9% and 1% for those 26 years and older. DuPont at 4. Thus, the relevant age group for our purposes is 18-25. The Board finds that the percentage of males in the age group 18-25 is quite small, about 8% of the CP&L work force and 13% of Daniel/Davis employees. Even if the males in the age group 18-35 were included, the percentage would be slightly more than one-half of the total CP&L employees (54%). These age statistics are not indicative of a high level of drug activity.

G. Observations of Persons Working on Site

74. The Board heard testimony from several persons who have worked at the Shearon Harris site. All but one of these witnesses, Ms. Patty Miriello, expressed the opinion that drug use at the plant is not widespread.

75. CCNC witness Miriello was employed at the site from April 1984 to August 1985.¹⁵ Applicants' witness Joyner testified that Ms. Miriello was dismissed by CP&L on August 30, 1985, because of her inability to function cooperatively with her co-workers and supervisors. Applicants' Assessment Testimony at 15. Ms. Miriello testified that drug abuse at the Harris Plant is widespread. Testimony of Patty Miriello for Conservation Council, ff. Tr. 9084 (hereafter "Miriello") at 5-6. She testified that on one occasion she "observed seven or eight workers up on the boilers smoking marijuana . . . in plain view of the administration building." Miriello at 4. The reliability of this observation is subject to question, in light of her admission on cross-examination that the view of the boilers — 660 feet from the administration building — is obscured by another building. Tr. 9117-18 (Miriello).

76. Ms. Miriello also testified that she smelled marijuana when walking through the Daniel parking lot (Miriello at 4) but she did not attempt to identify the individuals involved or report the incidents to site authorities. Tr. 9118, 9150-51. Nor did she include these observations in

¹⁵ Ms. Miriello was employed by Nuclear Energy Services from April 1984 to February 1985. She was employed by CP&L from February 25 until August 30, 1985. Miriello at 2; Applicants' Assessment Testimony at 14.

her affidavit of September 6, 1985, in opposition to Applicants' summary disposition motion. Tr. 9115-16 (Miriello). In that regard, Ms. Miriello testified that she recalled these incidents before the affidavit was filed, but that the "priority there was the safety issue with the steam generator tubing," and that she and CCNC were in a rush to get that brought to the attention of the public. Tr. 9116. We find this statement difficult to credit. The few lines necessary for Ms. Miriello to state her alleged observation of the boiler incident and parking lot incidents could not have delayed submission of her affidavit, which we initially understood to incorporate all of her concerns.

77. The alleged incident of workers smoking marijuana on the boilers occurred in October 1984. Miriello at 4. However, in a Quality Check Employee Exit Questionnaire signed by Ms. Miriello on February 19, 1985, she indicated that she had reported no safety concerns, and that she had no unreported concerns.¹⁶ Appl. Exh. 41. At the hearing, Ms. Miriello stated that she "didn't care" about completing this form, and refused to acknowledge what she had marked on the form.¹⁷ Tr. 9105-08. Although an occasional inconsistency in testimony is to be expected as memories fade, we find that Ms. Miriello's testimony is unusually inconsistent. In addition, Ms. Miriello threatened CP&L in writing that she would attempt to stop the plant through intervention in this proceeding if she were fired. Tr. 9101 (Miriello); Applicants' Assessment Testimony at 15. In fact, Ms. Miriello contacted counsel for CCNC within 2 days after her dismissal by CP&L. Tr. 9110 (Miriello).¹⁸ Finally, the Board observed Ms. Miriello's open hostility toward CP&L at the hearing. For all of the foregoing reasons, we give very little weight to Ms. Miriello's testimony.

78. A panel of CP&L witnesses associated with drug prevention at the site testified on the extent of drug activity. Mr. Hindman, Manager, Harris Project Administration, has been employed by CP&L at the Harris site full time since February 1979, and was on site part time before that date. Applicants' Investigation Testimony at 1. His opinion is that drug abuse is not widespread among site employees. Applicants' Assessment Testimony at 16-17, 21. Mr. Joyner, a law enforcement officer who has investigated alleged drug activity at the site for 6 years, testi-

¹⁶ Ms. Miriello also testified, in contradiction, that she had reported the concerns on drug activity to the FBI in November 1984. Tr. 9109 (Miriello).

¹⁷ Ms. Miriello also misstated her qualifications by testifying that she has an M.S. degree from Pennsylvania State University, when in fact the degree has not been conferred. *Compare* Miriello at 2 with Tr. 9114 (Miriello).

¹⁸ Although Ms. Miriello testified that she thought she had contacted counsel for CCNC earlier, she could not recall when she did so. Tr. 9110 (Miriello).

fied that drug use at the site has not been widespread. Applicants' Assessment Testimony at 16. Mr. King, who has been on site frequently in his 7 years of employment with CP&L, also concluded that drug abuse is not widespread. Applicants' Investigation Testimony at 2-3; Applicants' Assessment Testimony at 16-17, 21; Appl. PF 81. As indicated in some of our other findings, the Board does not agree with these CP&L enforcement witnesses in some respects. Nevertheless, we believe that their testimony on the overall question of widespread use was sincere and informed.

79. Mr. Prevatte, the NRC Resident Inspector at Harris from March 1983 to October 1985, testified that he is on the site almost daily, has free access to the entire site, can observe workers at any time or location, and spends the majority of his time in actual inspection in the field, but has never observed drug use on the site. Tr. 10,164 (Prevatte); Tr. 8679-80, 8755, 8759. Although Prevatte acknowledged that drug use has occurred on the site, based upon his experience, he does not believe "it is a dominant factor that is occurring continuously, that high percentages of people are using [drugs] on site." Tr. 8760-61. Prevatte testified that he has been trained to identify drug use, and that he would be able to detect someone under the strong influence of drugs. Tr. 8762. Finally, Prevatte testified that if there had been widespread drug use at the Harris site, he would have seen direct evidence of it over time. Tr. 8764. The Board believes that Prevatte would have been able to detect an employee exhibiting noticeable signs of drug use. However, Mr. Prevatte's primary responsibility was to make inspections of the plant, not to look for evidence of drug use. We therefore believe he simply might not have noticed employees who were using drugs infrequently or at low doses.

H. Applicants' Drug Abuse Control Policies and Procedures

1. Introduction

80. The Applicants presented extensive testimony concerning their policies and programs for control of illegal drug activity. Witnesses testifying for the Applicants included Peter B. Bensinger, a consultant and former Administrator of the U.S. Drug Enforcement Agency; John D. Ferguson, Director — Personnel Relations at Harris; Garry W. Flowers, Manager of Corporate Security at Daniel International Corporation; and A. Reid Pannill, Daniel's Personnel Manager at Harris from 1982 to 1985. Tr. 8326. A panel comprised of William J. Hindman, Jr., Michael W. King, D. Glenn Joyner, and Peter B. Bensinger also testified for Applicants concerning their drug abuse policies and procedures. Tr. 8893.

Dog handlers Dana B. Mackonis and Kenneth A. Mathias testified concerning the use of drug detection dogs at the Harris site. Tr. 8993. The NRC Staff presented the testimony of Loren L. Bush, Jr., Senior Security Specialist with the Operating Reactors Branch, Division of Inspection Programs, Office of Inspection and Enforcement, U.S. NRC. Tr. 8653. Francis T. Long, William R. Tobin III, and Richard L. Prevatte also testified for the Staff. Mr. Long is Technical Assistant to the Regional Administrator, Region II, U.S. NRC. Mr. Tobin is Senior Physical Security Inspector, Harris Plant. Mr. Prevatte was Senior Resident Inspector for Construction at the Shearon Harris Plant from March 1983 to October 1985. Tr. 8653.

2. CP&L Policies and Procedures

81. CP&L employees at the Harris site are subject to CP&L's Drug and Alcohol Abuse Statement of Practice. The statement, excluding the provisions related to alcohol abuse, is as follows:

The use, possession, or sale of narcotics, hallucinogens, depressants, stimulants, marijuana, or other controlled substances by an employee while on Company business or on Company property will result in disciplinary action, including possible termination.

Any other use, possession, or sale of narcotics, hallucinogens, depressants, marijuana, or controlled substances by an employee that may adversely affect the employee's job performance, or that may reflect unfavorably upon public or governmental confidence in the manner in which the Company carries out its responsibilities, may result in disciplinary action, including possible termination.

This statement of practice does not apply to medication prescribed by a licensed physician and taken in accordance with such prescription.

Applicants' Testimony of Peter B. Bensinger, John D. Ferguson, Garry W. Flowers, and A. Reid Pannill on Drug Abuse Control Policies and Training, ff. Tr. 8326 (hereafter "Bensinger *et al.*"), at 8. CP&L has also adopted a Drug and Alcohol Interdepartmental Procedure, which prescribes responsibilities for implementing the policy. *Id.* at 8-9; Appl. Exh. 30; Appl. PF 12.¹⁹

¹⁹ The Applicants presented extensive testimony detailing their drug control program and policies. Although CCNC alleges defects in the Applicants' programs and policies, for the most part the Applicants' testimony on this issue went unchallenged. We therefore adopt much of the Applicants' proposed findings concerning measures taken to prevent drug activity at the Harris site. Portions of the Applicants' Findings which have been paraphrased by the Board bear the appropriate finding number. Those portions adopted in whole are designated with quotation marks and the appropriate finding number.

82. CCNC alleges that CP&L policy on drug use on site is unclear, citing Tr. 8406-08. CCNC PF 39. The Board agrees with Applicants' reply that "CCNC's proposed finding is entirely misplaced. [At the cited transcript page] Judge Kelley was questioning Applicants' witnesses on the *second* paragraph [of the policy], which addresses offsite drug activity. There is no testimony which questions the clarity of the *first* paragraph, and the Board fails to see how the policy against drug activity on site could be clearer."²⁰ Appl. RF 7.

83. Prospective CP&L Harris site employees "are fully informed of the Company's Drug and Alcohol Abuse Statement of Practice and related Drug and Alcohol Interdepartmental Procedures. They are advised that a thorough 5-year background investigation will be conducted, that drug screening procedures are a part of the required preemployment physical examination, and that a professional evaluation using the Minnesota Multiphasic Personality Inventory (MMPI) is a part of the total preemployment procedure." If the drug screen indicates the presence of drugs or controlled substances not properly obtained and used, the applicant will not be considered further for employment. "Also, if the MMPI indicates a background of or tendency toward drug or alcohol abuse or aberrant behavior in the opinion of professional advisors to the Company, they may not be considered further for employment. *Bensinger et al.* at 9; [NRC Staff] Testimony of Francis J. Long, William J. Tobin and Richard L. Prevatte on CCNC Contention WB-3 (Drug Use During Construction), ff. Tr. 8653 (hereafter 'Long *et al.*'), at 7." Appl. PF 13.

84. New Harris site employees attend an instructional program which explains CP&L's Drug and Alcohol Abuse Practice and Procedures, the adverse effects of drug and alcohol abuse, and CP&L's Employee Assistance Program. Employees receive copies of the CP&L "Drug and Alcohol Abuse Reference Manual" (Appl. Exh. 31), which states that the Company may conduct announced or unannounced inspections, investigations, and searches for illegal drugs and controlled substances. The Manual makes clear that based on the results of such action employees may be asked to undergo a company-approved medical examination, including a drug screen, and that failure to cooperate in an inspection, investigation, or search may result in disciplinary action,

²⁰ As to the paragraph on offsite activity, Applicants explained the basis in judicial precedent for articulating a nexus between the policy and the employment. Tr. 8406 (Bensinger). It was also explained that the Statement, rather than exempting offsite activity, provides the basis for CP&L personnel action with regard to such activity. Tr. 8409 (Bensinger, Ferguson). The first sentence of the CP&L Chairman/President statement in the employees' Reference Manual is that "[d]rug and alcohol abuse whether on or off the job is a serious concern to our Company." Appl. Exh. 31 at 2. The record demonstrates that in fact CP&L and Daniel do terminate employees for offsite drug activity. Applicants' Assessment Testimony, ff. Tr. 8893, at 12; Tr. 8405 (Flowers).

including possible dismissal. "The last page of the Manual is detached and retained as the employee-signed record of participation in the orientation, of the employee's agreement to abide by the Statement of Practice and related Procedures, and of the employee's understanding that compliance with the Statement of Practice and related Procedures is required for continued employment with CP&L." *Bensinger et al.* at 9-10; Appl. Exh. 31; *Long et al.* at 6-7; Appl. PF 14.

3. Contractors' Drug Policy

85. By contract amendment, a drug and alcohol abuse policy is imposed upon contractors at the Harris site. This amendment requires the contractor to inform its employees of CP&L's drug abuse policy, CP&L's right to search on its property, and CP&L's discretion to remove from the site any employee who does not cooperate with or is found to be in violation of CP&L's drug abuse policy. *Bensinger et al.* at 11; Appl. Exh. 32; Appl. PF 15.

86. The employees of Daniel Construction Company and its subcontractors represent approximately 70% of the site work force. Prospective Daniel employees at the Harris site are subjected to preemployment background verification, including confirmation of the dates of previous employment, job classification, performance rating, and the reason(s) for termination. Any criminal records listed on the employment application are reviewed, and incidents involving drug-related activity in the applicant's background are viewed as grounds for denial of employment. *Bensinger et al.* at 13-14; Appl. PF 16.

87. "Daniel's drug policy at the Shearon Harris site provides that employees are forbidden to use, sell, possess, or be under the influence of illegal drugs while on Daniel or CP&L property and that violation of this prohibition is cause for immediate discharge. The implementing procedures provide that Daniel may take any of the following steps while employees are on Daniel/CP&L property: observe actions of employees; counsel employees; search employees' personal items, automobiles, or persons; require searches with canines; require drug screen urinalysis testing. If the employee refuses a search or test, he/she is immediately discharged. *Bensinger et al.* at 14; Appl. Exhs. 36-38." Appl. PF 17.

88. All new Daniel employees and all employees transferring from other Daniel work sites undergo an employee orientation, which includes a review of the policy, a video program, and an employee handbook describing the policy. Each employee must complete an affidavit, retained in the site personnel file, certifying that the handbook was received and

read, and that the employee will abide by its rules. *Bensinger et al.* at 15-16; Appl. RF 18.

89. In February 1985, Daniel began supervisory training concerning drug abuse at the Harris facility. Tr. 8386 (Flowers). CCNC alleges that prior to early 1985 Daniel relied on its routine orientation for workers, only a part of which included drug education and the company policy. CCNC PF 30. Tr. 8417 (Pannill). Applicants reply that several elements of the drug control program existed prior to 1985, including (1) a firm policy of prohibition which was clearly communicated to all employees; (2) an extensive orientation program to explain the policy and to educate employees about drugs; (3) supervisory orientation during safety meetings on how to identify and address drug abuse; (4) supervision monitoring employees entering and leaving the workplace; (5) random searches; (6) active surveillance in the field by Industrial Relations; and (7) a program for employees to communicate violations. Tr. 8417-18 (Pannill); Appl. RF 8. Measures added to the program in 1985 no doubt increased its effectiveness. However, we are concerned here with whether adequate steps are taken to control drug activity, not with penalizing the Applicants for improving their programs as experience dictates.

4. Supervisor Drug Awareness Training

90. "CP&L has a drug awareness training program for CP&L managers and supervisors (including first-line supervisors, i.e., foremen) at the Harris site designed to prepare them to recognize drugs and drug-related behavior, and to understand their responsibilities when such substances or behaviors are observed or reported on the job. The supervisor is responsible for reporting any information on suspected drug activity, for removing from the job any employee having possession of or under the influence of drugs, and for initiating disciplinary action in accordance with the provisions of the Company's Drug and Alcohol Abuse Statement of Practice. The drug awareness training program enables supervision to carry out these responsibilities effectively. In developing its drug and alcohol abuse education efforts, CP&L utilized the expertise and guidance of numerous individuals and organizations with experience, including other utility companies, federal and local law enforcement personnel, the academic community, and consulting firms with national experience in the prevention of drug and alcohol abuse. *Bensinger et al.* at 11-12." Appl. PF 19.

91. CP&L supervisors and managers at the Harris Plant have attended a "Drug and Alcohol Workshop for Supervisors." Through this program participants learn the skills necessary to implement the Practices

and Procedures. "Each manager and supervisor receives . . . the CP&L Supervisor's Reference Manual, Drug and Alcohol Abuse (Appl. Exh. 33), which illustrates the scope and content of the training provided. In addition to the Practices and Procedures, the manual describes drugs of common abuse (including identification of the drug, methods of use, and signs/symptoms of use), guidance on observing and documenting changes in employee behavior, guidelines for administering CP&L's policy on drug abuse, behavior and job performance warning signs, a checklist for observing employee behavior, and guidelines for conducting a disciplinary interview. Bensinger *et al.* at 12; Appl. Exh. 33; Long *et al.* at 8. In actual practice, CP&L supervisors have identified employees involved in drug activity. Tr. 8411 (Ferguson)." Appl. PF 20.

92. CCNC notes that CP&L's Supervisor's Reference Manual on Drug and Alcohol Abuse was revised on February 15, 1985, to add three new sections which reflect training material provided to the supervisors by Bensinger, DuPont and Associates in August 1984. Tr. 8379-81 (Ferguson, Bensinger); CCNC PF 30. CCNC claims that prior to August 1984 "there was little supervisory training on the drug abuse detection." CCNC PF 30. CCNC does not offer, nor can we find, any support in the record for this assertion. Applicants' witnesses testified that supervisor drug awareness training had been presented earlier, and that similar information (reflected in the new training material) had been provided, but not in the same format. Tr. 8382 (Ferguson, Bensinger); Appl. RF 8. Applicants state that the Supervisor's Reference Manual prepared in early 1983 was not significantly modified by the February 1985 revision, which added nine pages of text to a Manual which had been thirty-one pages long, and had already included the Company Drug and Alcohol Statement of Practice and Interdepartmental Procedure; ten pages describing Drugs of Abuse; Observation and Documentation of Changes in Employee Behavior; Supervisor's Checklist in Observing Behavior; and Guidelines for Conducting a Disciplinary Interview. Appl. Exh. 33; Appl. RF 8, n. 3. While it is true that Applicants have improved their supervisor drug awareness training program, the Board finds no merit to CCNC's claim that prior to August 1984 there was little supervisor training on drug abuse detection.

93. In 1984, CP&L increased its drug abuse control efforts. On August 1, 1984, Mr. Peter B. Bensinger briefed CP&L management on drug and alcohol abuse control. Subsequently, refresher training on drug and alcohol abuse was conducted by Mr. Bensinger's associates and CP&L personnel at the Harris site. Bensinger *et al.* at 2, 12-13; Appl. Exh. 34. In addition, CP&L employees at the Harris site, as well as contractor employees who attend the routine safety meetings, received a

videotape "Drug and Alcohol Abuse Refresher Training" session presented by CP&L's Executive Vice President. Bensinger *et al.* at 13; Appl. Exh. 35; Appl. PF 21.

94. Daniel's supervisors also receive special training on drug awareness and Daniel's policy. Supervisors receive the written drug policy which appears in a Supervisor's Handbook. The supervisors are taught to recognize drugs with high abuse rates (e.g., marijuana, cocaine, and different forms of speed), to recognize drug abuse symptoms in an employee, and the supervisor's role in carrying out the policy. This training program was developed from information provided by federal and local law enforcement agencies, medical doctors, and pathologists, and the training content has been reviewed for accuracy by law enforcement experts and medical doctors. Bensinger *et al.* at 16-17; Appl. Exhs. 39 and 40; Tr. 8413-14 (Flowers); Appl. PF 22.

5. CP&L Consultants' Evaluation of Applicants' Program

95. "Bensinger, DuPont and Associates has provided policy consultation to CP&L and supervisory training to all CP&L management and supervisory personnel at its nuclear facilities and headquarters locations. After CCNC filed Contention WB-3, Mr. Bensinger met with CP&L Security and Harris Project management personnel to review the current status of efforts by CP&L and its contractors to control drug use at the site. In addition to reviewing documentation on the Harris site drug abuse control program, Mr. Bensinger had the manager of his firm's Rockville, Maryland office visit the site in order to advise him on the actual implementation by CP&L and Daniel of their drug abuse control policies, procedures and programs." Consequently, Mr. Bensinger's assessment of the Harris site drug abuse control program is based on his familiarity with the development of the program, as well as a special review conducted for this proceeding. Bensinger *et al.* at 18-19; Appl. PF 25.

96. Mr. Bensinger outlined the key elements of an effective drug abuse control program. Bensinger *et al.* at 19-20. The elements are based upon the Edison Electric Institute's (EEI) "Guide to Effective Drug and Alcohol/Fitness for Duty Policy Development" (August 1985). (Mr. Bensinger was a consultant to the EEI Task Force which developed the Guide. Tr. 8329-30.) According to NRC Staff witness Loren Bush, this industry-developed standard, while not intended to be mandatory or prescriptive, will be used voluntarily at both operating power reactors and those under construction to meet "fitness for duty" objectives. Testimony of Loren L. Bush, Jr., ff. Tr. 8653 (hereafter "Bush") at 6; Appl.

PF 26. The EEI Guide describes the key elements of a drug fitness for duty program which include a written policy, top management support, effective policy communication, behavioral observation training for supervisors, implementation training for supervisors, union briefing, contractor notification, law enforcement liaison, chemical testing of body fluids, and employee assistance programs. Bush at 6-9.

97. Mr. Bensinger concluded that CP&L has undertaken all of the principal initiatives recommended by the EEI Guide for an effective drug abuse control program. His assessment of the supervisor training program at Harris is that it meets or exceeds prevailing industry standards and meets the threat of drug abuse at the Harris site. In particular, Bensinger testified that the training provided to the supervisors on identification of the symptoms of drug abuse enables the supervisors to recognize unusual behavior and to initiate intervention prior to the worker becoming so impaired that he or she would compromise safety-related work. Bensinger *et al.* at 20-22; Tr. 8333, 8412-13, 8415-16 (Bensinger).

6. NRC Staff Review of Applicants' Program

98. Based on his document review of Applicants' program, Staff witness Bush also concluded that CP&L meets or exceeds all key elements of the EEI Guide and that drug programs at the Harris site, including those of Daniel Construction Company, are effective. Bush at 14. The NRC Staff would have this Board conclude, on the basis of the Staff's review, that the "various drug programs in place at the Shearon Harris site are comprehensive and adequate and that they exceed the standards recommended to the industry by the Edison Electric Institute." NRC PF 35. However, the Staff findings fail to address the testimony of Staff witness Tobin who stated that the Staff "can't make any conclusion that this [the Harris] program has not been effective." Tr. 8715 (Tobin). At the hearing, the Board found this statement unclear and further questioned Tobin, who concluded that the Staff did not have the "specific knowledge" to conclude that the program is in fact effective to prevent drug abuse. Tr. 8717 (Tobin). The Staff performed a document review of CP&L's program, but did not review or express any opinion on actual program implementation.²¹ We therefore rely on Bush's conclusion only

²¹ The Board would expect the Staff to have noted this testimony in its proposed findings. However, other parties were more remiss in failing to address unclear or contradictory statements of their own and other parties' witnesses. NCAG addressed almost exclusively the testimony of its own witnesses —

(Continued)

on the matter of the theoretical adequacy of the Applicants' drug control program, and not on the implementation and results of the program.

7. Means for Identifying Drug Activity

99. CP&L employs several means for identifying violations of the drug abuse control procedures at the Harris site. In addition to pre-employment screening, these means include security measures, urinalysis drug screen testing, and the observations of managers, supervisors, and employees. Applicants' Assessment Testimony at 3; Appl. PF 31.

100. To coordinate effectively the information obtained by these various means, CP&L has designated William J. Hindman, Jr., as project-level coordinator of all information pertaining to illegal drug use on the Harris Project. Hindman is to be informed of all allegations of, or other information developed with respect to, potential drug use or other drug-related activity among project employees. Hindman and other appropriate personnel assess information and plan actions to resolve each situation, either through further investigation or immediate personnel action. If sufficient information is developed to confirm, or suspect on reasonable cause, a violation of site drug abuse policies, the employee either is required to submit to the urinalysis drug screen, or is terminated or removed from the site via CP&L's contractual right to direct contractors to remove any of their employees at CP&L's discretion. When an employee is terminated or removed for drug-related reasons, the relevant quality organization is informed so that any necessary action concerning the employee's previous work may be identified and undertaken. Applicants' Assessment Testimony at 9-10; Appl. PF 32.

a. Security Measures

101. Undercover operations, such as that conducted in late 1984, serve not only to identify employees involved in drug activity, but also to deter others contemplating such involvement. The 1984 undercover operation was not the first conducted on site by law enforcement officers in cooperation with CP&L. CP&L intends to use such investigative techniques in the future whenever the situation warrants. Applicants'

never acknowledging the conflicting testimony of other witnesses at the hearing. Likewise, CCNC often failed to acknowledge any of the testimony adverse to its own position. Findings which ignore large portions of contrary testimony are not very useful to the Board. Furthermore, both CCNC and the NCAG have submitted findings which are not supported by references to the record, in contravention of 10 C.F.R. § 2.754(c). While we have nevertheless attempted to take such findings into account, we are under no obligation to comb the record for support of such unsupported findings.

Assessment Testimony at 4; Long *et al.* at 8; Appl. PF 33. SBI Supervisor Burch testified that there was still a spirit of cooperation between the SBI and CP&L. Tr. 9307 (Burch).

102. In addition to *ad hoc* efforts with law enforcement personnel, the full-time security force at the construction site acts to identify and discourage drug activity. Applicants' Assessment Testimony at 4. D. Glenn Joyner, CP&L's Construction Security Agent and a commissioned law enforcement officer, supervises security at Harris. Joyner has been employed in security positions at the Harris site since September 1979. He has 9 years of experience as an Investigator with the Raleigh Police Department, and he has received narcotics investigation training, as well as a B.S. degree in Police Science. Applicants' Investigation Testimony at 4-5; Appl. PF 34.

103. "Approximately 2600 man-hours per week are authorized for the contract security organizations at the Harris site. These hours and the post assignments allow around-the-clock patrol of the entire job site by foot and vehicle patrols. Through their contact with and observation of employees, the security personnel are able to provide management with intelligence information on drug activity at the plant. In addition, they pursue information received on possible drug activity in an attempt to confirm the accuracy of the information and to pursue additional sources of information. Applicants' Assessment Testimony at 4-5." Appl. PF 35.

104. Contract security personnel are stationed at the entrances to the site where they observe incoming and outgoing employees and watch for physical signs of incapacity such as staggering, falling, weaving, lack of coordination, and odors. Timekeeping and supervisory personnel assigned to monitor the entrance and exit of workers also observe employees. Random searches of employees' belongings are conducted as employees leave the site during shift changes. Construction personnel are allowed only in designated areas when on the job site. Applicants' Assessment Testimony at 5; Long *et al.* at 8.

105. CCNC alleges that Mr. Joyner is the only security person on site with training in drug detection, and that the primary purpose of the contract security force is not drug detection. CCNC PF 35; Tr. 8825, 8904 (Joyner). Applicants reply that Joyner was referring to the contract security force when he testified that other people do not undergo drug detection training. Appl. RF 13. Joyner is not the only noncontract security person at the site, and as previously discussed (*see* Board Findings 89-94), others have received drug awareness training concerning the signs of drug use. Tr. 8632 (King). Although CP&L does not offer formal training on drug detection to the contract security employees, it

is the practice of most security companies to provide such training. In addition, a large percentage of CP&L contract security personnel have had military experience which includes such training. Appl. RF 13; Tr. 8631-32 (King, Bensinger). (Mr. Bensinger testified to the practice of the security companies and the training they provide to their officers, but not from personal knowledge concerning the specific officers at the Harris site.) CCNC also alleges that “the program relies on any detection of drug involvement on the worker’s immediate supervisor.” CCNC PF 35. It is unclear what CCNC means by this proposed finding. Supervisors are just one part of the Applicants’ program — a program comprised of many components which relies on supervisors as well as other means for identifying drug activity. In any event, the Board believes supervisors are in a good position to observe the signs of drug activity because of their ongoing close contact with employees. The Board finds no merit in CCNC’s proposed finding on this matter.

106. CP&L witness Joyner testified that contract security’s primary concern is not to detect drug use. Tr. 8825 (Joyner). Their primary concern is to control the entry and exit of personnel and to conduct foot patrols, gate patrols, and mobile patrols in vehicles to protect the security of the site. CCNC alleges that contract security personnel only infrequently detect drugs, *citing* Tr. 8825, 8904. CCNC PF 35. However, Mr. Joyner testified that the *operations* security contractor infrequently turns over to him *construction* personnel who violate site drug policies. Tr. 8826 (Joyner). Since it is not the operation security’s primary task to detect drugs, the Board finds it reasonable that operations security would only infrequently discover construction personnel violating site drug policies.

b. Dog Searches

107. Beginning in February 1985, under the direction of CP&L’s Construction Security Unit, a narcotic detection dog has been on the Harris site twice a month, on an unannounced schedule, to search a random sampling of site areas. If specific requests are made or information is available relative to particular areas on site, those areas are given priority for search by the narcotic detection dog. Applicants’ Assessment Testimony at 5-6; Long *et al.* at 8.

108. The dogs employed at the Harris site are trained, at a minimum, to identify marijuana/hashish, cocaine, heroin, and methaqualone. Mackonis and Mathias at 7-8. The drug detection reliability of a well-trained dog is in excess of 95%. *Id.* at 7; Tr. 9009 (Mathias). We under-

stand this to mean that if drugs are present in a particular area, a dog will successfully locate the drugs 95% of the time.

109. During the hearing, Applicants presented a live demonstration of the capabilities of one of the dogs used for searches at the Harris site. While the dog handler was not present, the Board's Law Clerk hid in the hearing room a bag of marijuana and a bag of cocaine provided by Officer Mathias (one of the handlers) of the Raleigh Police Department. Following the handler's lead in a controlled search of the hearing room, the dog located the two bags in approximately 2 minutes. Tr. 9059-62. The Board was favorably impressed with the dog's ability to detect the drugs.

110. CCNC witness Patty Miriello testified that the dogs are not effective on site because no attempt is made to hide the presence of the dog and handler when they are performing the search. Miriello at 5. Thus, she contends news of the dog on site can spread rapidly by word of mouth.

111. Neither Ms. Miriello nor CCNC have explained how the presence of drug dogs on site could do anything but decrease drug activity. Certainly, the employees' knowledge that detection dogs might come on site unannounced at any time would have some deterrent effect on the stashing of drugs on site. Furthermore, quantities of drugs that might be hastily disposed of — for example, by flushing down a toilet — are, *ipso facto*, removed from circulation and can represent a substantial economic loss to the owner. If Ms. Miriello meant to imply that an employee might take rapid action to avoid the dog's detection of the employee's stash area we find no evidence in the record that this is so, nor do we find it a very plausible hypothesis. Applicants point out that employees observing the dog when it arrives still do not know the areas on site that will be searched that day. Tr. 8937-38 (Joyner); Tr. 9018-19 (Mathias and Mackonis). The dog handler testified that searches include potential hiding locations such as designated eating areas, lunch boxes, articles of clothing not being worn, bathrooms, trash containers, and far reaches of the site. Tr. 9034-35, 9042 (Mackonis). Officer Mathias testified that in the Harris situation — where different areas are searched at different times on a random basis and knowledge of the search is at best relatively sudden — the likelihood is very slim that people with stashed drugs could dispose of them quickly and escape detection. Tr. 9038 (Mathias). Ms. Miriello does not have any expertise in the use of drug detection dogs and we therefore give her testimony less weight than that of the dog handlers.

c. Searches of Employees

112. In addition to the exiting and random searches and the use of narcotic detection dogs, identified employees may be directed to submit to a search because of information obtained on potential or confirmed drug activity. Security, Employee Relations, and Industrial Relations personnel conduct the searches. Searches of employees include a detailed inspection of the individual's clothing, work area, and any tools, equipment, or personal property. Any vehicle within the construction security fence is also subject to search. Applicants' Assessment Testimony at 6.

113. The consent to search is a precondition of employment with CP&L or Daniel Construction. *See* Board Finding 84. Applicants may conduct unannounced searches for illegal drugs and controlled substances, and the results of these searches may be used as the basis for disciplinary action, including possible dismissal. The Board believes that subjecting employees to the possibility of search at any time is a strong deterrent to bringing or consuming drugs on site.

d. Urinalysis Drug Screen Testing

114. "Urinalysis drug screen testing is used by CP&L and Daniel as one means of determining whether an employee suspected of drug activity is consuming drugs. When information becomes available which provides good cause for reasonable suspicion that an employee is involved in drug activity, management and security personnel determine if a drug screen urinalysis test should be required. In the case of site employees involved in quality confirmation roles (Quality Assurance, Quality Control, Construction Inspection), however, the drug screen test is administered to the employee even where there is no independent evidence to confirm drug involvement (for example, on the basis of an anonymous allegation alone.) Applicants' Assessment Testimony at 6-7; Bensinger *et al.* at 18." Appl. PF 40.

115. The urine specimen is collected and, pursuant to a written procedure to assure sample authenticity, is delivered to CompuChem Laboratories, Research Triangle Park, North Carolina. The drug classes included in the CompuChem analysis are amphetamines, barbiturates, benzodiazepines, cannabinoids, cocaine, methadone, methaqualone, opiates, and phencyclidine. Each urine sample submitted to CompuChem first undergoes an Enzyme Multiplied Immunoassay Technique (EMIT) qualitative analysis. All positive EMIT analyses are confirmed by Gas Chromatography/Mass Spectroscopy (GC/MS) quantitative analysis. This test program ensures that if a drug is present it will be detected by the EMIT test, and the quantity confirmed through the GC/MS analysis.

According to Mr. Bensinger, the testing techniques used at the Compu-Chem Laboratories are considered to be the most sophisticated available. Bensinger *et al.* at 11-12, 18. In addition, a nanogram level is applied which is considerably tighter than is used in the public utility industry and in industry in general. Tr. 8331 (Bensinger); Appl. PF 41.

116. CCNC challenges the effectiveness of Applicants' urinalysis program on the basis that tests are not performed quickly enough to detect drugs in an employee's system, since many drugs are detectable for only a short time. This time period normally is 6-18 hours for amphetamines, barbiturates, valium, cocaine, methadone, and opiates. Tr. 8362-65 (Ferguson). Mr. Ferguson testified that marijuana may remain in an individual's system for up to 30 days. Tr. 8363. Mr. Bensinger asserted that the time period for marijuana would be 2-3 weeks. Tr. 8365 (Bensinger).

117. While it is true that employees with less than 3 years service who are transferring to the Harris site can schedule an appointment for a urinalysis at their convenience (Tr. 8362 (Ferguson)), CP&L claims that since there are no reasons to suspect drug involvement by these employees, no special precaution need be taken with respect to the authenticity of the test. The Board recognizes that there is an opportunity for an employee to abstain from illegal drug use for a period of time before undergoing such a urinalysis. However, since there is no reason to suspect employees who are merely transferring, the Board does not find fault with Applicants' procedure. We expect the test would detect those who most need detecting, i.e., those who are addicted to such an extent that they could not forgo drugs long enough to escape detection.

118. For our purposes, the more important urine test is the one performed when Applicants suspect an employee is involved with drugs. CCNC claims that the decision to require a urinalysis takes overnight. CCNC PF 33; Tr. 8833 (Hindman). Applicants' witness, Mr. Hindman, stated that these urinalyses can be done fairly rapidly, and in fact they can be accomplished within 1 day, but occasionally take overnight. Tr. 8832. The Applicants can detain an employee after his or her shift or can wait to obtain further information. Once a urinalysis is deemed necessary and the employee is informed, the employee is escorted by another CP&L employee until the urine sample is rendered. Tr. 8359-60 (Ferguson). Although we find there may be occasions when an employee may use a drug and fall under suspicion, but not be required to submit to a urinalysis before the drug dissipates, on balance we believe CP&L's procedures for urinalysis are adequate. First, the employees' knowledge that they may be required at any time to undergo urinalysis will have a deterrent effect on the consumption of drugs. Second, an employee who

escapes detection once will probably not be able to do so for any length of time if the offense is repeated. Once the supervisor and security personnel have reason to suspect an individual, he or she should be subject to close scrutiny.

119. CCNC apparently finds fault with the Daniel Construction Company urinalysis program. CCNC recites several facts concerning when Daniel instituted a program for drug screening and detection at the Harris site. However, CCNC again fails to draw a conclusion or to state the finding it expects will result from the asserted facts. CCNC PF 40. CCNC states that prior to January 1, 1985, Daniel did not have a urinalysis program for the purpose of drug screening and detection and an amendment adding the consent-to-search provision to include urinalysis was added to the Daniel contract with CP&L in February 1985. Tr. 8374-77 (Flowers). The Board does not view this as a serious defect in the Applicants' program. As noted above, Daniel had several other measures in effect prior to initiation of the urinalysis drug screen test. See Board Finding 89.

e. Observations by Supervisors, Managers, and Other Employees

120. Construction site employees do not work in isolation. Site management and security personnel learn about drug activity from information reported by managers, supervisors, and co-workers of those involved. As described above, supervisors have been trained to identify illegal drugs and the signs/symptoms of abuse and to report such information. Daniel site Industrial Relations representatives conduct active surveillance for visible drug activity, and receive reports from employees on known or suspected drug activity. Anonymous reports have been made directly to security personnel and site management, and others willing to identify themselves have provided information on a confidential basis. Applicants' Assessment Testimony at 7-8; Bensinger *et al.* at 17; Long *et al.* at 8. Construction workers have reported fellow members of their crew out of concern for their own personal safety on the job. Tr. 8411-12 (Flowers); Appl. PF 43.

121. "CP&L and Daniel employees have been instructed on the use and availability of the Quality Check program as an avenue for reporting any alleged problem on a confidential, or even an anonymous, basis. This program has been a source of information on alleged drug activity

among site employees.²² CP&L implemented the Quality Check program at the Harris Plant in order to provide an additional opportunity for site personnel to express concerns to management and to receive feedback on their concerns. Under this program, numbered forms are available throughout the site for completion by any employee having a safety concern he or she wishes to bring to the attention of management. Each such concern is investigated by a group of QA specialists and engineers, and the results of the investigation are then reported back to the employee.” Applicants’ Investigation Testimony at 8. If employees wish to remain anonymous, they can determine the action taken on their concerns by telephoning the Quality Check program office and providing the form number. In addition, each employee working in a safety area who leaves employment at the site (whether by resignation, termination, or reassignment) is scheduled to be interviewed by the Quality Check group in order to identify potential safety concerns. The Quality Check group also conducts interviews of randomly selected site employees to uncover safety concerns. Any concerns identified through these interviews are fully investigated by the Quality Check group. The most recent NRC Construction Appraisal Team inspection found the Quality Check program to be an effective and viable method of addressing employee concerns.²³ Applicants’ Assessment Testimony at 8-9; Bensinger *et al.* at 17; Appl. PF 44.

122. CCNC alleges that the Employee Assistance Program is not an effective part of the Applicants’ drug program. To support this proposition CCNC recites the fact that since April 1982 only two workers have participated in the program. Tr. 8367, 8369-72 (Ferguson). The two employees who used the program were experiencing family drug and alcohol abuse problems. Tr. 8872 (Ferguson). If an employee voluntarily asks to participate in the program before exhibiting performance indicators of drug and alcohol abuse, the company will allow the employee to participate. CP&L concedes that joining the program does not guarantee continued employment, and once an employee shows signs of involvement with drugs it is too late to join the program. Tr. 8371 (Ferguson).

123. CCNC states that “there is no rehabilitation component to the program.” CCNC PF 34. Yet CCNC fails to explain what inference is to

²² Of 6169 total Quality Check Program communications, 46 have involved alleged drug activity. Tr. 8805 (Hindman). Out of 46 reports of alleged drug activity, 20 employees were terminated for drug involvement. Tr. 8839 (Hindman).

²³ Daniel employees are also encouraged to use the Daniel Open Door Policy, which is discussed with each new hire and is the subject of posters throughout the project, to raise problems with their supervision and, if not satisfied, to contact further levels of management. Bensinger *et al.* at 17.

be drawn from this allegation. CP&L is not under any obligation to provide a rehabilitation program. Furthermore, the Board believes it necessary that CP&L retain the authority to dismiss those who may enter the Employee Assistance Program and fail to perform satisfactorily. CP&L has apparently chosen to place primary emphasis on prevention and enforcement rather than assistance and rehabilitation for drug users. While it might be argued as a matter of social policy that greater emphasis should be placed on the latter, CP&L can hardly be faulted for its relatively hard-line approach in the context of this contention, an approach calculated to minimize drug use at the Harris site.

I. Board Conclusions Concerning Extent of Drug Use at Shearon Harris

124. The extent of drug use at the Harris site during the course of construction must be inferred from the broad range of evidence, direct and indirect, discussed in the preceding sections. As we have indicated, certain parts of that evidence are weightier than others. We turn now to an overall assessment of that evidence and reach our conclusions about alleged widespread drug use.

125. The most direct evidence of the extent of drug use at the Harris site are the statistics on numbers of employees terminated for drug activity.²⁴ However, these statistics must be used in context. In that regard, we reject the Applicants' contention that total terminations over the period of construction (218) should be considered in relation to the total work force (26,000) to show that, over time, less than 1% of the work force was using drugs. Among other things, as the Applicants themselves point out, a small number of terminations — such as occurred during the years 1979-1983 at Shearon Harris — may indicate significant drug activity and a less-than-vigorous antidrug program. In addition, termination statistics, *ipso facto*, do not include users who escape detection, a significant percentage even under a vigorous antidrug program.

126. As baseline data for estimating the extent of drug use at the Harris site, we focus on the number of terminations in 1985 in relation

²⁴ Use of total termination statistics is conservative in the sense that, under the Applicants' program, a termination may be based on suspicion alone, and certainly on less than probable cause to arrest. Of the 218 employee terminations at Harris between 1979 and October 1985, about one-third were categorized as "suspicion, based on less than search or testing." See Board Finding 54, above. We assume that some small number of these employees (but not enough to affect our assessments) may not have been involved in drugs. On the other hand, we do not think it realistic that any large number of those employees would have been dismissed for drug use on the basis of mere rumor or hunch. Accordingly, we adopt the conservative approach of counting all drug-related terminations in assessing extent of drug use.

to the site work force at that time — about 6000. We focus on 1985 because the intensity of CP&L's antidrug program reached its present high level at that time. For example, the undercover investigation was conducted at the end of 1984 and produced substantial terminations in 1985. Drug dog searches began in February 1985 and have continued. Programs for training of supervisors in drug abuse were intensified. Daniel Construction Company, the principal contractor, began urinalysis testing in January 1985. In sum, the presence of these intensified efforts should have produced a high level of enforcement effectiveness and therefore a reasonably good indication of the extent of drug use in 1985.

127. Between January 1 and October 15, 1985, 163 employees were terminated for drug-related reasons — an average of about 17 terminations per month. Extrapolating at that average rate to December 31, 1985, we assume that about 205 employees were terminated in 1985 — a figure representing about 3.4% of the total site work force of 6000. In addition, we must attempt to approximate the number of drug-using employees who escaped detection, notwithstanding a vigorous antidrug program. Simply because such employees do not get caught, there is no firm basis for such an approximation. The only directly pertinent testimony is from Applicants' witness Bensinger, who estimated that the persons identified in 1985 represented "within twenty to thirty percent of the total possible users," acknowledging, however, that "I don't think anyone really has that ability to predict." Tr. 8967. Because of our confidence in CP&L's antidrug program, particularly as enhanced in 1985, we believe that Mr. Bensinger's estimate of numbers of users who escape detection is reasonable. Applying that estimate, we find that the total number of users on site, based on 1985 terminations, ranged from 4 to 4.5%.²⁵

128. The termination data for 1985 is, we believe, about equally applicable to 1984 as a basis for estimating levels of drug usage, although 1984 terminations totaled only twenty-seven. We say this primarily because, notwithstanding high turnover rates,²⁶ it seems reasonable to assume that many of the same people who were terminated in 1985 were working on the site and using drugs in 1984. In any event, if the termination statistics for 1984 and 1985 are combined and a total work force of, say, 9000, is assumed, the percentage of detected drug users for that combined period is about 2.6%. The CP&L antidrug program

²⁵ Using terminations as a base, an increase of 20% (representing undetected employee users) results in 246 users (4.1%) and an increase of 30% results in 266 users (4.4%), which we round upward to 4.5%.

²⁶ Mr. Bensinger testified that the site turnover rate was about 300 people per month, meaning, we assume, 150 new employees and 150 employees leaving per month. Tr. 8964-65.

was somewhat less comprehensive in 1984, leading us to assume that more drug users (perhaps 50%) were escaping detection in 1984. Under that assumption, we estimate a drug use level of 3.5% of site employees during 1984-1985.

129. The evidence with respect to the years 1979-1983 was less extensive. On the one hand, we do not think that the termination statistics for those years —

1979	1980	1981	1982	1983
1	2	9	8	8

are at all indicative of likely levels of drug use. Assuming site populations of about 3000 in those years, these statistics, standing alone, would indicate unrealistically low drug use levels of 0.3% and less. Also the CP&L antidrug program was much less comprehensive during those years. On the other hand, general levels of drug use in society were lower than they are now. For example, the use of cocaine has doubled in the past 2 years. Applicants' Assessment Testimony at 17. (Bensinger). We find it likely that levels of drug use at the Harris site in the years 1979-1983 were at least no higher than the levels in 1984-1985, and may have been closer to 3%.

130. Finally, we find it probable that drug use levels peaked in 1984-1985 and that they may well have declined toward the end of that period. The combination of an undercover operation (later widely publicized), large numbers of drug-related terminations, drug dogs, and a generally intensified antidrug program should have had a substantially chilling effect on drug use at the Harris site.

131. Our analysis of levels of drug use based on termination statistics is supported by, or at least consistent with, other persuasive evidence on levels of use. Thus, the undercover investigation resulted in arrests of eight employees and positive identification of fifty-three others. Deputy Hensley testified that he had seen about forty other employees engaged in drug activity whom he could not identify. In addition, he testified that, based on intelligence he had gathered while on site, perhaps another 100 employees were involved with drugs. Combining the 61 employees identified or arrested, the 40 observed with drugs but not identified, and the estimate of another 100 suspected of drug activity, we arrive at about 200 employees engaged in drug activity among a shift population of 5000. This produces an estimated use level of 4% among employees in late 1984 when Hensley was on site. That estimate is consistent with our termination statistics estimate of 4-4.5% for the same period.

Deputy Hensley was on site for 2 months, devoting his time exclusively to detecting drug activity, with the assistance of a well-connected informer. Although under the circumstances, his experience would not have given him the complete picture, we consider that experience to be a helpful snapshot of drug activity on the site at that time.

132. The great weight of the indirect evidence supports the conclusion that drug use at the Harris site has been at what we consider to be low levels — i.e., below 5%.

133. We have discussed in detail CP&L's policies and programs to detect and prevent drug activity at the Harris site. In summary, the present program is clear, detailed, multifaceted, well-implemented and tough. The program includes (1) a clear policy on drug use which is communicated to all site employees; (2) supervisor drug awareness training and reliance on observations of supervisors to detect drug use; (3) security measures, including random and exiting searches, undercover investigations, searches of employees suspected of drug involvement, searches of employees' vehicles parked within the construction security fence, routine drug detection dog searches, and drug detection urinalysis tests for employees suspected of drug involvement; and (4) a Quality Check program whereby employees can make their concerns known, anonymously if desired. Collectively, these measures send a simple message to the employees: if you use drugs at Shearon Harris you will probably get caught and, if caught, you will be fired. This program gives us confidence that drug use at Shearon Harris is being held to a minimum.

134. That conclusion is supported by other indirect evidence. For example, amounts of drugs confiscated over time have been small. The WCSD spent only \$1725 to purchase drugs during the 2-month undercover operation. The drug detection dogs had completed sixteen searches at the time of hearing and had found only small quantities of drugs. In addition, the Board is impressed with the low rate of accidents at the site. If there were widespread drug use and the concomitant physical and mental impairment described by Dr. DuPont in Board Findings 144-149, we would expect a higher accident rate. Finally, less than 15% of the site work force falls within the 18- to 25-year-old age group which exhibits the highest rate of drug use in the United States.

135. The weight of the testimony concerning direct observations of drug activity on site (apart from Deputy Hensley's testimony, discussed above) is also consistent with our termination-based estimates. Most significantly, in our view, the NRC Resident Inspector for the Harris site testified that he had not detected employees exhibiting noticeable signs of drug use. Indeed, there is no evidence that any specific employee was

ever actually impaired by drugs while at work. While this does not, of course, prove that impairment never occurred, it does confirm our findings of low use levels and also suggests that uses tended to be in small doses.

136. There remains the question whether drug use at Harris, in the words of the contention, has been “widespread.” That term is not defined in the contention nor was it further specified in prehearing procedures. Therefore the Board must make a judgment about alleged widespread use in light of the hearing record. Our judgment is that drug use at Harris has not been widespread, for several reasons.

137. We need not resort to a dictionary to conclude that “widespread” does not normally describe a situation where less than 5% of a group are engaging in an activity. Thus, we would have to bend the ordinary meaning of “widespread” to apply it to this record.

138. More important, since there is some level of current drug use virtually everywhere in our society, one would like to make meaningful comparisons — “widespread” in relation to what? There are no available statistics on levels of drug use at other nuclear power plant construction sites; the SALP evaluation process does not separately grade licensees for controlling drug use. The only relevant statistics in the record were provided by Mr. Bensinger, who testified that levels of drug use in the national work force ranged from 5 to 12% and that, in his view, “a figure in the upper limits of 10% of all employees at a job site would represent to me widespread use.” Tr. 8339. This suggests that the use levels at Shearon Harris — under 5% — are low. However, we question whether the Bensinger 5-12% and 10% estimates are fully analogous. Those estimates include all offsite “recreational” use — e.g., Saturday night marijuana. Tr. 8341. Furthermore, Dr. Dupont testified that most drug use occurs in a social setting. On the other hand, the evidence underlying the termination statistics primarily grows out of onsite activity (e.g., possession on site) or possibly offsite uses that would have some impact on site (e.g., a dose on the way to work). To put it another way, the evidence in this record generally would not include offsite social uses where the user took precautions not to exhibit effects of use at the site. In light of this factor, we conclude that the Harris use levels probably are below national work force averages, but we cannot say by how much.

139. Most important, the “widespread” allegation in the contention implies that such use has resulted in faulty work and safety concerns. That, after all, is the ultimate reason for this Board’s concern about drug use. As the following discussion demonstrates, the Applicants have con-

vincingly shown that their QA program has not been compromised by drug use.

J. Implications of Employee Drug Activity on Harris Plant Construction Quality

1. Introduction

140. Of the 218 employees terminated for possible involvement in drug activity from 1979 to the 1985 hearing, 146 were craft workers and another 27 were quality inspectors. Appl. Exh. 51, Chart II-2. CP&L did not reinspect all work performed by these workers, for several reasons. Instead, CP&L relies primarily on its QA program to detect any errors which may be generated by employees involved in drug activity. CP&L did perform random reinspections of work performed by terminated inspectors.

141. CCNC offered no proof that a breakdown of CP&L's QA program had occurred due to drug use by quality inspectors, nor did CCNC allege any specific construction deficiencies. Indeed, the record is devoid of proof of any deficiency in construction caused by drug use. However, in its proposed findings CCNC asserts: "Applicants' rationale for not reinspecting work done by workers or inspectors known or suspected to be involved in drugs that their QA and inspection programs will pick up any mistakes made by these workers . . . is unrealistic." CCNC PF 45. As we next explain, we disagree.

142. Applicants sought to prove "that a well-conceived, properly implemented and monitored QA program is capable of detecting errors from any source, including drug use [and that] Applicants have such a construction QA program at the Harris Plant site." Tr. 9989 (Applicants' Opening Statement); Appl. PF 87. Applicants presented testimony concerning (1) whether errors committed by employees impaired by drug use would be different in kind from those made by other employees and which are identified by QA personnel; (2) the lack of need for reinspection of safety-related work performed by craft workers; and (3) surveillance and audits of QA inspectors' work and the reevaluation or physical reinspection which takes place if an inspector is implicated in drug activity.

2. Errors Caused by Workers Impaired by Drug Use

143. Applicants' witness Dr. Robert L. Dupont, Jr., testified concerning the effects of drug use on work performance. Applicants' Tes-

timony of Dr. Robert L. Dupont, Jr., on the Effects of Employee Drug Use, ff. Tr. 9994 (hereafter “Dupont”). Dr. Dupont is a Board-certified psychiatrist who served for 5 years as the Director of the National Institute on Drug Abuse and was Chief White House advisor on drug abuse from 1973 to 1975. From 1982 to the present, Dr. DuPont has been Vice-President of Bensinger, Dupont and Associates. DuPont at 3. Dr. DuPont estimated that he has personally treated 200-300 people for drug problems and has supervised the treatment of thousands of drug abusers. Tr. 10,066 (DuPont). Dr. DuPont is Clinical Professor of Psychiatry at the Georgetown Medical School and Visiting Clinical Professor of Psychiatry at the Harvard Medical School. DuPont at 3. The Board was impressed by Dr. DuPont’s experience and credentials and by his performance as a witness.

144. Dr. DuPont’s testimony is largely undisputed in this record. He testified that

marijuana and cocaine are by far the most frequently abused drugs in American society, and also the drugs most often identified as involved in drug use by Harris employees. DuPont at 4; Tr. 10,036-39 (DuPont). Most drug use occurs in a social setting, usually in the evening or on weekends. Drug use on the job site is much less frequent. This is especially true in an environment like the Harris Plant where the employer has an active ongoing program to control drug use. The same is true for drug sales. This does not imply that drug use (and sales) do not occur on the job, only that, among those who use drugs, they are much more likely to occur off the job than on the job. DuPont at 5-6.

Appl. PF 89.

145. Dr. DuPont explained that marijuana produces an intoxicated state marked by altered time sense, euphoria, and — at high doses — hallucinations. Higher doses produce more profound (powerful) effects. DuPont at 6. The most notable effects of marijuana on work performance come from the reduction in motivation and memory (in contrast to the more commonly observed effects of alcohol intoxication of poor coordination and aggressiveness). Marijuana’s effects are likely to mimic the effects of lack of sleep or exhaustion and low morale, commonly leading to low output and sloppy performance. DuPont at 7-8.

146. Cocaine is a stimulant drug. These drugs stimulate the central nervous system, producing euphoria, hypersensitivity, insomnia, and appetite suppression. Common work-related problems are over-talkativeness and poor concentration on the task because of easy distractibility or, paradoxically, inappropriate preoccupation with a particular detail of the task to the neglect of the complete picture. When used at work cocaine tends to give users the feeling that they are working faster or better; though this is an illusion. When the user comes off a

cocaine dose he or she is exhausted and depressed, so work performance suffers much as it would for someone with a serious illness who has been unable to sleep adequately. DuPont at 8.

147. Methamphetamine has also been found at Shearon Harris. Dr. DuPont testified that methamphetamine produces effects similar to cocaine, though a single dose of methamphetamine lasts longer than a single dose of cocaine, and unlike cocaine, methamphetamine can be taken orally. DuPont at 9.

148. Dr. DuPont stated that

based upon our understanding of typical patterns of drug use . . . it is fair to conclude that many of the identified employees only consumed drugs off the job and were not impaired at work, and that because of low-dosage consumption and tolerance levels, some consumers on the job (depending on the complexity of the tasks involved) would not be impaired such that work results would be affected.

Drug use causes an increase in many common work-related problems, all of which can occur in the absence of drug use. Therefore, it is reasonable to expect that routine supervisory practices and QA measures will identify drug caused failures at about the same rate as other similar errors are identified. DuPont at 13. Neither CCNC nor the NCAG question this conclusion.

149. Drugs affect work performance primarily by decreasing the functioning of the central nervous system. The negative effects of drug use on work output include reduced productivity, increased errors, increased accidents, and a variety of safety problems (such as dangerous driving and operation of equipment). It cannot be stated with certainty that these effects are caused by drug use (that is, they may all be caused by drug use or something else). Casual low-dose drug use can cause impairment, but it is far less likely to do so than is use on the job site. Although the greater the intoxication, the greater the risk of work impairment and work performance decrement, some drug-caused work impairment can occur at low doses of use and some impairment may occur even hours after use. DuPont at 10.

150. If drug-impaired employees work in isolation and their work is not checked by others, it is more likely to be affected by drug abuse (and other performance impairments) than is work done in crews and work that is systematically checked by co-workers. In crews, the nonimpaired workers often do the work of the impaired so that negative effects of their impairment are reduced or even eliminated. DuPont at 11. Non-involved workers do this because of their concern for both the impaired worker and integrity of the work. *Id.* The majority of craft work at the Harris site is performed in teams where one worker's performance is

subject to the scrutiny of fellow workers. Applicants' Testimony of Harold R. Banks and Roland M. Parsons on the Construction Quality Assurance Program, ff. Tr. 10,077 (hereafter "Banks/Parsons") at 6.

151. CCNC speculates that checking by fellow workers would not occur if the entire crew were under the influence of drugs. CCNC PF 48. There is no evidence in the record to indicate such a situation has ever occurred at the Harris site.²⁷ Therefore, our findings on the extent of use at the site (4.5% of employees or less) virtually preclude this "what if" hypothesis.

152. Dr. DuPont testified that even if a worker uses drugs such as marijuana or cocaine on the job site, it is not certain that the worker will be impaired or that his or her work will be flawed on any given day. Nevertheless, any drug use, off site or on site, will increase the risk of job-related errors. DuPont at 11.

153. According to Dr. DuPont, drug abuse does not cause unique kinds of work-related problems. Aside from the sale of drugs (which does not have direct effects on work quality) and overdose reactions (which are easily detected because the user is usually unconscious or acting bizarrely) the effects of drug use are of the same kind as are produced by a wide variety of other causes, ranging from alcohol intoxication to fatigue, from mental illness to conflicts with supervisors and co-workers. DuPont at 12. CCNC recites this statement in its findings but fails to state the conclusion to be drawn from this testimony. CCNC PF 46. CCNC goes on to criticize Dr. DuPont for reaching his conclusion based on an analogy between alcohol and drug abuse and on an examination of the physical effects of drug abuse, rather than the illegal aspects of purchase and sale of the drugs. Tr. 10,000 (DuPont). CCNC PF 46. First, Dr. DuPont's conclusions are not based merely upon an analogy between alcohol and drug abuse, but are based upon his personal experience in the treatment of drug abusers. DuPont at 12; Tr. 10,013-14, 10,066-67 (DuPont). Second, if CCNC believes there is some relevant inference to be drawn from the illegality of drug use, CCNC should have informed the Board of this inference. We can only guess that CCNC meant to imply that drug users are more likely to ignore other rules and procedures, and in some unspecified way this has an adverse effect on safety at the Harris Plant. However, there is no evidence in the

²⁷ Dr. DuPont did testify that there are social situations where drug use is accepted, although they are relatively isolated in American society. Tr. 10,007 (DuPont). The Board finds no evidence to support a finding that the Harris site is such a social situation. CCNC misstates the record by indicating that Dr. DuPont included work situations at this point in his testimony. *Compare* CCNC PF 48 with Tr. 10,007 (DuPont).

record to support such a finding, and, in fact, the record contains evidence to the contrary. It is Dr. DuPont's opinion that drug users would not, for example, be more likely than other workers to attempt to sabotage their work or conceal errors so that the QA program would be less likely to identify them. DuPont at 12. When a drug user makes an error, the same adverse effect on the quality of thinking that led to the creation of the error in the first place will lead to a decreased incentive to cover up the error in the second place. Tr. 10,018 (DuPont). In other words, a person who has made an error is less likely to realize that he or she made an error, and therefore, less likely to cover it up. Tr. 10,019 (DuPont).

154. As to other effects of drug activity, Dr. DuPont testified that a potential consequence of drug sales on site could be a disregard for official duties on the part of the seller who is occupied with sales efforts. The seller would also have a disruptive effect on the work of buyers who would be distracted from their regular work during transactions. Finally, Dr. DuPont testified that drug users are more likely than non-users to be involved in income-generating theft. Tr. 10,028. In our view, however, none of these effects would have a significant effect on safety.

155. Wells Eddleman, a *pro se* intervenor, was allowed under the *Prairie Island* doctrine to cross-examine witnesses on Contention WB-3. See *Northern States Power Co.* (Prairie Island Nuclear Generating Plant, Units 1 and 2), CLI-75-1, 1 NRC 1 (1975). In an attempt to expose a pro-nuclear bias, Mr. Eddleman cross-examined Dr. DuPont on his publications concerning public fear of nuclear power plants. Dr. DuPont has had a contract with the U.S. Department of Energy which has published a number of his papers on that subject. Tr. 10,057 (DuPont). However, as Dr. DuPont noted, and as is demonstrated by the large number of publications listed in his *curriculum vitae*, his publications concerning public fear of nuclear power are a very small part of his professional activity, and indeed are a small part of his professional activity in the area of phobias. *Id.* The Board finds Dr. DuPont to be a credible witness and we give substantial weight to his opinions concerning use of drugs in American society and on the effects of drug use. In particular, we find persuasive Dr. DuPont's analysis and conclusion that errors made by employees involved in drug activity are not likely to differ from employee errors resulting from other causes.

3. Assurance of the Quality of Work Performed by Craft Workers Implicated in Drug Activity

156. Of the five witnesses presented by CP&L to describe its QA program at Shearon Harris, four were CP&L employees: Harold R. Banks, Manager — CP&L Corporate Quality Assurance; Roland M. Parsons, Harris Project General Manager for Completion Assurance Activities; George L. Forehand, Director of Quality Assurance/Quality Control at the Harris Plant; and Thomas W. Brombach, a Project Specialist for Plant Inservice Inspections. Tr. 10,077. Eugene F. Trainor, a consultant and Senior Vice President of Cygna Energy Services, Inc., also testified for Applicants. Tr. 10,077(B). NRC Staff witnesses included Paul Fredrickson and Richard L. Prevatte. Tr. 10,166.

157. CCNC alleges that “Applicants’ management . . . has failed to reinspect all safety-related work done by known drug abusers.” Contention WB-3. NCAG alleges that “Applicant [sic] has not reinspected the work of 218 craft workers it has terminated for suspected or confirmed drug use.” NCAG PF 17. NCAG’s claim is factually incorrect. Although the number of employees terminated for alleged involvement with drugs was 218, the number of craft workers terminated was 146. See Appl. Exh. 51, Charts II-1 and II-2.

158. Applicants concede that they “did not reinspect safety-related work performed by craft workers known to have used drugs or implicated in drug activity.” Appl. PF 95. CP&L’s witnesses testified that as a practical matter it is impossible to determine with certainty all work or even all systems or components on which work was performed by a particular craft worker. Applicants’ Testimony of Harold R. Banks, Roland M. Parsons, George L. Forehand, and Thomas W. Brombach on Evaluation and Reinspection of Work Performed by Employees Implicated in Possible Drug Activity, ff. Tr. 10,077 (hereafter “QA Panel”) at 5-6. CP&L did, however, attempt to evaluate the work of all craft personnel implicated in possible drug activity without inspecting individual pieces of hardware. The evaluation was performed by four Harris site employees: the Manager QA/QC-Harris Plant; the Manager-Harris Project Administration; the Project General Manager; and a representative of the contractor (for non-CP&L employees). QA Panel at 7; Tr. 10,096-99, 10,105-08 (Parsons). The individual’s job description and a supervisor’s description of the employee’s work assignments were considered. The employee’s work was evaluated to verify that it was subjected to one or more quality inspections and that the employee’s performance alone was not relied on for assuring the quality of the work. CP&L determined that all safety-related craft work performed by employees im-

plicated in drug activity was subject to independent inspections,²⁸ and therefore that reinspection — even if feasible — was not necessary. QA Panel at 7; Tr. 10,099 (Parsons); Testimony of Paul Fredrickson and Richard L. Prevatte for the NRC Staff Regarding Contention WB-3's Allegation Concerning Reinspection of Work Performed by Persons Suspected of Drug Abuse, ff. Tr. 10,166 (hereafter "Fredrickson/Prevatte") at 6-7; Appl. PF 95. We accept that complete reinspection of all work performed by the employees involved was impossible because some such work would not be identified. Apart from that, the Board accepts CP&L's rationale for not reinspecting work performed by craft workers, to the extent that it can be shown that CP&L's reliance on the QA program to detect errors made by craft workers is well founded.

159. CP&L's QA program was

approved by the NRC prior to its implementation, [and] that approval included a finding that the program complies with 10 C.F.R. Part 50, Appendix B, Criterion XVI, which requires that "[m]easures shall be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and non-conformances are promptly identified and corrected." *Carolina Power and Light Co.* (Shearon Harris Nuclear Power Plant, Units 1, 2, 3, and 4), LBP-78-4, 7 NRC 92, 107-09 (1978).

Appl. PF 96, n.38. The NRC Staff endorsed the effectiveness of Applicants' QA Program at the Harris Plant. NRC Staff witness Prevatte, Senior Resident Inspector for Construction at the Harris site for 2½ years, stated his belief that the inspection program at Harris is one of Applicants' strengths, and the program has the ability to identify safety-related hardware deficiencies regardless of the cause of the deficiency. Fredrickson/Prevatte at 8; Appl. PF 105.

160. CP&L's witness Trainor conceded that no QA program can ensure 100% confidence that construction work is 100% free of discrepancies. Such a program relies to some extent on the human element which, irrespective of the checking process with its built-in redundancies, allows for error. Applicants' Testimony of Eugene F. Trainor, ff. Tr. 10,077-B (hereafter "Trainor") at 10. Appendix B to 10 C.F.R. Part 50 does not require perfection; rather, the QA program must ensure "adequate confidence" that the plant will perform satisfactorily. In order to accommodate undetected deficiencies in construction, systems and components essential to ensure public health and safety are designed

²⁸ The inspection activities for craft work are summarized in § III of Applicants' Exhibit 51. Applicants' bases for determining that employees' work was subjected to inspections is summarized in Chart II-1 of Applicants' Exhibit 51.

with a high safety factor (or conservative design margin) and with system redundancy to compensate for any deficiencies in construction. Trainor at 11-12. As noted below, none of the deficiencies uncovered during reinspections were of nuclear safety significance. Banks/Parsons at 24.

161. The Board did not review CP&L's entire QA program in the context of this contention, for several reasons: (1) the QA program had been previously approved by the NRC Staff; (2) errors committed by employees under the influence of drugs are not likely to be different in kind from other employee errors; thus they do not present new or unusual problems for the QA program; and (3) neither CCNC nor the NCAG presented any basis for questioning the efficacy of the QA program in any broad sense. Indeed, CCNC appeared to concede that the general program effectiveness was not in dispute, stating that: "We are not here to really look at the Applicants' total QA program" and "[w]e are not going to dwell that much on whether their quality assurance program can take care of all the problems at the site." Tr. 9990 (Runkle). Thus, we examine only those aspects of the QA program that bear directly on the work of the terminated employees, particularly inspectors.

a. Attribute Surveillance Program

162. The dispute between CCNC and the NCAG on the one hand, and CP&L on the other, focused on CP&L's "attribute surveillance program" which began in June 1984. We therefore give particular attention to this facet of CP&L's QA program.

163. Attribute surveillances are performed in accordance with Harris Plant Procedure CQA-7, "Evaluation of Program Effectiveness" (Appl. Exh. 50). CQA-7 is used to calculate the amount of reinspection required to determine the acceptable quality of an inspector's work and, in this context, whether the inspector's suspected drug involvement reduced his or her inspection effectiveness. Application of this procedure could result in a 100% reinspection or the use of a statistical standard developed by the Department of Defense, Military Standard 105-D.²⁹ Quality attributes are reinspected for each component and any deficiencies are reported as nonconformances for engineering evaluation and disposition. *Id.*; see Appl. Exh. 51, § III, for a description of quality attributes for each component; Appl. PF 101.

²⁹ Military Standard 105-D is a sampling system that has acceptability and widespread usage in both the defense and nuclear industries. Trainor at 15.

164. In *Commonwealth Edison Co.* (Byron Nuclear Power Station, Units 1 and 2), LBP-84-41, 20 NRC 1203, 1220-33, *aff'd*, ALAB-793, 20 NRC 1591, 1598-99, 1607 (1984), the Licensing Board approved acceptance criteria for evaluation of inspectors' performance. The applicant had divided the reinspection of QC inspections into two attribute categories: objective and subjective. An attribute is "subjective" if its inspection requires qualitative interpretation by the inspector. An attribute is classified as "objective" if its inspection is not significantly affected by qualitative interpretation. *Byron, supra*, LBP-84-41, 20 NRC at 1232. The Licensing Board approved an acceptance rate of 95% for objective attributes, meaning that the reinspection agrees with the original inspector's findings in 95% of the reinspected attributes. For inspections involving subjective attributes, the acceptance level was set at 90%. This level recognizes the likelihood for reasonable disagreement between inspectors and reinspectors where judgmental decision making is involved. *Id.* Minimum acceptable inspection effectiveness levels of 95% for objective inspection attributes and 90% for subjective inspection attributes were established in Harris Plant Procedure CQA-7, based on the Byron reinspection plan. The 95%/90% acceptance criteria do not include defects which have nuclear safety significance. Banks/Parsons at 23-24. A deficiency with nuclear safety significance is "a deficiency found in design and construction, which, were it to have remained uncorrected, could have affected adversely the safety of operations of the nuclear plant at any time throughout the expected lifetime of the plant." 10 C.F.R. § 50.55; Appl. PF 102.

165. Although CCNC implies that CP&L's QA attribute surveillance program only reinspects work that has been performed in the last 18 months, the testimony indicates that the reinspections include samples of all of the safety-related work done at the Harris site from the early phases of construction, with the exception of certain work — such as concrete placement — that cannot be reinspected. Tr. 10,095-96 (Parsons).

In the one and one-half year period that the QA attribute surveillance program has been in effect, 3,183 components, out of a total selected sample of 4,269³⁰ components, have been reinspected as of October 1, 1985. The components reinspected thus far encompass 54,560 attributes, of which only 269 were found to be deficient.

³⁰ We note that the testimony states the selected sample consisted of 4,269 components. However, the table in Banks/Parsons Attachment 3 states 4,249.

This indicates an overall effectiveness rate of 99.5%. The lowest individual component (structural steel installation inspection) effectiveness was 95.3%. Banks/Parsons at 24 and Attach. 3. No deficiency with safety significance has been identified. Banks/Parsons at 24.

166. CP&L witness Trainor performed a statistical engineering evaluation of the data from the QA attribute surveillance program. He plotted the inspection proficiency per surveillance activity and determined the mean inspection proficiency to be 99.5%. He observed that the mean exceeds the specified proficiency for objective attributes of 95.0% by 4.5%. Mr. Trainor further concluded that there is a 99% confidence that the range of inspector proficiency at the Harris Plant will lie between 99.9% and 97.7%.³¹ Trainor at 16-18; Appl. PF 103; Staff PF 77. The Applicants' attribute surveillance program is convincing evidence that the Shearon Harris overall quality assurance program is effective and has not been undermined by drug use.

167. CCNC contends that when the 4,249 components in the reinspection sample are compared to the number of observed deficient attributes (269) the reinspection proficiency is a "substantially lower number." CCNC PF 54. This number is 82.5%. CCNC calculates component inspection proficiencies from 82.4% to 91.5% for the QA attribute surveillance program (CCNC PF 54) and 90 to 97.6% for certain inspectors (CCNC PF 56). CCNC arrives at these figures by comparing the number of defective attributes to the total number of components reinspected, rather than comparing the number of defective attributes to the total number of attributes reinspected. In order to make these calculations, CCNC hypothesized that no more than one defective attribute would occur in any component. CCNC PF 54. That is, defective attributes would be distributed evenly throughout the components.

168. We find several flaws in CCNC's reasoning. First, the purpose of reinspection is to determine the proficiency of the original inspector. The question is not whether particular components may be defective because they contain defective attributes, but whether the original inspector performed adequately, attribute by attribute. Second, although Mr. Forehand testified that in at least one case (piping installation) it would be possible for each deficient attribute to be in a separate component (Tr. 10,103 (Forehand)) there is no evidence in the record to indicate that this is always or usually the case. CCNC concedes that it is possible that two or more defective attributes could be found in one separate component. Tr. 10,102 (Parsons); CCNC PF 54. We find very little sup-

³¹ Reinspections at Commonwealth Edison Company's Byron Plant showed a range of 96.3% to 99.6% for inspector proficiency based on the results of "objective" inspections. Trainor at 18.

port in the record for CCNC's "substantially lower numbers," which in fact are not dramatically lower than CP&L's figures. Third, the mere presence of a defective attribute would not render an entire component defective. Indeed, none of the defective attributes were found to have safety significance. Banks/Parsons at 24.

b. NRC Staff Evaluation of Craft Worker Quality Assurance

169. NRC Resident Inspector Prevatte reviewed the information and work history data compiled by CP&L on the eight workers arrested as a result of the undercover operation. He also selected ten individuals from the September 19, 1985 matrix of terminated employees and requested that the details of the Applicants' review of their work be made available to him. The ten individuals included a painter, ironworker, pipefitter, field engineer, carpenter, electrician, utility worker, instrument fitter, rebar iron worker, sheetmetal worker, and a truck driver.³² Mr. Prevatte reviewed the Applicants' information, including a listing of each individual's work locations, types of work done during their employment period, and in some cases, the specific components on which they worked. This information also contained the employment history and evaluations still available on site for selected individuals. Fredrickson/Prevatte at 6. Based on his review of this information and his personal knowledge of the applicable work procedures, the type of work performed by these individuals, and the inspection requirements for these types of work, Mr. Prevatte concurred with Applicants' decision not to reinspect the work performed by these eighteen individuals. Mr. Prevatte also testified that he considered this across-the-board sample and his knowledge of the work and applicable inspection requirements for the other affected workers to be adequate to establish that reinspection is not required for the other craft personnel listed in the September 19, 1985 matrix. Fredrickson/Prevatte at 7; Staff PF 62.

170. Mr. Prevatte testified that Applicants' Systematic Assessment of Licensee Performance (SALP) ratings in the QA areas have been category 2 since 1984. *See generally* this Board's discussion of SALP results in LBP-85-28, 22 NRC 232, 246-55 (1985). Prevatte stated that Applicants' QA performance has been consistently satisfactory or better, and shows an improving trend, which could result in a category 1 rating. Fredrickson/Prevatte at 7.

³² We note however that this list includes 11 occupations, though Mr. Prevatte only examined the work of 10.

171. The Board finds Applicants' QA program adequate to cope with the errors likely to be caused by employees involved in drug activity.

4. Assurance of Proficiency of Quality Inspectors Implicated in Drug Activity

172. As previously noted, CP&L has terminated twenty-seven QA personnel for suspected or confirmed drug use. Appl. Exh. 51, Chart II-2. At the time of the hearing there were on site over 500 quality inspection personnel to carry out quality inspections on construction and startup activities. Banks/Parsons at 6. To ensure the quality of the inspections performed by QA personnel implicated in possible drug activity, CP&L evaluated the inspections performed by the terminated QA personnel and, where appropriate, reinspected a sample of the work. QA Panel at 12. The NCAG argues that the "Applicants' reinspection of drug abusing QA personnel was spotty at best," NCAG PF 19, citing alleged examples of inadequate reinspection. These claims will be dealt with below.

a. Nondestructive Examination Inspectors

173. Of the five nondestructive examination (NDE) inspectors terminated for involvement with drug activity, three had positive drug screen test results and two were terminated for refusing to take the test. These inspectors perform liquid penetrant and magnetic particle examinations. The work of these NDE inspectors was reinspected in accordance with Harris Plant Procedure CQA-7. QA Panel at 9. A sample, the size of which was determined by Harris Plant Procedure CQA-7, of the examinations performed by these NDE inspectors was reinspected. Of the 284 items reinspected, only four minor deficiencies — all corrected by minor buffing — were found. Applicants assert, and we agree, that the results of these reinspections confirmed the reliability of the NDE inspectors' work. QA Panel at 9-10.

174. The NCAG claims that "the work of three of these [five NDE] QA personnel which related to Radiographic Examination (RT) was not reinspected." NCAG PF 19.A. In fact, as Applicants note, the RT (Radiographic Test) work done by four of these inspectors was not reinspected. Applicants did not reinspect that work because each of these four inspectors participated as a member of a two-person team in making radiographic setups and film exposures; they did not perform interpretation of RT film for final acceptance or rejection of the items radiographed. RT film is subject to two independent reviews/interpretations

by other personnel qualified for film interpretation. QA Panel at 9-10; Appl. Exh. 51 at 49-50; Appl. PF 117. The NCAG also complains that the sample size was too small since “only 284 items of their work on liquid penetrant and magnetic particle examinations were reinspected.” NCAG PF 19.A. However, as noted above, the sample size was based on Military Standard 105-D — a sampling system that has acceptability and widespread usage in both the defense and nuclear industries. Trainor at 15. Therefore, in the absence of any specific criticism, we accept that standard.

b. Construction Inspectors

175. Seven of the twenty-seven terminated QA inspectors were Construction Inspection (CI) Inspectors — six certified in cable pulls and/or cable terminations, and one certified in drilled-in expansion anchors. They had been terminated and/or removed from the job for positive drug screen test results (two), refusal to take the test (four), and suspected drug activity based on information from a reliable source (one). A sample of the work of these inspectors was reinspected pursuant to CQA-7. The result was an overall acceptance rate for the seven inspectors of 99.3%. QA Panel at 10; Appl. Exh. 51 at 50-51. NCAG argues that this high rate of acceptance “suggests that the reinspection sample size was too small, or the reinspection was faulty, or the reinspectors were drug users themselves.” NCAG PF 19.B. NCAG points to nothing in the record to support these “suggestions.” NCAG fails to consider the one other inference to be drawn from the high rate of acceptance: the work was not defective. This is the inference supported by the weight of the evidence.

c. Other Inspectors

176. The twenty-seven terminated inspectors included fourteen Quality Control (QC) inspectors and one inspector-in-training who were terminated because of a positive drug screen test or refusal to take the test. Since the inspector-in-training was never certified, no reinspection was required. The work of eight of these QC inspectors was reinspected pursuant to Harris Plant Procedure CQA-7. The reinspection indicated that the overall inspector proficiency rate was 99.7%. QA Panel at 10; Appl. Exh. 51 at 51-52; Appl. PF 119.

177. NCAG states “[n]o explanation has been given why none of the work of six [of the fourteen terminated QC inspectors] was reinspect-

ed.” NCAG PF 19.C. This statement reflects a cursory reading of the record. As discussed below, the evidence on this point is quite clear.

178. One of these six QC inspectors field-tested concrete and performed sieve analysis, grout testing, and cadweld inspections; this inspector was terminated for positive drug screen test results. There are no safety concerns with this employee’s assignments in field-testing concrete, grout testing, or sieve analysis because final acceptance of concrete and grout is based on meeting the required design strength as determined by later testing. QA Panel at 10-11. Furthermore, the reinspection results for cadwelds in concrete reinforcing steel bars are impressive: only 8 of 2764 splices tested under the assessment program failed to meet minimum tensile requirements. QA Panel at 10-11; Appl. PF 120. According to CP&L, these test results exceed design requirements by a large margin, and thus independently confirm the quality of cadweld splicing and cadweld inspections. Consequently, no reinspection was performed for this inspector. QA Panel at 10-11; Appl. Exh. 51 at 52-53; Appl. PF 120.

179. Another of the six QC employees was a field concrete tester who also performed rebar and cadweld tensile testing, sieve analysis, and grout testing; this inspector was removed from the job for suspected drug use based on information provided by a reliable source. This employee’s work was not reinspected for the reasons noted in Board Finding 178. In addition, Applicants state

[w]hile this employee actually performed tensile testing, the results of this employee’s tests are consistent with the results of tensile tests performed by others, as determined by a comparison of a statistical distribution of his test data with that of the remaining inspectors. Because of the uniformly high success rates of such tests performed by all such testers and in light of the satisfactory 30 supervisory audits of this inspector’s work, Applicants concluded that there was no reason to doubt the validity of this inspector’s test results. QA Panel at 11-12; Appl. Exh. 51 at 53.

Appl. PF 121.

d. Expansion Anchors

180. Three other QC inspectors had performed inspections on the installation of expansion anchors. A sample of the inspections was selected pursuant to Harris Plant Procedure CQA-7 and the work was reinspected to the extent possible. Certain of the inspection attributes are imbedded in concrete and are no longer accessible. The following table illustrates the inspection proficiency for these three inspectors:

Inspector	Expansion Anchors Reinspected	Expansion Anchors Originally Inspected	Attributes Inspected	Deficiencies Noted	Inspector Proficiency
1	80	982	1493	5	99.7%
2	50	356	1057	5	99.5%
3	125	1257	2445	3	99.9%

None of the thirteen deficiencies noted were safety significant. Tr. 10,074-75 (Forehand); Appl. PF 122. Applicants' witness Forehand testified that all were minor deficiencies. Tr. 10,074-75.

181. The first and the third of these QC inspectors also inspected concrete and grout placements and installation of embedded items and reinforcing bars in concrete. CP&L states that reinspection of these items is impossible. However, CP&L claims that

because of the extraordinarily high inspector proficiencies shown by these two inspectors, and because the work during concrete and grout placements inspected by these inspectors is also subject to verification by both a construction supervisor and an area engineer on the same concrete placement card as the inspectors' results are recorded, CP&L had no reason to question the proficiency of the inspections performed by these inspectors on concrete. Tr. 10,075 (Forehand).

Appl. PF 123.

182. CCNC PF 56 claims that "[t]here are serious reasons to doubt the validity of the inspection activities of [three inspectors who performed inspections on expansion anchors] especially as two of them did substantial inspection work on concrete and grout placements and installation of embedded and reinforcing bars in concrete." The Board finds nothing in the record to support this conclusion. At the cited transcript page (Tr. 10,073-75) Applicants' witness Forehand discusses the reinspection results and evaluation of the work of these three inspectors. NRC Staff witness Prevatte's testimony indicates that concrete and rebar placements and other civil engineering aspects of the construction project at the Harris Plant "has been a strong point." Tr. 10,174 (Prevatte). Mr. Prevatte also testified that the NRC has found very few deficiencies in inspections of the civil engineering program at Harris. Tr. 10,175 (Prevatte).

183. The NCAG states that "[v]ery small samples were reinspected of the work of these three 'drug-terminated' QC personnel who inspected expansion anchors . . . 8%, 14%, and 10%," and that reinspection indicates an extremely high proficiency rate of 99.9%, "suggesting a sample size that was too small or a flawed reinspection program."

NCAG PF 19.E. Again, the NCAG overlooks the obvious inference that the work was simply not defective.

184. The final quality inspector in this group was assigned to perform final system walkdowns with representatives from the system turnover group, construction engineering, and startup personnel. The NCAG states "the work of a 'drug-terminated' final quality inspector who performed final system walkdowns was not reinspected." NCAG PF 19.F. CP&L replies that this assignment did not require the individual to review documentation or inspect systems to determine quality or acceptability. In addition, this inspector was not solely responsible for any aspect of his assignment, and the turnover documentation packages were reviewed by a supervisor. QA Panel at 12; Appl. Exh. 51 at 53. The Board agrees with Applicants that the above reasons are sufficient to find that reinspection or reverification of this inspector's work was not required. Appl. PF 124.

185. CCNC PF 55 and NRC Staff PF 70 imply that evaluation or reinspection of the work of certain of the twenty-seven QA personnel implicated in possible drug activity was still in progress as of the date of the November 12, 1985 hearing. However, at the hearing, CP&L witness Forehand testified to the completion of the evaluation and reinspection of the three QC inspectors whose reinspection results had not been available at the time written testimony was filed. Tr. 10,072-75 (Forehand).

186. Staff witness Prevatte testified that he had reviewed the results of reinspections of work performed by QA/QC and CI inspectors and that he had reviewed procedure CQA-7. Prevatte testified that the application of procedure CQA-7 resulted in some reinspection of 100% of the involved inspectors' work, but in most cases CP&L chose a statistical sample of less than 100%, based on the Mil-Std 105-D. Prevatte verified that the Applicants applied CQA-7 and Mil-Std 105-D to the areas of work inspected by each of the inspectors identified in the matrix and that the reinspections verify that the work of the inspectors suspected of involvement with drugs was acceptable. Frederickson/Prevatte at 4-5.

187. NCAG PF 20 alleges "[a] search of the NRC's own records of inspections done throughout the history of this construction project will reveal that Applicant [sic] has had persistent problems with QA." The NCAG then refers to two incidents concerning Harris Plant QA. However, NCAG offers no explanation of how the two alleged incidents support a finding of "persistent problems with QA." Furthermore, as stated earlier, the contention focuses on a narrow aspect of QA at Harris, not the whole program or its entire history.

188. The work of QA personnel implicated in drug activity has been evaluated. Where necessary, this work has been reinspected pursuant to Harris Plant Procedure CQA-7. The results of the reinspections establish an overall proficiency of 99.6% for inspectors who were implicated in drug activity. This procedure provides reasonable assurance that the original work of those inspectors was adequate.

5. Conclusion

189. Drug use has not had any discernible effect on the QA program or on the quality of work, as accepted under that program, at Shearon Harris. There is a reasonable assurance that defective work, arising out of drug use or any other cause, will be detected by the QA program.

II. NIGHTTIME EMERGENCY NOTIFICATION

A. Introduction and Regulatory Framework

1. Eddleman Contention 57-C-3, as admitted by the Board, reads as follows:

The plan does not have provisions for notification at night, e.g. in the hours between 1 a.m. and 6 a.m. when most people living near the plant would normally be asleep, nor does the plan assure that they would be timely awakened to take sheltering action, as e.g. on a summer night when many might have windows open³³ or air conditioners on. The plan should provide automatic phone dialing equipment to transmit an emergency message to all households in the EPZ for Harris, asking people to alert their phoneless neighbors.

Subsequently, in denying the Applicants' Motion for Summary Disposition, the Board framed the basic issue raised by the contention as follows:

At the evidentiary hearing, the Applicants should address whether the sirens can wake up virtually all the people sleeping in the EPZ between 1 a.m. and 6 a.m. particularly those with windows closed and air conditioners running. The Applicants should address whether the presently planned means of back-up mobile notification could and should be augmented to meet the "about" 15 minute standard in Appendix E, if necessary.

2. The regulatory framework for resolving Eddleman Contention 57-C-3 is primarily derived from the Commission's emergency planning

³³ The contention as framed and admitted speaks of "open" windows. The Board and parties have assumed that "closed" windows were intended, the only reasonable assumption in this context.

rule, an implementing Appendix to the rule, a guidance document issued jointly by the NRC and the Federal Emergency Management Agency (FEMA) staffs, and a Commission interpretative statement. We discuss each element of that framework below.

The Emergency Planning Regulation

3. The pertinent part of the Commission's emergency planning regulation requires that

means to provide early notification and clear instruction to the populace within the plume exposure pathway Emergency Planning Zone have been established.

10 C.F.R. § 50.47(b)(5). In view of FEMA's participation in this contention, that portion of the rule concerning the legal effect of its positions in licensing cases is also pertinent. The rule provides in that regard that:

In any NRC licensing proceeding, a FEMA finding will constitute a rebuttable presumption on questions of adequacy and implementation capability.

10 C.F.R. § 50.47(a)(2). This means that a FEMA position on an issue — e.g., an expert's testimony whether the siren system for a facility will produce certain sound levels or arouse certain numbers of sleeping people — may be accepted by a licensing board if that issue is uncontested. But if an intervenor contests such an issue, the rebuttable presumption "dissolves" and the FEMA testimony is given no special weight "beyond that to which [it] would be entitled by virtue of the expertise of the witnesses and the bases presented for their views." *Metropolitan Edison Co.* (Three Mile Island Nuclear Station, Unit 1), ALAB-698, 16 NRC 1290, 1298 (1982), *aff'g* LBP-81-59, 14 NRC 1211, 1460-66 (1981). *See Southern California Edison Co.* (San Onofre Nuclear Generating Station, Units 2 and 3), LBP-82-39, 15 NRC 1163, 1213 (1982).

Appendix E

4. The Commission has adopted an extensive Appendix to its emergency planning rule which elaborates upon its basic provisions. *See* Appendix E to Part 50, "Emergency Planning and Preparedness for Production and Utilization Facilities." Appendix E is cast in mandatory terms. It was duly published for public comment and thereafter formally adopted by the Commission in accordance with the Atomic Energy Act and applicable provisions of the Administrative Procedure Act (5 U.S.C. §§ 552, 553). 44 Fed. Reg. 75,167, 75,171 (1979); 45 Fed. Reg. 55,402,

55,408, 55,410 (1980). It therefore has the force of law. Appendix E provides in relevant part that:

The design objective of the prompt public notification system shall be to have the capability to essentially complete the initial notification of the public within the plume exposure pathway EPZ within about 15 minutes.

Id. § IV.D.3.

NUREG-0654

5. Contemporaneous with the development and adoption of § 50.47 and Appendix E, the staffs of the NRC and FEMA developed a guidance document entitled “Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants,” and usually referred to as “NUREG-0654.” The guidance in NUREG-0654 spells out in varying detail Staff technical positions on how applicants can satisfy the substantive standards contained in the rule and Appendix E, in the same manner as a Staff Regulatory Guide. In addition, FEMA has developed a more detailed separate guidance document entitled “Standard Guide for the Evaluation of Alert and Notification Systems for Nuclear Power Plants,” usually referred to as “FEMA 43.” This is the standard guidance document applied in FEMA field reviews of the adequacy of siren systems, such as that proposed for Shearon Harris.

6. NUREG-0654 contains an Appendix 3 — “Means of Providing Prompt Alerting and Notification of Response Organizations and the Population.” Two guidelines in this Appendix are particularly significant to an understanding of the regulatory framework issues that arose in this case. First, Appendix 3 states a guideline for acceptable siren sound levels, based on average summer daytime conditions. For rural areas like the Shearon Harris EPZ (2000 or fewer people per square mile) the sirens must provide sound level coverage of 60 decibels (dB), or 10 decibels above ambient noise levels, whichever is higher. Appendix at 3-8 to 3-11. Second, with regard to numbers of people to be alerted within specified times, Appendix 3 provides that:

The minimum acceptable design objectives for coverage by the systems are:

- a) Capability for providing both an alert signal and an informational or instructional message to the population on an area wide basis throughout the 10 mile EPZ, within 15 minutes.
- b) The initial notification system will assure direct coverage of essentially 100% of the population within 5 miles of the site.

c) Special arrangements will be made to assure 100% coverage within 45 minutes of the population who may not have received notification within the entire plume exposure EPZ.

Id. at 3-3.

7. At the summary disposition stage, the Applicants, supported in principle by the Staff, took the position that the Shearon Harris sirens had been satisfactorily reviewed pursuant to the NUREG-0654, Appendix 3, and FEMA 43 criteria, that those criteria are binding on licensing boards, and that Mr. Eddleman's nighttime alerting contention should be summarily dismissed without any showing that the Shearon Harris sirens would actually wake people up at night. We rejected that position, holding that the NUREG-0654, Appendix 3 and FEMA-43 criteria were not binding against a contrary contention. Memorandum and Order of February 27, 1985 (unpublished), at 3-4. The contention was then heard on its merits, with both the Applicants and the Staff presenting detailed analyses of nighttime siren sound propagation and arousal probabilities.

8. In their proposed findings following the reopened hearing, the Applicants continue to "maintain that — where fixed sirens are selected . . . the numerical acceptance criteria are quite clear: under average summer daytime conditions, the siren level must exceed 60 dB." Appl. PF 6. We understand the quoted statement to reaffirm the Applicants' earlier position that, as to required sound intensity, a siren system need only meet the 60-decibel criterion, daytime or nighttime. *See* Tr. 10,458-59. The Staff position on this legal point is unclear. On the one hand, the Staff does not go so far as to claim that the NUREG-0654 numerical criteria have the force of law, only that they should be given "considerable weight." Staff PF 9. On the other hand, the Staff sets forth at length proposed findings based on the 60-decibel criterion (Staff PF 26-43) and asks us to find that, based on that criterion, "in the Shearon Harris EPZ almost 60 percent of the residences are exposed to ten times the sound pressure level [60 decibels] considered by FEMA and NRC to be adequate." Staff PF 127. In light of these statements, we reiterate our position that this nighttime alerting case was properly heard on the merits, without regard to the "summer daytime" 60-decibel criterion urged by the Applicants and the Staff. The Board's position on this threshold legal question is as follows.

9. Apart from the effect of an interpretative statement by the Commission (discussed below), the argument that the NUREG-0654 and FEMA numerical criteria are binding on licensing boards and bar contentions as attacks on a rule is unsound in law and (at least as to the 60-

decibel criterion) in fact. An Appeal Board decision in the *Three Mile Island* litigation, cited above, decisively rejects that argument:

We agree that documents such as the FEMA findings and determinations, NUREG-0654, and FEMA-REP-2, somewhat like the Regulatory Guides, do not rise to the level of regulatory requirements. Neither do they constitute the only method of meeting applicable regulatory requirements. *Cf. Fire Protection for Operating Nuclear Power Plants (10 CFR 50.48)*, CLI-81-11, 13 NRC 778, 782 n.2 (1981); *Gulf States Utilities Company (River Bend Station, Units 1 and 2)*, ALAB-444, 6 NRC 760, 772-773 (1977). In the absence of other evidence, adherence to regulatory guidance may be sufficient to demonstrate compliance with regulatory requirements. *Petition for Emergency and Remedial Action*, CLI-78-6, 7 NRC 400, 406-407 (1978). Generally speaking, however, such guidance is treated simply as evidence of legitimate means for complying with regulatory requirements, and the staff is required to demonstrate the validity of its guidance if it is called into question during the course of litigation. *Vermont Yankee Nuclear Power Corp. (Vermont Yankee Nuclear Power Station)*, CLI-74-40, 8 AEC 809, 811 (1974).

ALAB-698, *supra*, 16 NRC at 1298-99. This Board, of course, is bound by the Appeal Board's decision. We note, in addition, that the Applicants' argument is foreclosed by the Administrative Procedure Act. Neither NUREG-0654, Appendix 3, nor "FEMA-43" has ever been proposed as a rule for public comment in a rulemaking proceeding. *See* 44 Fed. Reg. 75,167. The same is true, specifically, of those portions of NUREG-0654 to which the Applicants would have us attribute binding effect — particularly the 60-decibel acceptance criterion. Nor do these regulatory guides come within any exception to the Administrative Procedure Act's requirement for prior notice and opportunity for public comment before a rule can become effective. *Compare Union of Concerned Scientists v. NRC*, 711 F.2d 370 (D.C. Cir. 1983). Therefore, they are not binding rules.

10. Any claim that the 60-decibel standard is a binding rule for judging the adequacy of a nuclear power plant's alerting capability under nighttime conditions is unsound in fact, as demonstrated by the record on this contention. As the record shows, a 60-decibel siren sound level at about 2 a.m. would arouse only about one-third of the residents sleeping alone in houses with the windows closed, or one-half of the residents in households with two adults. *See* Figure 2 and Finding 56 below. Two-thirds to one-half of those residents would sleep through the sirens. Assuming that half of those alerted would then engage in "informal alerting," some 25 to 50% of the sleeping residents still might not receive a timely alert, if they are in a 60-decibel area and their windows are closed. Whatever flexibility may inhere in the "essentially complete"

or “essentially 100 percent” criterion for numbers of persons to be alerted, that concept must mean something considerably higher than 50 to 75% in some parts of the EPZ. Given the well-known facts that people go to sleep at night and that it is more difficult to arouse people than to get their attention while awake, we find it surprising that FEMA has adopted an around-the-clock acceptance criterion (60 decibels) based exclusively on daytime conditions. Tr. 9916-17; FEMA Testimony of Carter at 13.³⁴

Commission Interpretive Statement

11. Certain provisions of NUREG-0654, Appendix 3 (quoted above) differentiate, in terms of numbers of people to be alerted and alerting times, between the center 5 miles of an EPZ and the outside 5- to 10-mile ring. Following the initial hearing on this contention, a Commission interpretive statement concerning those provisions first came to our attention. In our Order reopening for a further hearing, the Board discussed its tentative views on the legal effect of the Commission’s statement as follows.

12. “The Board believes that it should make separate findings on the arousal capabilities of the Harris siren system within (1) a 5-mile radius of the plant and (2) the area between 5 and 10 miles of the plant. Our primary reason for focusing separately on the first 5 miles is the Commission’s endorsement of that distinction in a 1980 ruling rejecting a petition for reconsideration of the 15-minute notification requirement. See *Final Rule on Emergency Planning*, CLI-80-40, 12 NRC 636 (1980). Among other matters, the petitioners had relied on certain August 1980 testimony of a FEMA official that full compliance with the 15-minute requirement throughout the entire 10-mile EPZ was impossible. In rejecting that argument as a basis for relaxing the rule, the Commission noted with apparent approval that

subsequent to the August 18 testimony, FEMA agreed with the NRC that there ought to be a design objective for the 15-minute rule out to 10 miles and agreed to the design objectives described in NUREG-0654, Revision 1. In the January, 1980 version of NUREG-0654, FEMA and NRC described the design objective for the notification system as assuring that 100 percent of the population within 5 miles of

³⁴ The Board finds Mr. Carter to be a particularly authoritative witness since he was the author of FEMA-43. In response to Board questions, he testified that, in preparing FEMA-43, “I did not assess the validity of the requirements” and “I did not consider the question of nighttime/early alerting of people.” Tr. 9917. The Board believes, therefore, that conformity with the FEMA-43 guidance still leaves the issue of compliance with the Commission’s regulations as an open question when alerting sleeping people is considered.

the plant and 90 percent of the population within 5 and 10 miles of the plant could receive notice in 15 minutes. In the November revision, FEMA and NRC modified that guidance to be essentially 100 percent of the population within 5 miles of the plant and no specified percentage out to 10 miles. The NRC and FEMA still insist, however, that a system be designed to provide both an alert signal and an instructional or informational message to the population within the 10-mile EPZ within 15 minutes. The lack of a specified percentage from 5 to 10 miles is to allow planners the flexibility to design the most cost-effective system to meet this general objective.

Id. at 638. As we read it, the quoted Commission statement constitutes an endorsement of a distance distinction within the 10-mile EPZ — that the rigorous ‘essentially 100 percent’ standard should apply only in the first 5 miles. Furthermore, by its apparently approving recognition that the FEMA/NRC staffs in NUREG-0654, Rev. 1 had abandoned a 90% alerting requirement for the 5- to 10-mile area, the Commission, at least by inference, has indicated that a 15-minute arousal rate of less than 90% in that area might be acceptable.”

13. “The legal effect of these Commission statements is unclear. It can be argued that they are mere *dicta* because no changes were made in the basic notification rule (§ 50.47(b)(5)) or in the more detailed implementing provisions of Appendix E. Moreover, the Commission stated that the relief requested by the petitioners was being denied. The fact that Appendix 3 of NUREG-0654, Rev. 1, differentiates between notification levels in the 0–5-mile area and the 5–10-mile area has no binding legal significance (apart from the effect of the Commission’s endorsement). That guidance document does not have the force of law. *Metropolitan Edison Co.* (Three Mile Island Nuclear Station, Unit 1), ALAB-698, 16 NRC 1290, 1298-99 (1982). Finally, no party has argued to us and the case was not heard on the theory that different standards might apply in different parts of the EPZ.”

14. “On the other hand, as a matter of legal analysis the quoted Commission statement can be regarded as an interpretation of this rule. As such, it would be binding on licensing boards. Apart from legal analysis, we think it makes good practical sense to distinguish between the 5- and 10-mile areas. The people in the first 5 miles are closer to the hazard and would be likely to need more rapid notification in order to take effective protective actions. Moreover, it appears to us that if we are to give credit for the phenomenon of ‘informal notification,’ in the circumstances presented here it is likely to be more effective in the more heavily populated areas outside 5 miles, e.g., the town of Apex, than in the sparsely populated areas in the first 5 miles. Furthermore, the quoted Commission Statement contemplates consideration of cost-effectiveness in choosing among alerting systems. It seems probable that

the cost of augmenting the Applicants' proposed system only within the 5-mile area (about 600 houses) would be a small fraction of the cost of augmenting that system for the entire EPZ (about 7000 houses)."

15. "For the foregoing reasons, we propose to make separate findings for the 0-5-mile and the 5-10-mile areas, as well as for the EPZ as a whole." Unpublished Memorandum and Order of January 16, 1986, at 2-5.

16. Thereafter, the Applicants brought to our attention a *per curiam* Order of the U.S. Court of Appeals for the D.C. Circuit, dismissing as moot an appeal by the Duke Power Company from the Commission's *Final Rule on Emergency Planning* quoted above. The Order states that

ORDERED, by the Court, that the petition be dismissed, since there is no live controversy before the Court at this time. At oral argument Respondent's counsel gave unequivocal assurance that Respondent will judge Petitioner's compliance with the rule according to the standard of performance criteria promulgated in November 1980 jointly by Respondent and the Federal Emergency Management Agency, and Petitioner's counsel stated that this would be entirely satisfactory.

Duke Power Co. v. NRC, No. 80-2253, unpublished Order dated September 29, 1981. As we read it, this Order lends further support to our conclusion (no longer our tentative view) that the provisions of NUREG-0654 concerning numbers of people to be alerted and times for alerting in the 0-5- and 5-10-mile zones have the legal status of a Commission interpretation of 10 C.F.R. § 50.47(b)(5) and Appendix E to Part 50, and thus are binding on this Board. This legal status does not, however, extend to other provisions of NUREG-0654, Appendix 3 — and specifically not to the 60-decibel summer daytime criterion — which were not before the Commission or the court.³⁵

17. There remain the narrow questions of just how high a percentage of residents of the EPZ must be alerted in 15 minutes — within 5 miles of the plant and in the 5- to 10-mile outer ring. The Commission made it clear in adopting the rule that not every person must be alerted. 45 Fed. Reg. at 55,402, 55,407. Appendix E states as a "design objective" that notification must be "essentially complete." Similarly, Appendix 3

³⁵ It might be suggested that the Court's reference to "the standard of performance criteria promulgated in November 1980" implied a judicial endorsement of NUREG-0654 in its entirety. Such a reading would carry this unpublished Order far beyond the scope of the narrow issues then before the Commission and the Court. The Commission's opinion does not discuss the FEMA 60-decibel standard except to note that a 68-decibel system is more expensive than a 60-decibel system. CLI-80-40, *supra*, 12 NRC at 639 n.3. It is scarcely conceivable that the Commission would have intended to endorse 60 decibels as a uniform sound-level criterion, had it been aware of the gross inadequacy of that criterion for nighttime alerting. The hearing on Eddleman Contention 57-C-3 apparently represented the first hard look the NRC or FEMA had taken at the special problems presented by nighttime alerting.

of NUREG-0654 (as endorsed by the Commission) calls for a "design objective" of "essentially 100%" in the first 5 miles and no fixed percentage (but inferentially less than 90%) in the 5- to 10-mile ring. The reference to "design objective" apparently means that a system must be designed to achieve the "essentially 100%" criterion but that, in actual practice, local conditions, for example, might have some adverse effect on performance. The decided cases (not involving nighttime alerting) hold, without specificity, that not all persons need be alerted in 15 minutes.³⁶ In these circumstances, this Board believes that reasonable assurance of an alerting rate *higher than 95%* is acceptable in the first 5 miles. As to the 5- to 10-mile zone, where greater flexibility is allowed, we think it unnecessary to state a minimum criterion. However, we hold that the level shown by the record to be expected of the Shearon Harris system — about 90% — is clearly acceptable.

B. The Witnesses

18. Applicants presented the testimony³⁷ of Mr. David N. Keast, Dr. Dennis S. Mileti, and Mr. Alvin H. Joyner on this contention. Mr. Keast is Vice President and Senior Project Manager with HMM Associates, Inc. Mr. Keast has an M.S. in Electrical Engineering and specializes in public warning system studies in his role as Project Manager for HMM Associates. Mr. Keast was retained by the Applicants to analyze the alert and notification system in response to Eddleman Contention 57-C-3. Dr. Mileti, Professor in the Department of Sociology and Director of the Hazards Assessment Laboratory at Colorado State University addressed the informal notification process that occurs in the event of an emergency. Mr. Joyner is the lead planner for fixed nuclear facilities within the Division of Emergency Management (DEM) of the North Carolina Department of Crime Control and Public Safety. Mr. Joyner's testimony addressed the mobile alerting that takes place in addition to the fixed siren system in the event of an emergency at Shearon Harris. Applicants' Prefiled Testimony of Keast, Mileti, and Joyner, ff. Tr. 9375.

19. The Federal Emergency Management Agency (FEMA) called a panel of four experts under contract to FEMA (T. F. Carter, V. M. Lee,

³⁶ See *Duke Power Co.* (Catawba Nuclear Station, Units 1 and 2), ALAB-813, 22 NRC 59, 77 (1985); *Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), LBP-82-70, 16 NRC 756, 774 (1982).

³⁷ The Board has received Applicants' "Proposed Transcript Corrections" (December 9, 1985), "Supplemental Proposed Transcript Corrections" (January 2, 1986), and "Proposed Transcript Corrections" (April 4, 1986). These corrections were unopposed and we grant Applicants' request that the corrections be incorporated into the evidentiary record.

K. D. Kryter, and J. Nehnevajsa) to present testimony on this contention. Mr. Carter is Vice-President, Consulting Services Group, International Energy Associates Limited (IEAL). Mr. Carter held various management positions with the NRC from 1975 to 1982. In his last position (Deputy Director, Division of Fuel Cycle and Material Safety), he had the responsibility for formulating the emergency planning policy for all fuel cycle facilities. He was also Chairman of NRC's "Three Mile Island" Task Force on Emergency Planning. Under subcontract to Argonne National Laboratory, Mr. Carter was the principal author of FEMA-43, "Standard Guide for the Evaluation of Alert and Notification Systems for Nuclear Power Plants." He is currently Manager of IEAL's project to support FEMA in the evaluation of alert and notification systems at nuclear power plants. Under FEMA contract, Mr. Carter convened this panel of experts to prepare testimony in response to this contention. FEMA's Testimony of T. F. Carter, ff. Tr. 9690.

20. Dr. Lee, who has a Ph.D. in Noise and Acoustics (with a minor in Applied Mathematics) is President and principal consultant of Analysis & Computing, Inc., specializing in noise assessment and acoustical design, communication and warning system design and evaluation, and computer modeling. Since June 1983, Dr. Lee has been retained by IEAL as an acoustics consultant dealing specifically with the sound-level coverage evaluation of nuclear power plant fixed siren systems. Dr. Lee's prepared testimony presented his predictions of the acoustical performance of the Harris siren system. FEMA's Testimony of V. M. Lee, ff. Tr. 9690.

21. The third member of the NRC Staff/FEMA panel was Dr. Kryter, who has a Ph.D. in Psychology (with a minor in Physiology). An eminent expert in the field of psychoacoustics, Dr. Kryter most recently served for 11 years as the Director of the Sensory Sciences Research Center of the Stanford Research Institute, and since 1976 has served as Staff Scientist with that organization. He also presently is President of the Acousis Company. He has conducted research on and developed procedures and models for the assessment of the effects of sound and noise on sleep and annoyance. Recently, he prepared an "Analysis of Laboratory and Field Data on Awakening from Noise" (NASA, 1984), and — under sponsorship of NASA, EPA, and U.S. Department of Transportation — authored "The Effects of Noise on Man," 2nd Edition, Academic Press (1985). Dr. Kryter's prepared testimony addressed the arousal of people from sleep in response to the operation of the Harris siren system. FEMA's Testimony of K. D. Kryter, ff. Tr. 9690.

22. The final member of the NRC Staff/FEMA panel was Dr. Nehnevajsa, who has a Ph.D. in Sociology (with minors in Mathematical

Logic and Journalism). Dr. Nehnevajsa has been affiliated with the University of Pittsburgh for nearly 25 years, and presently serves as Professor of Sociology at that institution. For the past 25 years, he has conducted research on emergency preparedness problems, including consideration of attitudes and behavior related to mass emergencies (both natural and technological hazards). FEMA's Testimony of J. Nehnevajsa, ff. Tr. 9690.

C. Harris EPZ Siren Sound Levels

23. Both Applicants and FEMA presented testimony on the siren sound-level coverage of the Harris EPZ with a system of sixty-eight sirens under nighttime conditions.³⁸ Applicants' witness, Mr. Keast, presented the results of his calculations in the form of sound-level contours drawn on a map of the Harris EPZ. Appl. Exh. 46. Mr. Keast's computational algorithms took into account the several factors that affect sound propagation; namely, spherical divergence, atmospheric absorption, attenuation by forests, ground absorption, refraction caused by vertical windspeed and temperature gradients, scattering by buildings in built-up areas, and shielding by hills. Keast at 10. The results of such computations have been compared with field measurements at locales other than Harris, with the results showing an average deviation of about 0.9 decibel and a standard deviation of 4.4 decibels. The computational results are conservative in that predicted sound levels were lower than the field observations. Tr. 9561. We find the methods and results of Mr. Keast's work uncontroverted at the hearing and accept Applicants' Exhibit 46 as reliable.

24. The FEMA witness on sound levels, Dr. Lee, considered the same sound propagation factors as did Mr. Keast and went through analogous computations. Lee at 21-22. The resulting contour map is not in the same format as Applicants' in that the contours indicate the maximum siren sound level from the one predominant siren in any area. We find the FEMA testimony to be unrealistic since it ignores the fact that sleeping residents at locations approximately equidistant from two or three sirens would receive the cumulative effect of acoustic stimulation (sounds) from each of the sirens and not only one, as FEMA assumes.

³⁸ We note that among the documents that Mr. Carter provided to the FEMA panel, Carter at 5, was the "Evaluation of the Prompt Alerting Systems at Four Nuclear Power Stations," NUREG/CR-2655, PNL-4226, USNRC, September 1982, in which nighttime alerting was considered. However, this document did not come into evidence and we do not consider it here.

Tr. 9918. Neglect of this concurrent stimulation may amount to 4 decibels' underestimation or roughly 5% decrease in calculated arousal probability.

25. Comparison of the sound propagation contours in areas under the influence of only one siren shows that Applicants and FEMA are in reasonable agreement, with differences in the distance from the sirens to the 70-decibel contours of less than 10%. The Board finds general agreement on the physics of sound propagation and no real issue in this area.

26. Figure 1 is a Board tracing of a portion of Applicants' Exhibit 46 to illustrate the sound coverage of Applicants' siren system. In order to estimate the probability of household arousal when the inhabitants are asleep, the distribution of houses by sound levels must be found by counting the houses at the various sound levels and, then, those sound levels must be translated into household arousal probabilities. Applicants have carried out the house counting with the results shown in Appendix A to this decision (*see* pp. 411-413, *infra*).

D. Outdoor-Indoor Sound Attenuation

27. Applicants' witness Keast testified that different houses have different sound attenuation characteristics that are attributable almost entirely to whether the windows are open or closed and whether storm windows are in use. On the basis of acoustic measurements and demographic data from a survey of Harris EPZ, Mr. Keast prepared a table (Attachment 6, *see* pp. 411-412, *infra*) showing the fractions of the houses in the Harris EPZ having particular sound attenuation values and the indoor background noise levels to be expected in those houses. The Board finds Mr. Keast's table appropriately detailed and probative on this issue and we include Attachment 6 in Appendix A to this decision (pp. 411-412, *infra*). Keast at 6. The Board notes that with the nineteen different sound levels and eight different housing groups, the computation of the sound levels in the Harris EPZ bedrooms is straightforward, but more than a little tedious.

28. The FEMA witness, Dr. Nehnevajsa, testified that he simply assumed that 50% of the Harris EPZ houses would have windows open. Nehnevajsa at 15. Mr. Keast's empirically based testimony, based on actual field observations, refutes that assumption, and the Board finds that little or no weight should be given to Dr. Nehnevajsa's specific calculations of alerting to be expected in the Harris EPZ.

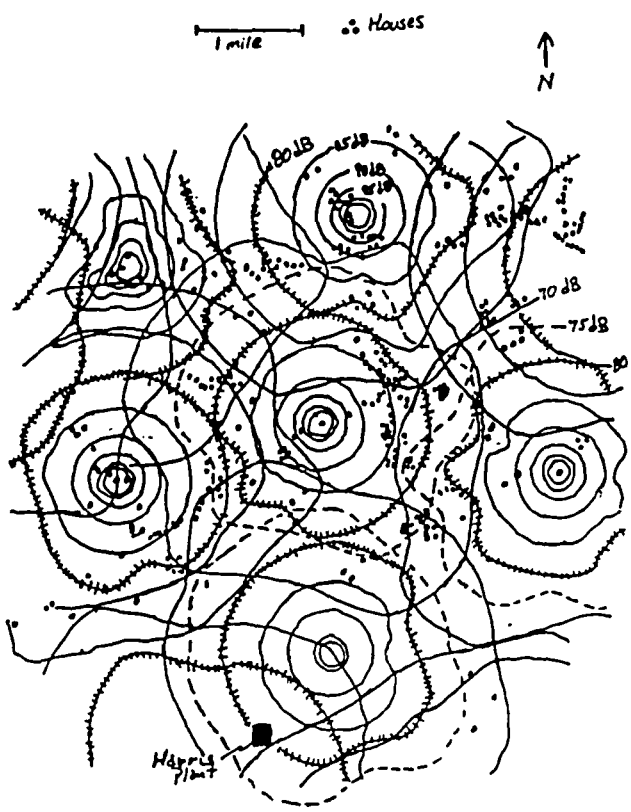


Figure 1. Siren sound-level contours for part of the Harris EPZ.

E. Probability of Alerting with Sirens

29. The next step in an analysis is estimation of how many people would be awakened by each particular bedroom siren sound level. Applicants' witness Keast utilized a report by J. S. Lukas of the Stanford Research Institute, which was published by the U.S. EPA in February 1977, as a basis for estimating arousal probabilities as a function of sound levels. This report, which was identified as Applicants' Exhibit 48, is entitled "Measures of Noise Levels: Their Relative Accuracy in Predicting Objective and Subjective Responses to Noise During Sleep" and is numbered EPA-600/1-77-010. Keast at 16-17.

30. The Board finds that the Lukas report is not an appropriate basis for predicting awakening responses to siren sounds. The research reports that Lukas compiled were mostly studies of responses of sleeping people to transportation noises (aircraft, trucks, and trains). The heterogeneity of this data grouping is reflected in the low correlation coefficient (0.5) between the various sound levels and the resulting awakenings. Since the variance in the noise levels only accounts for 25% of the variance in the awakenings, it is obvious that other factors that influence responses to noises (impulsive versus nonimpulsive, frequency spectra, etc.) are not adequately represented in the simple data treatment used by Lukas. The FEMA witness, Dr. Kryter, shared this view that "the Lukas work is merely the best fit to a hodge-podge of data, much of it having little or no relationship to siren sounds." Tr. 10,557.

31. In the January 16, 1986 Order concerning the limited reopening of the record, the Board expressed the tentative view that the data base for the Lukas report did not include sounds with frequency spectra that resemble the frequency spectrum of the Federal Signal Thunderbolt Model 1000 sirens to be used in the Harris EPZ. In response to our request for comments, Mr. Keast responded for Applicants in testimony dated February 21, 1986. ff. Tr. 10,471. Mr. Keast states "Lukas used the EPNdB rating scale in reporting his results," Keast at 4, and

[y]ears of research have gone into the development of the EPNdB rating scale. To the extent that research has been successful, it is not pertinent whether or not the actual spectra of sounds used for the Lukas study resemble those of sirens because the EPNdB scale provides adjustments for spectral differences.

Keast at 5. The Board cannot find that the "research has been successful" in view of the 0.5 correlation coefficient reported by Lukas.

32. Mr. Keast testifies further that "there are at least 3, and possibly as many as 6, studies included in Lukas that were based upon sleep

awakening by tonal sounds.” Keast at 5. We accept Mr. Keast’s observation, but he is only making the point that 3 to 6 out of the 22 studies in Lukas might be pertinent to siren sounds. If there were no other evidence before us on this issue, an appropriate strategy might be to consider only the few studies in the Lukas compilation that Mr. Keast identifies as possibly applicable to the Harris siren sounds. However, we find that other available studies more directly pertinent to the Shearon Harris siren sounds obviate the need to selectively analyze the Lukas compilation. We find no need to consider the Lukas report further.

33. The FEMA/NRC testimony on probability of awakening caused by siren sounds was presented by Dr. Karl D. Kryter. ff. Tr. 9690. The Board finds Dr. Kryter to be eminently qualified to address the issue, as described in his resume at the beginning of his testimony. Kryter at 1-3. We note in particular his authorship of the book “The Effects of Noise on Man,” 1st Edition, 1970, and 2nd Edition, 1985, which has been widely quoted and referenced.

34. Dr. Kryter’s testimony gives a useful perspective on the state of knowledge concerning siren-caused awakenings.

A relatively large number of research studies of sleep have been conducted. Because of the many variables involved it is difficult to interpret most of the results as being directly relatable to the problem at hand. However, a study by Horonjeff *et al.*³⁹ (hereafter “Horonjeff”) has considerable face validity with respect to sleep arousal by sound under real-life conditions and provides fundamental data suitable as a basis for predicting sleep arousal by siren alerting signals as used in the Shearon Harris EPZ.

Kryter at 9.

35. In the Horonjeff study, six females and eight males (ages 20-59, average age 42 years) were exposed to four different steady-state and transient noises when sleeping in their homes. The sounds were presented via loudspeaker, remotely controlled by telephone circuits, and the subjects when awakened pressed a button-switch next to their beds. The subject’s responses were also transmitted by telephone circuits back to a central laboratory location. Each of the subjects participated in the study for twenty-one consecutive nights. All subjects resided in single-family residences. Kryter at 9-10.

36. Three of the noises used by Horonjeff were predominately low-frequency “hum” type of noises (from distant road traffic, an air condi-

³⁹ R.D. Horonjeff, S. Fidell, S.R. Teffeteller, and D.M. Green, “Behavioral Awakening as Functions of Duration and Detectability of Noise Intrusions in the Home,” *J. Sound & Vib.*, 84(3), (1982), pp. 327-336.

tioner, and a simulated electrical power transformer). These noises have most of their energy in the 125-Hz band and little energy in the 500-Hz band where the peak of the siren sound occurs. Kryter at 10-15. The Board agrees with Dr. Kryter's rejection of the data for those low-frequency noises as not an appropriate basis for anticipating responses of sleeping people to siren sounds.

37. Only the transmission line (a "frying" corona discharge) noise had a spectrum with some similarity to the siren signal in the mid- to high-frequency region. Dr. Kryter points out that prior research results would lead to the expectation of greater response of humans to sounds in the higher frequency range and that this expectation is borne out by the results in the Horonjeff sleep arousal data in that the three low-frequency noises were substantially less arousing than the transmission-line corona noise. Kryter at 16.

38. A salient aspect of the Horonjeff study is the clear demonstration of the effect of sound duration, as well as intensity, on arousal probabilities. For example, exposure to the transmission-line corona noise for 15 minutes at 60 dBA caused 50% arousal in contrast to 33% arousal at 60 dBA max for the transient with a rise/decay rate of 2 dB/sec. Thus, a most useful measure of the sound stimulus would reflect the combined effect of sound level and time duration. In Dr. Kryter's view, the appropriate measure is the single-event level (SEL).

$$\text{SEL} = \text{dBA} + 10 \log \text{time in seconds.}$$

Kryter at 19.

39. The sound levels computed by Applicants and FEMA are presented as C-weighted sound levels (dBC). The Horonjeff data are presented as A-weighted sound levels (dBA), which reflects the ear's variable response as a function of sound frequency. For siren sounds,

$$\text{dBA} = \text{dBC} - 3$$

Lee at 24.

40. In Figure 2, the Board has plotted the data points from Figure 5A of the Kryter testimony. We find that the data can be fitted with a straight line if the ordinate scale is the normal or Gaussian probability scale, as did the Horonjeff study. This is in contrast to the linear scale in the Kryter Figure 5A, which requires a free-hand curve to approximate the locus of the data points.

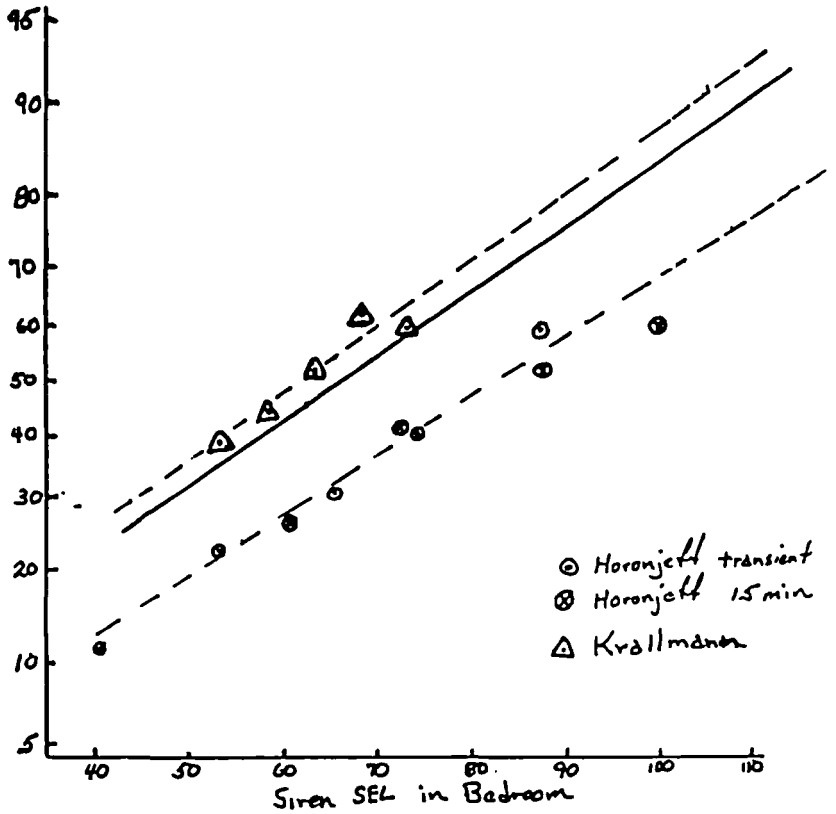


Figure 2. Arousal probability versus siren SEL. Solid line is Board estimate of arousal probability in Harris EPZ. See Findings 40, 43, 46.

F. Arousal Probability: The Krallmann Data

41. During the November 4-5, 1985 initial hearing, Applicants' arousal estimates were based on the Lukas report and FEMA's estimates were based on the Horonjeff data. During the hearing, Intervenor Eddleman was instrumental in bringing to the attention of the Board and parties the existence of a 1962 German study of the effectiveness of sirens in awakening sleeping people. The NRC Staff counsel subsequently had this research report translated into English and served on the Board and parties. By stipulation, this report entitled "Final Report: Studies of the Effects of Waking Signals on Sleepers with Different Depths of Sleep and Dispositions" (Institute for Phonetics and Communications, Research University of Bonn, 1962), authored by Dr. Dieter Krallmann,⁴⁰ was admitted into evidence and is identified as Eddleman Exhibit 74.⁴¹ Since the Krallmann report had the potential of a major contribution to the record on this contention, the Board requested that the NRC/FEMA staffs have the Krallmann research report reviewed by a suitable professional expert in psychoacoustics. Memorandum and Order, January 16, 1986. Dr. Kryter, the FEMA witness above, carried out the requested review (ff. Tr. 10,479) and cross-examination of his testimony formed a substantial part of the March 4-5, 1986 hearings.

42. The subjects in the Krallmann study came from a wide variety of work backgrounds, and were male attendees at a 1-week course at an air raid protection school in Germany. The subjects slept in individual bedrooms, with provisions for the simultaneous testing of up to twenty-four persons. Krallmann presented a siren signal for 45 seconds once per night — for 98 test nights — at a preselected steady level (40, 45, 50, 55, or 60 dBC) and time (midnight to 5:00 a.m., divided into 15-minute

⁴⁰ D. Krallmann, "Untersuchungen uber die Wirkung von Wecksignalen auf Schlafer verschiedener Schlafstufen und Dispositionen," University of Bonn (1962).

⁴¹ Following the initial hearing, there was a dispute among the parties over the admission into evidence without hearing or cross-examination of three documents: (1) a review of the prefiled testimony on nighttime alerting, including critical comments on informal alerting; (2) an article in *Power Engineering* about informal alerting by the principal author of the review; and (3) the German (Krallmann) study. The Board initially resolved that dispute by admitting all three documents, subject to possible objections from Mr. Eddleman, who had been unable to participate in discussion of the dispute. Memorandum of December 27, 1985. Mr. Eddleman subsequently pressed objections to admission of the *Power Engineering* article. At the reopened hearing, no dispute remained over admission of the German study, which was the subject of extensive cross-examination. The Board proposed a stipulation that both the *Power Engineering* article and the portion of the review concerning informal alerting be excluded from the record. The Applicants agreed with this proposal, but FEMA and Mr. Eddleman objected to it. Tr. 10,847-50. The Board finds these objections insubstantial in light of the developed record. FEMA does not need the *Power Engineering* article to impeach the review, on which we have not relied in any event. For his part, Mr. Eddleman is trying to have it both ways by relying on critical comments on informal alerting and seeking to exclude the *Power Engineering* article to prevent fuller scrutiny of those comments. Either both or neither of these documents should be admitted. In the absence of opportunity to cross-examine their author, both are excluded.

segments). The subjects were instructed to get up and push a switch near the bed when awakened. The number (617) and age range (16-71 years, average age 43.88 years) of subjects in the Krallmann study is much greater than in other research studies on sleep. ff. Tr. 10,479 at 4-5.

Depth of Sleep

43. It is known that the ease with which people are aroused from sleep is dependent upon the stage of sleep and, although these stages are somewhat cyclic throughout the sleep night, most of the deepest sleep periods occur within the first hours of sleep. However, these variables have not generally been controlled or systematically investigated in most sleep studies. For example, Horonjeff presented arousing signals scattered throughout the night but averaged the response data over the entire night. A significant feature of Krallmann's study is that the percentages of sleep arousal from the siren are reported for different clock hours during the night, from midnight to 5 a.m. The data show that the time period from midnight to 1:15 a.m. is one of minimum arousal compared to 1:30 a.m. to 5 a.m. ff. Tr. 10,479. The Board has plotted the Krallmann data for this time period of deep sleep and minimum arousal in Figure 2. Since the rest of the time period showed greater arousal, the use of this data would be conservative for the other time periods.

44. As may be seen in Figure 2, there is a substantial difference between the Krallmann and Horonjeff data, with the Krallmann data indicating about 17 decibels greater arousability. It is Dr. Kryter's view that this difference is attributable to fundamental psychoacoustic perceptual and physiological factors. First, the siren signal is more "salient" or noticeable (and sleep arousing) than the broader-spectrum test transmission line noise, even when equally loud. This is consistent with other research findings that the presence of some pure-tone frequency components in a broad-band noise caused that noise to be judged significantly more objectionable or noisy than broad-band noises of the same loudness; that is, a pure tone of a given level sounds "noisier" than a broad band sound having the same general center frequency and the same level. Research further indicates that an adjustment of approximately 9 decibels should be added to the dBA level of a 500-Hz siren signal in order to properly predict its judged "noisiness" as compared to that of a broad-band noise of the same dBA or PNdB level. The pure-tone components in the 400-500-Hz frequency region of the siren signal thus account for approximately 9 decibels of the difference between the

results of the Krallmann tests and those of the Horonjeff tests for a given SEL. ff. Tr. 10,479 at 8-11, 15; Tr. 10,504-05 (Kryter).

45. The remainder of the difference between the results of the two tests is attributable to the phenomenon of "habituation"; that is, when exposed over a number of test nights, subjects may become less likely to be awakened by a given sound level — they become "habituated" to it. As noted above, in the Horonjeff study, subjects were tested for 21 consecutive nights, whereas in the Krallmann experiment, each subject only participated for up to 4 consecutive nights of sleep (averaged to 2 nights). Research⁴² indicates that, had the Krallmann study continued for at least 14 nights (averaged to the seventh night), the arousability percentages would have dropped by approximately 10 percentage points, equivalent to about 8 decibels difference in SEL. Thus, when adjusted for both habituation and the saliency of the siren signal, the Horonjeff data are not inconsistent with the Krallmann data. Tr. 10,552-53, 10,561-62 (Kryter).

46. The Board takes the view that habituation as observed in studies (see note 42) where people slept in laboratory environments with EEG electrodes taped to their heads may be interpreted as arising from two commingled factors — that the subjects become used to the sound and also that the subjects become used to the strange sleeping conditions. We of course agree with Dr. Kryter's view that habituation of Harris EPZ residents because of exposure to the sound stimulus on many successive nights is not to be expected. However, the Krallmann subjects were not sleeping at home and might be expected to be somewhat more arousable in their test environment than people sleeping at home in the EPZ. Given the estimate above of an overall habituation effect equivalent to 10 percentage points, we ascribe the effect equally to both factors and conclude that the Krallmann data, when reduced by 5% in arousal probability, provides a conservative and realistic basis for anticipating arousal responses for sleeping residents of the Harris EPZ. This best estimate of the arousal function is shown as the solid line in Figure 2.

G. Effect of Age on Arousal Probability

47. Applicants' witness Keast testified that "the age of the sleeper is believed to be pertinent to probability of arousal from sleep. The tendency of people to be awakened by a sound increases with the age." Keast

⁴²B. Griefahn, and G. Jansen, "EEG-Responses Caused by Environmental Noise During Sleep — Their Relationships to Exogenic and Endogenic Influences," *Sci. Total Environ.*, 84(3), (1982), pp. 327-336.

at 17. However, Mr. Keast did not take any account of this factor in his computations of arousal for the Harris EPZ. The FEMA witness, Dr. Kryter, also testified that age is an important factor in that "it has been consistently found that younger people are more resistant to being awakened by sounds or noise than are older persons." Dr. Kryter references a paper by Griefahn and Jansen (*see* note 42, *supra*) that reported the number of EEG reactions (as percentages) varied with the age of the subjects as follows:

$$R(\%) = -7.3 + 1.43 \text{ Age} - 0.028 \text{ Age}^2 + 0.0002 \text{ Age}^3 \text{ (years)}$$

48. The first term on the right hand side of this equation reflects the fact that no or zero reactions were observed for children aged 0 to 7.3 years. As noted above, the average age of the subjects in the Horonjeff study was 42 years and Dr. Kryter suggests accepting these data to represent the 35-54-year age group and adjusting those data downward by 5 percentage points to represent the 18-38-year age group and upwards by 10 percentage points to represent the 45-75-year age group. Kryter at 20. This approach results in three different curves of arousal probability versus siren sound level in Kryter's Figure 7A. Moreover, we note that the FEMA witness, Dr. Nehnevajsa, did not utilize all of these curves in his computations. He did assume that only individuals 18 years of age or older contribute to the alerting potential; however, he states "this is not merely conservative, but somewhat unreasonable: certainly, young people who are 13 years of age or older would be, for the most part, in a position to interpret an alerting message, if aroused, so as to make sure that other family members are awakened as well." Nehnevajsa at 24.

49. The Board agrees with Dr. Nehnevajsa that his assumption that only 18-year-old or older people can be "alerted" is unreasonable. The Board feels that 12 years of age is a more realistic view of the age by which responsibility for alerting the household might be expected. Returning to the issue of the effect of age on probability of arousal, the Board takes the view that the following considerations are realistic but conservative. Using the equation from the Griefahn and Jansen reference, one can compute that the 12-34-year age group has a reaction or alerting tendency that is 0.71 times the alerting tendency of the 35-54-year age group. Similarly, the 55-75-year age group can be calculated as 1.73 times as likely to respond as the 35-54-year group.

50. The effect of the age differential response depends on the relative numbers of people at different ages in the population. The Board takes official notice of the 1980 Census of Population, General Population Characteristics, North Carolina. U.S. Department of Commerce,

PC80-1-B35, issued June 1982. According to Table 18, there are approximately twice as many people in the 12-34-year age group as there are in the 55-75-year age group. The Board finds that the factor of 2 greater relative abundance in the younger group approximately balances the greater responsiveness to be expected in the older age group. Therefore, the data for the 35-54-year age group, derived from studies with average subject ages of approximately 44 years, may be used to estimate the average arousal probabilities for the population aged 12 to 75 without significant error.

51. Age is an important consideration in evaluating arousal by households. Both Applicants and FEMA take the realistic view that, if one person in a household is aroused by the siren soundings, that person would alert all members of the household. Keast at 22-23; Nehnevajsa at 8. However, the Board cannot agree with Applicants' witness, Mr. Keast, that very young children will contribute to the household alerting. First, there is weak or near-zero response of the young to sounds while they are asleep. Secondly, the Board agrees with Dr. Nehnevajsa's view that "no one can assume that a 2-year-old or a 6-year-old or even maybe a 10-year-old if awakened from sleep by the alerting signal, could properly interpret the meaning of the signal and thus recognize that a threatening situation/an emergency is in the making." Nehnevajsa at 8. The Board finds Mr. Keast's calculations of probable alerting not to be realistic or conservative because of his persistent assumption that very young children are arousable and cognitive to the same extent as adults.

52. The quantitative effects of the Applicants' assumption may be seen from the following numerically simplified example:

- (1) According to Attachment C (*see* p. 413, *infra*) of Mr. Keast's February 21, 1986 testimony, ff. Tr. 10,471, the median outdoor sound-level coverage in the Harris EPZ is 82 dBC.
- (2) 82 dBC = 79 dBA.
- (3) According to Attachment 6 *see* pp. 411-412, *infra*) of Mr. Keast's October 18, 1985 testimony, ff. Tr. 9375, the weighted average sound attenuation for the Harris EPZ houses amounts to a 22.5-decibel loss from outdoors to the bedrooms. Median sound level in bedroom equals 56.5 dBA.
- (4) Assume four 3-minute periods of siren soundings. Keast *et al.*, at 24.

$$\text{SEL} = \text{dBA} + 20$$

$$\text{SEL} = 56.5 + 20 = 76.5 \text{ in bedroom}$$

- (5) From Figure 2 (solid line), the probability of arousal of one person at 76.5 SEL is 62%.
- (6) Consider 1000 houses, all with $P(\text{arousal}) = 62\%$ for one alertee.
- (7) Depending on what ages are considered as contributing to the household arousal potential, the following distributions of alertees by household would exist:⁴³

Household Size (alertees)	Applicant (all ages), %	FEMA (over 18 years), %	Board (over 12 years), %	
1	18.5	22	22	
2	29.5	59	50.1	
3	19.6	19	24.3	
4	32.4		3.6	

Household Size (alertees)	Alert Probability, %	Number of Houses Alerted		
1	62	115	136	136
2	85.6	253	505	429
3	94.5	185	180	230
4	97.9	317		35
	Total	870	821	830
			or	
		87%	82.1%	83%

⁴³ In Applicants' Proposed Finding 24 in the March 18, 1986 filing, there is some misunderstanding of our January 16 Order and of the FEMA testimony. Nehnevajsa at 4 and 31. Dr. Nehnevajsa accepted the Donnelley Marketing Information Services data on the household sizes in the Harris EPZ as does the Board. Then Dr. Nehnevajsa used his own research results as a basis for estimating the age structure in the households and the Board accepts and utilizes those data. However, we combined the one person "alertee" data for each of the various household sizes; i.e., 18.5% households with one alertee plus 1.8% of the two-person households with only one alertee (over 18 years) and 2% of the three-person households with only one alertee sums to approximately 22% of the total households having one alertee.

Here we go further and estimate the percentage of households having one, two, three, or four alertees by assuming the three-person households that Nehnevajsa shows as 11.3% at two alertees should be increased by one-third or 3.8% to reflect that one child out of three can be expected in the 12-18-year age range. For the four-person households, we derive the distribution of alertees by treating these households as having two persons over 18 years and two children under 18 and that the probability that both children are 12 years or older is 1/9, one child is 12 or older is 4/9 and that both children are under 12 is also 4/9.

53. The differences in calculated household alertings with the different assumptions are not fixed quantities, but become larger as the probability of alerting becomes smaller and they become smaller as the probability of alerting becomes larger. For example, with a one alertee probability of 50% instead of 62%, the Applicants' assumption produces an estimated household alerting of 78.8% versus 71.8% with FEMA's assumption. Also, we note that FEMA's consideration of only those 18 years or older yields a lower estimate than the Board's approach with the 12-year-old or older persons, but the difference is not large and, for this example, amounts to 0.9%.

H. Resulting Estimate of Siren Alerting

54. As described above, the Commission has endorsed different standards for the first 5 miles of an EPZ and the 5-10-mile part of an EPZ. At the Board's request, Applicants' witness, Mr. Keast, carried out computations of households awakened by sirens in these two regions of the Harris EPZ. ff. Tr. 10,471, Attachs. A, B, and E. Mr. Keast found that "awakening percentages inside of 5 miles, outside of 5 miles and for the entire EPZ are all within about 1% of each other when the same computational methods and assumptions are applied." *Id.* at 11. The Board accepts this conclusion for the Harris EPZ.

55. Mr. Keast calculated that 82.5% of the households within 5 miles of the Harris plant would be awakened by the sirens, using the Krallmann arousal probabilities and the Board's tentative assumption that was predicated on the FEMA household alerting potential, which assumed only 18-year-old or older persons would contribute to the alerting potential. ff. Tr. 10,471, Attach. E. As described above, we believe that the FEMA assumption is unrealistic. However, the quantitative effect of assuming, more realistically, that 12-year-old or older persons would contribute increases the estimate only by approximately a 1% increment. We therefore find the probable arousal in the Harris EPZ caused by sirens under summer nighttime conditions to be 83.5%.

56. Both Applicants and FEMA testified that some people are awake during the midnight to 6 a.m. hours and would hear the sirens. We find Mr. Keast's testimony, based on a survey by the Arbitron Rating Service, to be more credible for the Harris EPZ than the University of Michigan study used by FEMA based on a national sample. Keast at 9; Nehnevajsa at 11. Mr. Keast testified that 3% of the people in the Harris EPZ can be expected to be awake between 1 a.m and 6 a.m. Assuming that the people who are awake are distributed one to a house and that the

average number of people in the Harris EPZ houses is two, the existence of 3% of the people awake corresponds to 6% of the households having a person awake. The unaroused households amount to roughly 20%, so that 6% of this group amounts to approximately 1% additional households that would be alerted in response to the sirens. Thus, 83.5% plus 1% amounts to 84.5% of the households alerted by the sirens. This represents the Board's estimate of siren arousal on this record.

I. Informal Alerting

57. Both Applicants and FEMA presented testimony on "informal alerting," which is a term used to connote the arousal of those households not alerted by the sirens but alerted through phone calls or direct personal contact with those who have been alerted by the sirens. Applicants' witness, Dr. Mileti, testified that informal notification is a very typical public response to emergency information and warnings and it is a phenomenon that is well documented by social science research. Keast *et al.*, at 28. Dr. Mileti refers to two studies that provided quantitative estimates of "informal alerting." The first of these reports⁴⁴ states that, for the 1981 Mt. Saint Helens volcanic eruption, approximately 30% of the residents closest to the volcano first learned of the eruption from personal observation and they alerted an additional 38% within 15 minutes. The second incident was "the 1972 Rapid City, South Dakota flood, which occurred at night when many people were asleep; 75% of the population receiving a first warning or alert responded by engaging in additional communication; over half of these (some 40%) engaged in activities that would translate into informal notification." Mileti at 35-36. Dr. Mileti assumed that 30% of those formally alerted "naturally" would engage in informal notification. Mileti at 34.

58. Dr. Mileti testified further that the rate of informal alerting could be "facilitated" by incorporating into the emergency broadcast system (EBS) messages some simple words to the effect that "if your neighbors' house is dark, wake them." Mileti at 38. Mr. Joyner of the North Carolina Division of Emergency Management testified that the initial EBS messages for broadcast in the event of a nighttime emergency at Harris will include such an instruction. Joyner at 41. Dr. Mileti, on the basis of this commitment, assumes that 80% of those directly alerted would participate in informal alerting. Mileti at 39-40.

⁴⁴ M. Lindell *et al.*, quoted in *Planning Concepts and Decision Criteria for Sheltering and Evacuation in a Nuclear Power Plant Emergency*, Washington, D.C.: Atomic Industrial Forum, 1985, at 5-16.

59. The FEMA witness, Dr. Nehnevajsa, testified that he had conducted a survey in the Pittsburgh area following a June 1985 tornado and that "87.5% of survey respondents expect that people in their area would be contacting others to make them aware of an impending danger and just as many respondents claim that they would expect that someone would try to contact them under such circumstances." Dr. Nehnevajsa assumes that 50% of the alerted households would contact others. Nehnevajsa at 16-17.

60. The Board recognizes that the data base that the witnesses submit is largely anecdotal and not very robust. The South Dakota flood at night is the most pertinent to the issue before us. The Pittsburgh study is not persuasive because it involved an abstract question about what people expected in an emergency, not what they had actually done. In those circumstances, we would expect virtually everyone to say "Yes, I will warn my neighbor in an emergency." None of these studies provide any hard data on how quickly informal notification takes place at night when people are asleep. In that regard, the EBS message to encourage informal alerting seems helpful, but, within the context of a 15-minute time period, some of the people who are aroused may be sluggish and activities such as putting on clothing, visiting the bathroom, etc., can be expected to produce some delay. Any estimate of the extent of informal alerting has substantial uncertainty. However, the Board finds the assumption that 50% of the alerted households would engage in such activities is a reasonable and, perhaps, conservative estimate.

J. Effect of Sirens and Informal Alerting

61. With a direct siren alerting of 84.5% and 50% participation in informal alerting, 42.3% of the households would be engaged in awakening others. This 42.3% might successfully alert a nonalerted household 15.5% of the time (84.5% of the time an already-alerted household would be contacted), thus, alerting 6.7% more of the households. The resulting total alerting in 15 minutes would be approximately 91%, if no other alerting mechanisms were operative.

K. Mobile or Route Alerting

62. In addition to the fixed siren system, emergency response officials would provide additional public notification of an emergency through an extensive system of mobile alerting throughout the entire EPZ. Thus, in all four counties within the EPZ, vehicles with flashing

lights, sirens and/or public address systems would be dispatched to provide additional public warning by driving predesignated routes within the EPZ. Keast *et al.*, at 26.

63. Based on experience, the State of North Carolina is confident that the flashing lights, sirens, and/or PA systems of mobile alerting vehicles passing throughout the EPZ would alert most households which might not have heard the fixed sirens. A specific illustration of the use of mobile alerting is the November 1977 evacuation of between 400 and 500 people in Clyde, North Carolina, due to a flash flood. Beginning at about 2:00 a.m., using two police cars and a fire truck, emergency officials completed public notification within approximately 30 minutes. Keast *et al.*, at 27.

64. Applicants' witness Joyner testified that there are not sufficient resources available to complete mobile alerting within 15 minutes and that the times for completion of route alerting would range from approximately 20 to 45 minutes, depending on the subzone. (These times include the time needed for emergency personnel to reach their duty posts to begin the notification process). Joyner *et al.*, at 26-27. Because many of the routes commence in populated areas (where the mobile alerting vehicles are routinely stationed and therefore readily available), 30 to 40% of the households in the EPZ could be covered via route alerting within 15 minutes in the 5-10-mile area. Tr. 9583 (Joyner). We believe that these time estimates may be somewhat optimistic for nighttime alerting, should it be necessary to arouse some fire and police personnel. In any event, Applicants concede that, due to resource limitations, mobile alerting is not a means by which they seek to comply with the 15-minute requirements. Appl. PF 39, n.24.

65. Following the initial fixed-siren and mobile-alerting warnings, mobile-alerting personnel would drive back over their routes to confirm public notification, stopping to give personal notification at houses which are still dark. In addition, law enforcement and other official vehicles would be in the area to ensure complete evacuation or other protective action, and to provide security. They will be instructed to check premises where no protective action activity is evident. Keast *et al.*, at 41; Tr. 9596-97 (Joyner).

L. Tone Alert System Within the First 5 Miles of the EPZ⁴⁵

66. In our Order of January 16, 1986, the Board requested that the Applicants provide information on a system which might supplement the siren system within the first 5 miles of the EPZ. Memorandum and Order at 10-11. At that time Applicants had not proposed any system in addition to the sirens in that area. During a conference call the Applicants informed the Board that they intend to supplement the siren system within a 5-mile radius of the plant with tone-alert radios for each household. Tr. 10,269.

67. Applicants and Intervenor Eddleman offered testimony on this issue. The Applicants presented the testimony of Mr. H. Ralph Goodwin, Mr. Alvin H. Joyner, Mr. David N. Keast, and Mr. Dewey B. Overman II, on this matter. "Testimony of H. Ralph Goodwin, Alvin H. Joyner, David N. Keast, and Dewey B. Overman II on Eddleman Contention 57-C-3 (Nighttime Notification)," ff. Tr. 10,723 (hereinafter Goodwin *et al.*). Intervenor Eddleman offered the testimony of Mr. Jesse Riley. Eddleman Exh. 75. The majority of Mr. Riley's testimony was stricken. However, one paragraph was admitted without cross-examination. Tr. 10,708-09.

68. Mr. Goodwin is employed by Applicant Carolina Power and Light Company as a Senior Specialist, Emergency Preparedness. Goodwin *et al.*, at 2. In connection with this issue, Mr. Goodwin was responsible for coordinating the development of information concerning means to supplement the public notification provided by the existing siren system in the Harris EPZ, including the tone-alert radio system proposed by Applicants. *Id.* Mr. Overman is employed by Carolina Power and Light Company as a Principal Engineer-Telecommunications Engineering. *Id.* at 3. He is responsible for, among other things, reviewing vendor proposals for communications systems, preparing specifications, and planning, scheduling, and procuring the systems. *Id.*

69. After conducting an evaluation of the possibility of distributing tone-alert radios to all households within a 5-mile radius of the Harris Plant, Applicants have concluded that such a system would be a practical means to provide timely notification to the targeted households, and that such a system would provide excellent coverage in order to alert people in this area at night. Goodwin *et al.*, at 4-8.

70. The factors Applicants considered in their evaluation were the ability of the system to provide broad, rapid coverage; public reaction to

⁴⁵ The Board finds many of NRC Staff/FEMA proposed findings on this part of the record to be accurate and succinct and we have adopted many of them.

the proposed system, its technical feasibility; the time required for installing such a system, and its cost. Goodwin *et al.*, at 4.

71. In determining whether it would be feasible to distribute tone-alert radios within a 5-mile radius of Harris, Applicants found that the area is within the primary coverage of two transmitters already maintained by the National Weather Service (NWS) for use in transmitting routine weather forecasts and alert signals in the event of an emergency weather condition. *Id.* at 6. Applicants also found that there were receivers commercially available which were capable of receiving the NWS alert signals. *Id.* The National Weather Service, which is an agency of the National Oceanic and Atmospheric Administration (NOAA), provides continuous weather forecasts from facilities at the Raleigh-Durham Airport which control transmitters in Durham and Fayetteville, North Carolina. Goodwin *et al.*, at 15. The NWS has agreed to broadcast an alert signal from these transmitters which would activate the tone-alert radios in the event of an emergency at Harris requiring public notification. *Id.*

72. Applicants have performed tests and measurements to determine whether the signals from these transmitters would be adequate to activate the tone of the radio. Goodwin *et al.*, at 15. They employed several of the receivers they have chosen to use for the program to determine through a receiver sensitivity test the minimum amount of signal which would be required to set off the alarm. *Id.* Field strength measurements were taken to determine the amount of radio signal present at a given location. These measurements were taken of signals from both transmitters. Numerous locations considered to be representative of the propagation conditions in the 5-mile radius were selected for the taking of measurements. These measurements were taken during the day and at night between the hours of 1:00 a.m. and 6:00 a.m. They were taken at low ground elevations where homes are located. Measurements were also taken inside homes during the day. *Id.* at 16. These measurements were compared with the frequency strength, and it was found that the signal strength at every location exceeded the level necessary to set off the alarm by a considerable margin. *Id.*

73. The radio chosen for use by Applicants is the Realistic Weatheradio Alert III Model No. 12-140, manufactured for Radio Shack, a division of Tandy Corporation, or one with comparable features. Goodwin *et al.*, at 10. This receiver is capable of operating on house current or on a 9-volt battery as a backup. If power to the radio is interrupted, it automatically switches to the battery and continues to operate. *Id.* When in an alert standby position, the receiver is capable of automatically sounding an alarm tone and voice message upon receipt of the radio signal

from the NWS. *Id.* The receiver can operate on any of three frequencies which the NWS uses. *Id.* at 10-11. The alarm on the receiver operates at full volume regardless of the volume setting for the voice message. *Id.* at 11. The receiver has an alert lock feature which causes the alarm to sound continuously until manually reset. There is a test button on the receiver to allow the owner to check for proper operation of the alarm at any time. *Id.* Applicants have determined that the receiver they have chosen is available in sufficient quantities and within the time frame needed to implement the program. *Id.* at 6. Applicants' witness estimated that the radios could be procured within about 30 days, thus allowing the implementation of the program before the Harris fuel load date. *Id.* at 8.

74. Applicants testified that the use of a system relying on the NWS system would be advantageous, because the NWS system has already received wide public acceptance. In addition, many individuals will already be familiar with the system in connection with weather alerts. Goodwin *et al.*, at 9. The NWS system has been in use across the country for approximately a decade, and is a proven technology. *Id.* Applicants' witness testified that as of 1983, 46 million radio receivers had been sold since 1978, and that NWS continues to report high levels of public support. *Id.* at 10. Applicants expect this system to be popular with Harris area residents because of its utility on a routine basis in connection with the agricultural and recreational activities within the EPZ. *Id.*

75. In evaluating the cost of such a program, Applicants determined that it would cost approximately \$28,000 to purchase radio receivers for all households within a 5-mile radius of Harris and an adequate number of spares. Although Applicants have not calculated the precise costs associated with the distribution of radios and the development of a public information program to educate the residents, they estimate that the initial distribution would cost about \$27,000, and the development of the public education program would cost about \$25,000. Therefore, the establishment of the system would cost approximately \$80,000. Goodwin *et al.*, at 7. This cost estimate does not include the costs of maintaining and repairing the receivers, replacing them, and maintaining an ongoing public education program. *Id.*⁴⁶

⁴⁶ The Board initially called for cost information on a proposed supplemental system because the Commission's interpretive statement discussed above appears to make "cost-effectiveness" potentially relevant. In the circumstances of this case, however, we ruled at the supplemental hearing that cost-effectiveness and comparisons to other possible systems (e.g. telephone alert systems) are irrelevant, and excluded them from the hearing. Tr. 10,440-62. As a general proposition, a license applicant is entitled to choose among systems to meet Commission requirements, including emergency planning notification requirements. If an Applicants' proposals clearly meet Commission requirements, there is simply no reason to consider the comparative cost-effectiveness of other systems. We understand the Commis-

(Continued)

76. During the hearing, Intervenor Eddleman had questions concerning Applicants' ability to ensure operability of the receivers over time, and the speed with which problems with the radios would be detected. Applicants' witnesses first discussed the maintenance program CP&L intends to institute. All receivers will be tested before distribution to make sure they meet sensitivity specifications and that they are in good working order. Goodwin *et al.*, at 21. If upon receipt the receiver does not appear to work, the resident will be able to call the company. A company representative will talk with the resident to determine whether the radio is properly situated and adjusted. If it is determined that the radio is not working, it will be replaced promptly. *Id.* The receivers will be tested at least annually. NWS will send a signal at a designated time, and residents will be asked to monitor their receivers. If they are inoperable, residents will be able to get them replaced or repaired by dialing a designated phone number. *Id.* at 20. Batteries will also be mailed to residents annually with instructions on how to replace the old battery. *Id.* at 21. In response to a comment by the Board during the hearing, Counsel for Applicants committed to maintain a list of those persons whose radios are being repaired or replaced, and notify them by telephone in the event of an emergency. Tr. 10,874 (Hollar).

77. Applicants' witness testified he did not believe problems with radios would go undetected for long periods of time for several reasons. First, there is a red light denoting the radio is operating properly and awaiting the alert tone. Also, Applicants' witness noted the existence of the self-test feature. A resident can also depress the weather bar to obtain a broadcast. Tr. 10,875-76 (Overman). In addition, NWS has 20 to 25 alerts per year during which it broadcasts an alert tone. Finally, NWS sends out a test tone weekly between the hours of 11:00 a.m. and noon. Tr. 10,876-77 (Overman).

78. Applicants also described in detail their proposal for distribution of the receivers and the public education program they intend to institute. Applicants will use maps to establish the 5-mile-area boundary. Lists of customers will be developed and verified by a field survey. Each account in the area will be given a code which will be entered into the Applicants' computer. The code will appear on meter-reading documents which will enable readers to confirm that each residence in the 5-mile area has been identified. Goodwin *et al.*, at 17. Electrical inspectors and

sion's "cost-effectiveness" reference to refer to a situation, for example, where a proposed notification system might be considered only marginally satisfactory (e.g., 80% alerting on the 5- to 10-mile zone, where no fixed percentage has been specified) and some more expensive system might substantially increase alerting. That is not this case. We include the cost data in the text as a matter of general interest.

field engineering work required for the establishment of electrical service will allow the early identification of new dwellings. *Id.* When a customer disconnects his or her service the code will remain on the account record. When another customer applies for service, a message will appear on the computer and a receiver will be made available to that customer. *Id.* at 17-18. Records will be maintained to show the date of distribution of a receiver, the date of issuance of the last replacement battery and how many batteries have been used. *Id.*

79. Contact will be made with a responsible adult by a company representative trained to explain operation of the receiver, to suggest the best location for it, and to answer questions about operation of the program. Goodwin *et al.*, at 18. Public information about operating location and maintenance instructions will also be in materials distributed to the residents. *Id.*

80. As an ongoing public information method, operational pamphlets will be distributed to residents annually. Goodwin *et al.*, at 19. The safety Information Calendar and the Children's Brochure will be revised to contain information about the radios. The Harris newsletter distributed about the time of distribution of the radios will contain information about the tone-alert radio program, and the newsletter will periodically remind people of important information about the program. *Id.* at 19-20. Before distribution there will be a release to the news media. *Id.* at 20.

81. Applicants have measured the sound pressure level produced by the tone-alert radios and reported 79 dBA for the continuous tone at a distance of 42 inches. ff. Tr. 10,723, Attach. C. Operation of the receiver for 15 minutes would produce an SEL of 109 decibels. Using the arousal probability shown in Figure 2 and the household structure above (Board Finding 52), the Board calculates that 97.3% of the households would be alerted by the tone-alert radios alone.

82. In a FEMA-sponsored telephone survey of the population within the Fort St. Vrain EPZ, it was found that 13.6% of the survey respondents were not using their tone-alert radios properly. Keast at 14. In view of the Applicants' public education and information program, we find no basis for anticipating that use failure at Harris would be greater than at Fort St. Vrain. This 13.6% might reduce radio alerting to approximately 83%. However, 91% of the 17% not alerted by the radios would be expected to be alerted independently by the sirens and "informal" alerting. That 91% multiplied by 17% increases the percentage of persons alerted by 15.5%, so that the overall alerting level would be 98.5%. The Board concludes that the independence and partial redundancy of the siren and

radio systems demonstrate compliance with the requirement of “essentially 100%” alerting in 15 minutes in the first 5 miles of the EPZ.

M. Proposed Findings of Intervenors

83. The Attorney General of North Carolina filed proposed findings of fact on December 16, 1985, and supplemental findings on the reopened record on March 19, 1986. We have considered those proposed findings and perceive that the bulk of the issues raised are fairly covered in the Board’s findings. The only point meriting comment is in Proposed Finding 22 that reads “[w]e do find deficiencies in nighttime notification and hereby conclude that neither Applicants’ modified plan nor the FEMA 43 criteria give proper assurance of the achievement of a satisfactory level of nighttime alerting,” as a conclusory statement. The standard for alerting has been described in our regulatory framework summary. We find the Applicants’ provision of sirens and tone-alert radios meets the Commission’s requirements and, thus, does “give proper assurance.” The Attorney General’s office should be aware that this licensing proceeding is not a forum for challenging the Commission’s rules.

84. Intervenor Eddleman’s proposed findings have a similar thrust but, also, are lacking in analysis of the record to document noncompliance with the regulatory framework. His concern, as stated most clearly in Proposed Finding 8, is with “the 5 to 10 mile doughnut around the plant, where tone-alert radios or other primary alerting systems will not be used.” The siren and informal alerting will alert about 90% of this area in 15 minutes. Furthermore, he neglects to consider that this zone is well covered by route alerting which can alert some unaroused households within 15 minutes and virtually all households within 45 minutes.

N. Summary of Conclusions

Based on the record as finally developed, the Board finds that direct alerting by the siren system can be expected to be approximately 84% of the EPZ households and that, with consideration of “informal” alerting, siren-induced alerting would total approximately 91% throughout the Harris EPZ in 15 minutes. That 91% figure clearly satisfies the 15-minute notification requirement for the 5- to 10-mile outer area of the EPZ. In addition, route alerting with police and fire vehicles is an integral part of the Harris emergency plan. It would cover 30 to 40% of the Harris EPZ population in 15 minutes (most of whom would already be alerted) and can be completed in about 45 minutes. With the route alerting and con-

tinued "informal alerting," we find that the required "essentially 100%" coverage of the entire EPZ can be completed in 45 minutes.

With respect to the first 5 miles of the Harris EPZ, the Board finds that the combined effect of sirens and informal alerting — 91% — does not satisfy the required "essentially 100%," which we equate with greater than 95%.⁴⁷ However, as described above, Applicants' proposed use of tone-alert radios in combination with the siren system and, with consideration of the effects of "informal alerting," should result in an aggregate alerting level of 98.5%. The Board concludes that the independence and partial redundancy of the siren and radio systems demonstrate compliance with the requirement of "essentially 100%" alerting in 15 minutes in the first 5 miles of the Harris EPZ.

III. SUMMARY DISPOSITION RULINGS ON EDDLEMAN EPX-2 AND EPX-8

The history of Intervenor Wells Eddleman's EPX contentions is set forth in detail in the Board's Partial Initial Decision on Emergency Planning and Safety Contentions, LBP-85-49, 22 NRC 899, 908-10 (1985). Suffice it to say herein that twelve contentions concerning the full-participation emergency plan exercise conducted May 17-18 for the Harris facility were submitted by Mr. Eddleman. Of these, two, EPX-2 and EPX-8, were judged possibly to indicate a "fundamental flaw" in the plan, and were admitted into litigation.

On January 13, 1986, the Applicants, Carolina Power and Light Company, *et al.*, moved for summary disposition of both contentions. The motions were supported by the Staff/FEMA. Mr. Eddleman replied to the motions on February 18, 1986, and later on March 12, 1986. The latter reply was agreed to by the parties and approved by the Board.

The Board granted the Applicants' motions in a Summary Order dated March 19, 1986, stating that our reasons would be given in this decision. The Board reviewed these presentations and found that no "fundamental flaw" in these parts of the emergency exercise was exposed. The exercise did serve to point out that problems did exist, but the steps which have

⁴⁷ While Applicants maintain that the Harris siren system is all that is necessary for regulatory compliance, we note that we would be unable to blink the issue, not encompassed within Eddleman Contention 57-C-3, concerning 15-minute alerting within 5 miles during nighttime *in the winter* when essentially all windows might be closed and direct siren alerting might be less than 80%, if the independent and effective tone-alert radio system were not planned for the Harris EPZ. Absent that supplemental system, we might have raised a winter nighttime issue on our own motion. See 10 C.F.R. § 2.760a.

been and will be taken by the Applicants and the various agencies involved provide reasonable assurance that adequate measures can be taken in the respects raised by the contentions to protect the public health and safety in the event of a radiological emergency at the Harris Plant. We therefore granted the motions for summary disposition. Our discussion follows.

A. Eddleman Contention EPX-2

Contention EPX-2, as admitted by the Board, is as follows:⁴⁸

Communications deficiencies revealed in the exercise could have severe bad effects in a real emergency, including lack of effective communications and radiation monitoring results, lack of contact with field and ground units, etc. Specifically:

- (1) The emergency inter-system mutual aid frequency was so overloaded the state's communications evaluator stated it was "proved there could be absolutely no communication with ground units on this frequency due to constant misuse."

Other examples:

- (2) The Highway Patrol evaluator found "communication inadequacies; equipment . . . is not yet capable of adequately handling the impact of so many units responding to an emergency of this type";
- (3) Harnett County had "insufficient telephones";
- (4) "[E]xtra radio traffic overloaded personnel on duty" in Chatham County;
- (5) "excessive delays" in Emergency Medical services office receiving messages from SERT (State Emergency Response Team);
- (6) Communications from the mobile radiation lab had to be relayed to base station at times, which "always introduced the possibility of delayed and/or incorrect information" according to the State Radiation Protection Section Evaluator.

Applicants' motion was supported by affidavits by Dayne H. Brown, Chief of the Radiation Protection Section of the Division of Facility Services, Department of Human Resources of the State of North Carolina; William Ethridge, a Captain of the North Carolina Highway Patrol and Director of the Research and Planning Section; Alvin H. Joyner, Lead Planner for Fixed Nuclear Facilities for the North Carolina Department of Crime Control and Public Safety, Division of Emergency

⁴⁸ For clarity, we follow the Applicants' form of presentation; the wording is essentially identical to the original.

Management (DEM); and Mark Scott, Coordinator of Emergency Management in the Chatham County Office of Emergency Services.

Subpart 1

The emergency inter-system mutual aid frequency was so overloaded that the State's communications evaluators stated it was "proved that there could be absolutely no communications with ground units on this frequency due to constant misuse."

The problem encountered here was caused by the use of a radio frequency of 155.280 MHz for all radio traffic directly related to the Harris exercise. This Special Emergency frequency is also used in North Carolina by rescue squads. Joyner Affidavit, ¶ 4. It also appears that the evaluation of this part of the exercise was being conducted in a helicopter in flight over the EPZ. The helicopter, due to its altitude, most probably was picking up many transmissions which would not have been received on the ground. The emergency personnel were also using tone-encoded radios; the helicopter was not. Tone-encoded radio equipment prevents interference from unwanted signals by blocking signals from radios other than those used by a particular response agency. Joyner Affidavit, ¶¶ 5-6. Additionally, all the public services in the Harris EPZ have multiple frequencies which can be used. If necessary, the State or any of the counties concerned could come on the 155.280 MHz channel and direct traffic to move to other channels. Joyner Affidavit, ¶ 7.

It appears to the Board that the evaluator was placed in a situation where a realistic evaluation of the radio traffic perceived by emergency exercise personnel on the ground was not possible. In any event, we find that the use of tone-encoded radio equipment and the ability to clear the 155.280 MHz channel if necessary obviates any difficulty due to message traffic density in radio communications during a radiological emergency.

Subpart 2

The Highway Patrol evaluator found "communications inadequacies; equipment . . . is not yet capable of adequately handling the impact of so many units responding to an emergency of this type."

The specific difficulties encountered by the Highway Patrol were delays in communication through Raleigh Radio and difficulties encountered by the Highway Patrol representative in the Harnett County Emergency Operations Center (EOC). Ethridge Affidavit, ¶ 2. Captain Ethridge explains that Raleigh Radio, which is the Highway Patrol base

station, handles traffic from other state and federal agencies which deal in law enforcement matters. The total traffic is handled by two telecommunicators. Ethridge Affidavit, ¶ 3.

Two frequencies in addition to the normal four frequencies used by Raleigh Radio were added to handle the exercise traffic. However, some minor delays in exercise messages were experienced because the telecommunicators gave priority to actual situations and emergency messages rather than exercise messages. They were also handling messages from some 450-500 vehicles, approximately 100 more than the normal contingent, which also contributed to minor delays. Ethridge Affidavit, ¶¶ 4-5. Had there been a real radiological emergency, there would have been no difficulty in adding more radio channels and telecommunicators to handle increased radio traffic. Ethridge Affidavit, ¶ 5.

The difficulties encountered at the temporary Harnett County EOC resulted from inadequate telephone capacity. This required the Highway Patrol representative to use radio to receive and transmit information. Ethridge Affidavit, ¶ 6. Harnett County is currently developing a permanent EOC which will have improved telephone capability, and it is expected that the facility and its equipment will resolve any problems which were experienced during the exercise. Ethridge Affidavit, ¶ 7.

Captain Ethridge found no other problems during the exercise which would interfere with the ability of the Highway Patrol to function properly during an emergency. Ethridge Affidavit, ¶ 8. Given this assurance, and in view of the upgrading of the communications capability discussed above, the Board finds there is reasonable assurance that the Highway Patrol will be able to carry out its duties in an emergency.

Subpart 3

Harnett County had "insufficient telephones."

As we noted in our discussion of Subpart 2, difficulties were experienced at the Harnett County EOC. The problem arose because of the temporary EOC which was set up for the exercise; only three telephone lines were available to emergency workers. It is agreed that these were insufficient. Joyner Affidavit, ¶ 11.

Harnett County, with the cooperation of DEM, is developing a permanent EOC. DEM is studying the telephone needs of the permanent EOC, and it is currently envisioned that eleven telephone lines will provide adequate service. CP&L is providing financial support for the additional lines, and the permanent EOC will be in operation prior to full-power operation of the Harris Plant. Joyner Affidavit, ¶ 12.

The Board finds that this action should correct the telephone problem in Harnett County.

Subpart 4

“[E]xtra radio traffic overloaded personnel on duty” in Chatham County.

This problem arose at the start of the exercise. Only one radio dispatcher (the normal staffing level) was on duty at the time. When the radio dispatcher on duty was notified that the exercise had started, he correctly followed a call-in procedure to obtain help. The call-in personnel arrived within about 10 minutes. The staffing level was then two radio dispatchers and two other dispatchers to handle telephone communications. This level of staff adequately handled all the traffic which took place over the 2-day exercise. The traffic overload was thus for only approximately 10 minutes. Scott Affidavit, ¶ 4.

As a result of the exercise, Chatham County has augmented its dispatching staff. At those times when traffic is normally the heaviest, there will now be two full-time radio dispatchers on duty. This should preclude the necessity of the immediate call-in of additional personnel, although the County will still maintain a call-in list in case such personnel are needed. The County has also installed a repeater station to handle fire dispatching, thus removing some emergency traffic from the load carried at the dispatch center. Scott Affidavit, ¶ 6.

The Board concludes that the measures taken by Chatham County will assure the timely handling of radio traffic in their part of the EPZ.

Subpart 5

“Excessive Delays” in Emergency Medical services office receiving messages from SERT (State Emergency Response Team).

The evaluation which is the basis for this subpart of the contention resulted from a single, albeit very important, message. The OEMS representatives at the State EOC were not informed of a briefing to be held in which the announcement of a radiological release from the Harris Plant was to be simulated. Under real conditions this would be very important information for OEMS. Joyner Affidavit, ¶ 8.

The central room at the State EOC is surrounded by a ring of offices occupied by the State agencies making up the SERT. Communications between the EOC and the State agencies is by means of a public address system for general announcements and EOC personnel who act as “message runners” for special or important messages. Somehow, this

system failed to alert the OEMS representatives to the briefing which was to be held. Joyner Affidavit, ¶ 9.

To avoid the recurrence of this situation, DEM is instituting new procedures for message runners which will require a direct acknowledgment in writing (signatures or initials) from the recipients. The acknowledgment will then be reviewed by the message control office. Joyner Affidavit, ¶ 10.

Although superficially the message-runner method of communication might seem somewhat anachronistic in today's high-technology world, the Board finds that in this particular situation, and with the verification of receipt which is being implemented, the requisite assurance that there is adequate communication between SERT members will be achieved.

Subpart 6

Communications from the mobile radiation lab had to be relayed to base station at times, which "always introduces the possibility of delayed and/or incorrect information" according to the State Radiation Protection Section Evaluator.

The Radiation Protection Section employs field teams which collect radiation data and transmit it by radio to the mobile radiological laboratory for processing. Brown Affidavit, ¶ 2. These field teams are located throughout the EPZ. Since communication by radio depends upon a number of factors, such as power level, topography, atmospheric conditions, etc., there were some field teams who were not able to transmit directly to the mobile laboratory. The use of a relay procedure was then necessary to send the data to the laboratory. Brown Affidavit, ¶¶ 3-4.

While there is some delay inherent in the relay procedure, it is short and is not considered to be significant. Where direct communication between the field team and the mobile laboratory cannot be maintained, it clearly saves time. Brown Affidavit, ¶ 6. There is no significant chance of error in the procedure, as the message from the field to the relay station is received, and then read back to the field team to check for accuracy. This procedure is repeated in the message from the relay station to the mobile laboratory. Brown Affidavit, ¶ 5.

The Board finds that no significant delay or probability of error is introduced when the use of the message relay procedure is necessary. The Board finds that the issues discussed reveal no fundamental flaw in the emergency plan, but are minor and readily correctable problems not unexpected in a first-time test exercise.

B. Eddleman Contention EPX-8

As admitted by the Board, the contention reads:

Emergency Broadcast System use was incomplete and ineffectively managed (FEMA, 2.3.1. (2), page 13; see p. 12 discussion). Inadequacies include procedures for activation and use of the EBS (before the State assumes control); inadequate coverage of the emergency area and emergency response area, incomplete messages and instructions to the public. (Ref: FEMA report received 8/30/85 Board Notification 85-078.) Numerous problems with EBS activation mentioned on pp. 17-18 of the same report also need to be identified and rectified. All these problems must be resolved to ensure timely and effective notice to the public about nuclear/radiation emergencies so that the public can be protected in such emergencies.

Applicants' Motion for Summary Disposition was supported by affidavits of Russell Capps, the Director of the Wake County Emergency Management Agency, and of Alvin H. Joyner, the Lead Planner for Fixed Nuclear Facilities for the State of North Carolina.

Under the general heading of unsatisfactory management of the EBS, Mr. Eddleman named two specific shortcomings. We discuss these *seriatim*. A third concern designated "numerous problems identified on pp. 17-18 . . ." of the FEMA Report was reviewed by the Board, and was found to identify no significant problems not considered in the specific items.

Subpart 1

Inadequacies include procedures for activation and use of the EBS (before the State assumes control);

The exercise begins with notification of Wake County authorities that a radiological accident has occurred. If plant conditions warrant, Wake County is then to prepare an appropriate EBS message and to coordinate system activation with Chatham, Lee, and Harnett counties, as well as the State. Capps Affidavit, ¶ 4. However, there was some confusion as to who had the responsibility for the preparation of the message. As a result, no message was prepared and there were no follow-up messages throughout the exercise. It should be noted, however, that a previously prepared message was broadcast advising the public as to what was occurring (the exercise) and to assure them that there was no cause for alarm. Capps Affidavit, ¶ 5.

The coordinating conference call was set up early in the exercise. As soon as coordination of the timing of sirens, etc., was accomplished, the lead EBS station and the Wake County Sheriff's Department Dispatcher

were to be added to the call. Mr. Capps mistakenly thought that the conference call had to be terminated and reestablished to add these two parties. In trying to reestablish the conference call, problems with wrong numbers and busy signals delayed the process an estimated 3 or 4 minutes. Capps Affidavit, ¶ 6.

In order to prevent these problems from occurring in the future, Wake County, in coordination with DEM, is conducting a thorough review and revision of its EBS procedures. Special attention will be given to responsibility for message preparation, the use of new equipment which will provide enhanced conferencing ability, and ensuring that information in the procedures (e.g., telephone numbers) is accurate. Additionally, further training which includes going through the entire exercise using actual equipment and personnel will be conducted. Capps Affidavit, ¶¶ 8-11.

It is evident, given Mr. Capps' description of the events occurring at the outset of the exercise, that steps need to be taken to improve Wake County's performance. We find Mr. Capps' recognition of this fact to be reassuring, and further find that the steps he has proposed will be adequate to bring the County's performance up to an acceptable level.

Subpart 2

inadequate coverage of the emergency area and emergency response area, incomplete messages and instructions to the public;

The particular evaluation report (from the FEMA Exercise Report at 12) which forms the basis for this part of the contention is as follows:

Even after the SERT [State Emergency Response Team] assumed control, the initial instructions to evacuate certain zones and take shelter in others were incomplete; subsequent use of the system to provide adequate coverage of the area was never realized. Instructions to the public were prepared for only two of the three siren activations, and one of these messages was incomplete.

The exercise scenario required the State to take over direction of the exercise after the plan was initiated by Wake and the other counties. The State did so, and believes that, generally, implementation of the EBS plan went smoothly. However, a need for some changes in the EBS procedures was perceived by the State to improve the use of pre-scripted messages and to assure that the messages would be released on a continuing basis. Joyner Affidavit, ¶¶ 3-4.

Specifically, the State did not simulate followup messages to the EBS. This is illustrated by the omission of the location of pickup points for evacuees without access to transportation. While it was indicated that

the information would be supplied in a later message, no such message was prepared. Joyner Affidavit, ¶¶ 6-7.

To prevent the occurrence of such omissions in the future, procedures will be changed such that the appropriate Public Information Officer will have the responsibility for the preparation and broadcasting of such messages, and will also be responsible for the continuing release of such information until the protective action is completed. Appropriate State personnel will also receive further training on the procedures, including instruction on the preparation of EBS messages. The State is also expanding its program of tabletop exercises to include practice in EBS activation. DEM is taking steps to replace the telephone conferencing system used for the exercise with new equipment to allow Wake County access to the State-reserved 733 exchange. All of these commitments will be completed prior to full-power operation of the Harris Plant. Joyner Affidavit, ¶¶ 6-10.

The steps being implemented by the State to strengthen its operation with regard to the EBS are satisfactory to the Board. We find that it can work adequately, and that there is reasonable assurance that it will. As we determined in our discussion of EPX-2, we find no fundamental flaw in the State operation of the EBS that cannot be cured by the steps to be taken by the State.

C. Mr. Eddleman's Responses to Summary Disposition Motions

Mr. Eddleman replied to Applicants' motions for summary disposition with Wells Eddleman's Response to Summary Disposition on EPX-2 (Emergency Communication) and 8 (Emergency Broadcast System), dated February 18, 1986, and a Supplement dated March 12, 1986. In it, he raises no concerns with the means which Applicants, the State, and the counties will use to correct difficulties encountered during the exercise. Instead, his objections center on two legal points. First, he contends that the Board cannot accept a commitment by the Applicants that the proposed actions will be carried out in a timely fashion. Second, he maintains that until FEMA has made a formal review and findings on the corrections the Board cannot rule on the contention.

In support of his thesis that the Board cannot accept commitments, Mr. Eddleman cites what he describes as well-established case law, ALAB-788.⁴⁹ The Board has reviewed the decision, and finds only one item therein which might be in any way pertinent to this subject. In

⁴⁹ The full citation from Mr. Eddleman is given as LILCO, ALAB-788, 20 NRC 1531. If Mr. Eddleman means to cite ALAB-788, as the Board assumes, the correct citation is 20 NRC 1102 (1984).

ALAB-788, the Appeal Board noted that LILCO (Long Island Lighting Co.), had, over a long period of time, made several commitments to improve the housekeeping in safety-related areas but had neglected to do so. The Appeal Board remanded this item to the Licensing Board to obtain and approve a certification from the Staff that the housekeeping matter had been resolved. The Licensing Board did so. *Long Island Lighting Co.* (Shoreham Nuclear Power Station, Unit 1), LBP-84-53, 20 NRC 1531, 1534 (1984).

The Board finds no parallel situation here. Before the exercise, Applicants had made only the general commitment to prepare an emergency plan for review and approval by Staff/FEMA. The exercise demonstrated that, in general, the plan was adequate but that some specific changes were warranted. The Applicants have committed to implement these changes before operation at full power. In this case the Board has no reason to doubt that the Applicants and the other parties concerned will honor their commitments, which was not the case in ALAB-788. We therefore reject Mr. Eddleman's opposing argument.

In considering Mr. Eddleman's second objection about the adequacy of the FEMA review of the Applicants' corrective actions, we note the affidavit of Thomas I. Hawkins in support of NRC Staff/FEMA's Response to Applicants' Motions for Disposition of Eddleman Contentions EPX-2 and EPX-8 [sic] which, in concluding parts, states:

The establishment of the Harnett County EOC in the County Office Building, with the concomitant improvement of the communications system proposed, will correct the communications deficiency identified in the FEMA Plant Harris exercise report. p. 3.

The Meyers to Woodard letter, dated November 26, 1985, and the "Affidavit of Alvin H. Joyner on Eddleman EPX-8" clearly indicate that all identified problems associated with EBS will be resolved prior to full power licensing of Plant Harris. FEMA staff considers the corrective actions outlined in the two above-referenced documents to be fully adequate. p. 4.

If, in calling for "formal review and finding" by FEMA, Mr. Eddleman seeks something more than was done here, we reject that request. FEMA having already determined that there were no fundamental flaws arising out of the exercise, we question whether any further FEMA review was required. In any event, the review reflected in the Hawkins affidavit was plainly sufficient.

Mr. Eddleman's responses paraphrase portions of telephone conversations he had with several FEMA employees and consultants, pursuant to certain "informal" discovery granted by the Board pursuant to *Shoreham*. See Tr. 10,850-57. These paraphrased conversations do not affect

our conclusions. They do not indicate the existence of fundamental flaws in planning, nor do they appear to conflict with Mr. Hawkin's affidavit, which is the formal expression of FEMA's views.

D. Conclusion

In conclusion, the Board finds that no issue of material fact exists and that the Applicants are entitled to summary disposition of Eddleman Contentions EPX-2 and EPX-8 as a matter of law.

IV. EDDLEMAN MOTION FOR RECONSIDERATION OF REJECTION OF EPX-5

Included in Mr. Eddleman's Response to Summary Disposition on Contentions EPX-2 (Emergency Communications) and EPX-8 (Emergency Broadcast System) was a paragraph which was called "motion for reconsideration of rejection of EPX-5." In its entirety, it reads:

For the Board's information, FEMA — C. Stovall, 2-11-86 — confirmed a delay in siren sounding from receipt of site emergency declaration at 1450 hours (5-17-85) until 1537 hours, a delay of 47 minutes. This is newly received information on which I respectfully request the Board reconsider its denial of admission of contention EPX-5.

The Board's comments on the rejection of Eddleman EPX-5 (Partial Initial Decision on Emergency Planning and Safety Contentions, LBP-85-49, *supra*, 22 NRC at 913, are as follows:

Contention 5. This contention lists a number of problems with the sirens. Installation of the sirens has not been completed and, as noted in the FEMA findings, at 8, "the official FEMA testing of the alert and notification system has not yet been conducted." Accordingly, any contentions based on installed siren performance are premature. We note, however, that the problems cited in this contention, should they arise in further testing, appear to be straightforward and correctable.

Assuming the accuracy of Mr. Stovall's statement, the Board does not find it a matter of sufficient significance to change the Board's previous ruling on EPX-5. Additionally, the Board notes that the information presented by Mr. Eddleman appears on page 3 of the FEMA Exercise Report as of June 28, 1985. Therefore, his asserted ground for this motion — that it presents new information — is unsound. The motion is therefore denied.

Conclusions of Law and Order

This is a contested proceeding on an application for an operating license for a utilization facility. In issuing this Decision, the Board has now made findings of fact and conclusions of law on all matters put into controversy by the parties to the proceeding.⁵⁰ The Board has not determined that a serious safety, environmental, or common defense and security matter exists. See 10 C.F.R. § 2.760a. Other findings required to be made prior to the issuance of an operating license are to be made by the Director of Nuclear Reactor Regulation. See *id.* and 10 C.F.R. § 50.57.

In reaching this Decision, the Board has considered all the evidence submitted by the parties and the entire record of this proceeding. All issues and proposed findings presented by the parties, and not addressed in the Board's decision, are deemed to be without merit or unnecessary to the decision. The Board's findings of fact are supported by probative and substantial evidence in the record. As reflected in the foregoing decision and in the other partial initial decisions issued by this Board, the Board has resolved all contested matters in favor of the Staff and the Applicants and against the Intervenors. The Board concludes, as to the contentions addressed herein, that there is reasonable assurance that, if an operating license is subsequently granted for the Harris facility, the activities authorized hereby can be conducted without endangering the health or safety of the public and that such activities will be conducted in compliance with applicable NRC regulations.

IT IS HEREBY ORDERED, pursuant to the Atomic Energy Act of 1954, as amended, and the Commission's rules, that the Director of Nuclear Reactor Regulation is authorized, upon making the findings on

⁵⁰ There is one unresolved matter in this case. In our Memorandum and Order of January 14, 1985, at 1-6, we narrowed and admitted a harassment contention which has since been disposed of. At the same time, however, we directed the Applicants to post a notice on the site inviting present or former employees having personal knowledge of incidents of harassment to contact the Board, on a confidential basis, if desired. We said that we would consider admission of a broader harassment contention if warranted by responses to the notice. Subsequently, two former employees did respond by writing to the Board, one on a confidential basis. We then referred both letters to the Office of Investigation (OI) requesting an investigation. Unpublished Memorandum and Order of March 13, 1985, at 11. As this Decision issues, we have not received OI's final report, which we are advised has been delayed most recently by the confidential informant's reluctance to allow anyone but OI personnel to see it. In any event, OI advises us that their report should be available in the near future, edited to conceal the informant's identity. When that happens, we will circulate the report for comment by the parties on whether a new harassment contention should be admitted, subject to the "five factors." We are advised informally by OI that the matters described by the two former employees do not appear to raise safety concerns. We are retaining jurisdiction for the limited purpose of addressing this matter. All other issues are ripe for appeal. The pendency of this matter does not bar our authorization of operating licenses because there is no contested issue before the Board, only the possibility of one.

all applicable matters specified in 10 C.F.R. § 50.57(a), to issue to Applicants Carolina Power & Light Company and North Carolina Eastern Municipal Power Agency a license to authorize low-power testing (up to 5% of rated power) and, upon completion of such testing, a license to authorize full-power operation of the Shearon Harris Nuclear Power Plant.

In accordance with 10 C.F.R. §§ 2.760(a) and 2.762, this Final Licensing Board Decision shall constitute the final action of the Commission forty-five (45) days after the date of its issuance, unless (1) an appeal is taken in accordance with § 2.762 or (2) a stay is obtained in accordance with § 2.788, or (3) the Commission directs that the record be certified to it for final decision. Any Notice of Appeal from the decision must be filed within ten (10) days after service of the decision. A brief in support of the appeal must be filed within thirty (30) days (forty (40) days in the case of the NRC Staff) after filing the Notice of Appeal. Any party which is not an appellant may file a brief in support of or in opposition to the appeal within thirty (30) days (forty (40) days in the case of the NRC Staff) after the period has expired for the filing and service of the briefs of all appellants.

In addition to the appeal and stay remedies just noted, the parties should be aware that the Commission will be conducting an “immediate effectiveness” review of this and our earlier decisions pursuant to 10 C.F.R. § 2.764(f). As to timing, that provision states in part that:

The Commission intends to issue a stay decision within 30 days of receipt of the Licensing Board’s decision. The Licensing Board’s initial decision will be considered stayed pending the Commission’s decision insofar as it may authorize operations other than fuel loading and low power (up to 5 percent of rated power) testing.

10 C.F.R. § 2.764(f)(2)(iii). Thus, the rule provides a temporary automatic stay as to our authorization of full-power operations. However, you should also be aware of a related provision which states that:

For operating license decisions other than those authorizing only fuel loading and low power testing consistent with the target schedule set forth below, the parties may file brief comments with the Commission pointing out matters which, in their view, pertain to the immediate effectiveness issue. To be considered, such comments must be received within 10 days of the Board decision. However, the Commission may dispense with comments by so advising the parties. No extensive stay shall be issued without giving the affected parties an opportunity to be heard.

§ 2.764(f)(2)(ii). In view of the facts that (1) fuel loading for Shearon Harris has not begun, (2) operations above low power may be several months away, and (3) our decisions in the aggregate are lengthy and

complex, parties seeking to file comments under the quoted provision might seek an extension of time from the General Counsel.

**THE ATOMIC SAFETY AND
LICENSING BOARD***

**James L. Kelley, Chairman
ADMINISTRATIVE JUDGE**

**Dr. James H. Carpenter
ADMINISTRATIVE JUDGE**

**Glenn O. Bright
ADMINISTRATIVE JUDGE**

Bethesda, Maryland

*The Board expresses its appreciation to its Law Clerk, Donna Duer, for her able assistance in the preparation of this opinion.

APPENDIX A

Attachment 6

**FRACTIONS OF HOMES WITH VARIOUS OUTDOOR-TO-INDOOR SOUND ATTENUATIONS
AND INDOOR BACKGROUND NOISE LEVELS**

Subgroup	Description	Fractions	Attenuation Outdoors- to-Indoors,⁶ dB	Background Noise at Bed
1.	Homes with no air conditioning; windows open and fan operating	0.356 ¹	12	40 ⁷
	Homes with window air conditioning (A/C) and all windows closed (total 0.302) ¹			
	A/C in bedroom (0.16) ²			
2.	Bedroom storms open or absent, 1.0 x 0.16 ³	0.16	26	49 ⁸
	Bedroom storms closed, 0 ³		—	—
	A/C in adjacent room (0.142) ²			
3.	Bedroom storms open or absent, 0.142 x 0.25 ⁴	0.036	26	39 ⁹
4.	Bedroom storms closed, 0.142 x 0.75 ⁴	0.106	30	39 ⁹
	Homes with central air conditioning and all windows closed (total 0.342) ¹			

Subgroup	Description	Fractions	Attenuation Outdoors- to-Indoors, ⁶ dB	Background Noise at Bed
	A/C cycled on (0.106) ⁵			
5.	Bedroom storms open or absent, 0.106 x 0.25 ⁴	0.026	26	28 ⁷
6.	Bedroom storms closed, 0.106 x 0.75 ⁴ A/C cycled off (0.236) ⁵	0.08	30	28 ⁷
7.	Bedroom storms opened, 0.236 x 0.25 ⁴	0.059	26	13 ⁷
8.	Bedroom storms closed, 0.236 x 0.75 ⁴	0.177	30	13 ⁷

¹ U.S. Census of Population and Housing, 1980: Summary Tape File 3, North Carolina, for Enumeration Districts and Census Tracts within Shearon Harris EPZ, Table 120.

² *Ibid.*; Envirosphere telephone communications with air conditioner manufacturers and regional distributors, August 1985.

³ Installation of the A/C in the window precludes the closure of the storm windows, if any.

⁴ Observations at the houses in which measurements were made in the Harris EPZ (see note 6), plus available information (Envirosphere telephone communications with storm window retailers and energy conservation consultants in the Raleigh, N.C. area, August 1985), indicate that, on average, about 25% of the houses with storm windows have a bedroom storm window open all summer.

⁵ CP&L analyses of air-conditioner operation as a function of time of day (June 1985).

⁶ Measurements obtained by HMM in 13 homes within the Harris EPZ, plus published data in:

- a. Anon., "Noise Environment in Urban and Suburban Areas," Report FT/TS-26, Federal Housing Administration, Department of Housing and Urban Development, March 1968
- b. Anon., "House Noise Reduction Measurements for use in Studies of Aircraft Flyover Noise," SAE Aerospace Information Report AIR 1081, Society of Automotive Engineers, 2 Pennsylvania Plaza, New York, NY 10001, October 1971.
- c. D. A., Driscoll, J. P. Dulin, Jr., and D. N. Keast, "Attenuation of Northern Dwellings to a Linear Source of Noise," an oral paper presented at the 95th Congress of The Acoustical Society of America, Providence, R.I., May 1978.

⁷ Measurements made by HMM at houses in the Harris EPZ.

⁸ Measurements made by HMM at houses in the Boston area.

⁹ Measurements (note 8) less 10 decibels for typical loss from one room to an adjacent room in residential buildings.

Attachment C

**COUNTS OF HOUSES WITHIN THE SHEARON HARRIS EPZ
(from large maps)**

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Sound Level Zones	Nominal Siren Sound Level Outdoors, dB	Houses in EPZ	Houses Within 5 mi.	Houses Outside 5 mi.
>105 dB	112	206	23	183
100-105	102	178	24	154
95-100	97	337	27	310
90-95	92	800	58	742
2 x 85-90	90	8	0	8
80-85 + 85-90; 2 x 75-80 + 85-90	88	199	2	197
85-90	87	1256	79	1177
2 x 80-85	85	120	3	117
2 x 75-80 + 80-85	84	10	0	10
75-80 + 80-85; 3 x 70-75 + 80-85	83	221	40	181
80-85; 3 x 75-80	82	1826	154	1672
2 x 70-75 + 2 x 75-80	81	5	0	5
2 x 75-80; 3 x 70-75 + 75-80	80	376	21	355
2 x 70-75 + 75-80	79	79	24	55
70-75 + 75-80	78	454	93	361
75-80; 3 x 70-75	77	411	32	379
2 x 70-75	75	146	8	138
70-75	72	233	1	232
<70	67	62	0	62
TOTALS		6927	589	6338

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

**Herbert Grossman, Chairman
Richard F. Cole
A. Dixon Callihan**

In the Matter of

**Docket Nos. 50-456-OL
50-457-OL
(ASLBP No. 79-410-03-OL)**

**COMMONWEALTH EDISON COMPANY
(Braidwood Nuclear Power Station,
Units 1 and 2)**

April 21, 1986

In an operating license proceeding, the Licensing Board rules on Applicant's motion for partial summary disposition by dismissing some of the Intervenor's subcontentions and by adopting a number of material facts on the subcontentions not dismissed.

RULES OF PRACTICE: SUMMARY DISPOSITION

The Commission's rules governing summary disposition are analogous to Rule 56 of the Federal Rules of Civil Procedure. *Alabama Power Co.* (Joseph M. Farley Nuclear Power Plant, Units 1 and 2), ALAB-182, 7 AEC 210, 217 (1974).

RULES OF PRACTICE: SUMMARY DISPOSITION

In operating license proceedings, the burden of proof with respect to summary disposition is upon the applicant-movant, who must demon-

strate the absence of any genuine issue of material fact. *Cleveland Electric Illuminating Co.* (Perry Nuclear Power Plant, Units 1 and 2), ALAB-443, 6 NRC 741, 753 (1977).

RULES OF PRACTICE: SUMMARY DISPOSITION

In determining whether a motion for summary disposition should be granted, the record must be viewed in the light most favorable to the opponent of such a motion. *Dairyland Power Cooperative* (LaCrosse Boiling Water Reactor), LBP-82-58, 16 NRC 512, 519 (1982).

RULES OF PRACTICE: SUMMARY DISPOSITION

Where the proponent of a motion for summary disposition has met his burden, his opponent must set forth specific facts to demonstrate that there exists a genuine issue of material fact for trial. Mere allegations and denials are not sufficient to overcome an otherwise persuasive summary disposition request. *Virginia Electric and Power Co.* (North Anna Power Station, Units 1 and 2), ALAB-584, 11 NRC 451, 453 (1980); *Philadelphia Electric Co.* (Peach Bottom Atomic Power Station, Units 2 and 3), ALAB-562, 10 NRC 437, 444 (1979).

RULES OF PRACTICE: SUMMARY DISPOSITION

On motion for summary disposition, the opposing party need not show that he would prevail on the issues but only that there are genuine issues to be tried. *Pacific Gas and Electric Co.* (Stanislaus Nuclear Project, Unit 1), LBP-77-45, 6 NRC 159, 163 (1977), citing *Poller v. CBS, Inc.*, 368 U.S. 464, 473 (1962); *American Manufacturers Mutual Ins. Co. v. American Broadcasting-Paramount Theatres, Inc.*, 388 F.2d 272, 280 (2d Cir. 1967).

RULES OF PRACTICE: SUMMARY DISPOSITION

In deciding a motion for summary disposition, the presiding officer has some leeway, under 10 C.F.R. § 2.749, in accepting affidavits based in part on reliable hearsay.

EVIDENCE: HEARSAY

In administrative proceedings, the presiding officer has some leeway in accepting hearsay testimony, if reliable, to shortcut what might otherwise be a laborious procedure in establishing the facts.

RULES OF PRACTICE: SUMMARY DISPOSITION

On summary disposition, 10 C.F.R. § 2.749(b)'s requirement that an affiant be "competent to testify to the matters," relates both to competence as an expert witness and competence as a fact witness.

RULES OF PRACTICE: WITNESSES

In general, a fact witness is competent only if he has personal knowledge of the facts.

EVIDENCE: HEARSAY

Although an administrative board can accept some hearsay to expedite and facilitate the adjudicatory process, it should not exclude fair opportunity for rebuttal of the evidence.

RULES OF PRACTICE: EVIDENCE

Where material facts appear legitimately in dispute and a witness with personal knowledge, or a document relied upon, is readily available, the witness and document should be presented.

EVIDENCE: EXPERT TESTIMONY

The leeway given an expert witness to base his testimony upon hearsay, if of the type reasonably relied upon by experts in that field, does not permit the expert to establish material facts of which he lacks personal knowledge.

RULES OF PRACTICE: EXPERT WITNESS

A witness, if he is competent as an expert, may base his opinions on hearsay if of the type reasonably relied upon by experts in that field, but he cannot establish material facts about which he lacks competence as a fact witness.

MEMORANDUM AND ORDER
(Ruling on Summary Disposition)

Memorandum

On December 20, 1985, Applicant filed a motion for summary disposition of portions of the amended quality assurance contention of Intervenor Bridget Little Rorem *et al.* Specifically, Applicant seeks summary disposition of the following portions of Intervenor's amended quality assurance contention:

3.C	6.F	9.C	12.F	14.B.2
5.A	6.G	9.D	12.J	14.B.3
5.B	6.I	10.F	13.B	14.B.4
5.C	9.A(partial)	12.E	14.B.1	

On February 18, 1986, within the time set by the Board for responding to the motion, Intervenor filed their opposition to the motion and Staff filed its response, which supported Applicant's motion with regard to each of the subparts. On March 5, 1986, within the time limit prescribed by 10 C.F.R. § 2.749(a), Intervenor filed their response to the NRC Staff filing in support of Applicant's motion.

In the basic filings, the parties appeared in substantial agreement on the standards for summary disposition, and we will not dwell on this subject at any great length. The Commission's rules governing summary disposition are analogous to Rule 56 of the Federal Rules of Civil Procedure. *Alabama Power Co.* (Joseph M. Farley Nuclear Power Plant, Units 1 and 2), ALAB-182, 7 AEC 210, 217 (1974). In operating license proceedings, the burden of proof with respect to summary disposition is upon the applicant-movant, who must demonstrate the absence of any genuine issue of material fact. *Cleveland Electric Illuminating Co.* (Perry Nuclear Power Plant, Units 1 and 2), ALAB-443, 6 NRC 741, 753 (1977). And, in determining whether a motion for summary disposition should be granted, the record must be viewed in the light most favorable to the opponent of such a motion. *Dairyland Power Cooperative* (La-Crosse Boiling Water Reactor), LBP-82-58, 16 NRC 512, 519 (1982).

On the other hand, where the proponent has met his burden, his opponent must set forth specific facts to demonstrate that there exists a genuine issue of material fact for trial. Mere allegations and denials are not sufficient to overcome an otherwise persuasive summary disposition request. *Virginia Electric and Power Co.* (North Anna Power Station,

Units 1 and 2), ALAB-584, 11 NRC 451, 453 (1980); *Philadelphia Electric Co.* (Peach Bottom Atomic Power Station, Units 2 and 3), ALAB-562, 10 NRC 437, 444 (1979). The opposing party need not show that he would prevail on the issues but only that there are genuine issues to be tried. *Pacific Gas and Electric Co.* (Stanislaus Nuclear Project, Unit 1), LBP-77-45, 6 NRC 159, 163 (1977), citing *Poller v. CBS, Inc.*, 368 U.S. 464, 473 (1962); *American Manufacturers Mutual Ins. Co. v. American Broadcasting-Paramount Theatres, Inc.*, 388 F.2d 272, 280 (2d Cir. 1967).

In their response to Applicant (at 2-3), Intervenors allege that Applicant seeks to have the Board summarily dispose of each contention subitem to erase each such historical flaw from the Braidwood QA records "with no subsequent opportunity for Intervenors to use [each of these flaws] to demonstrate patterns of inadequacies."

Furthermore, in this response to Applicant and in its later response to Staff, Intervenors oppose many of the material facts alleged by Applicant and supported by Staff as being founded upon affidavits of witnesses who do not speak from personal knowledge, and who rely on hearsay and express opinions. As stated by Intervenors (Answer to Applicant at 6):

Accordingly, because the affidavits offered by Edison are not based on affiant's personal knowledge of specific facts, but are conclusory in nature, and because competency to testify is not affirmatively demonstrated from the face of the affidavits, those affidavits should be found unreliable and disregarded as supporting a "material fact."

Applicant filed a motion for leave to file a response to Intervenor's answer opposing summary disposition, and Intervenors filed an answer thereto, both of which were accepted by the Board as motion papers in the pending motion for summary disposition. In its motion for leave to file (at 3-4), Applicant makes it clear that, except with respect to Subcontention items 5.A, 5.B, and 5.C, which challenge design quality assurance, Applicant still would bear the burden of proof at the evidentiary hearing to demonstrate that each of the subcontention items does not represent a pattern of quality assurance deficiencies, even if summary disposition were to be granted. The exception for Subcontention items 5.A, 5.B, and 5.C is based upon NRC case law distinguishing between design quality assurance and construction quality assurance. We accept Applicant's representation without further discussion.

With regard to the nature of the evidence presented by Applicant in support of its motion for summary disposition, further discussion is necessary. We agree in general with Applicant (Motion for Leave to File

Response at 5) that 10 C.F.R. § 2.749(b), which does not expressly require affidavits “made on personal knowledge,” differs from Rule 56(a) of the Federal Rules of Civil Procedure, containing that provision, in order to reflect the difference between administrative practice and court practice. In administrative proceedings, the presiding officer does have more leeway than a judicial officer in accepting hearsay testimony, if reliable, to shortcut what might otherwise be a laborious procedure in establishing the facts. *But see also* Rule 803 of the Federal Rules of Evidence, item (24), which permits the admission of otherwise excludable hearsay in court proceedings if it is trustworthy and offered under certain conditions.

We do not agree, however, with Applicant’s further elaboration on 10 C.F.R. § 2.749(b)’s requirement that an affiant supporting summary disposition be “competent to testify to the matters,” as relating only to expert competence. With regard to statements of contested material fact, the witness must be competent as a fact witness, and we understand that, in general, to require personal knowledge. As an administrative board, we can dispense with the personal knowledge requirement with less constraints than a judicial court, to expedite and facilitate the adjudicatory process, but not to the exclusion of a fair opportunity for the opponent of the proffered evidence to rebut it. Where material facts appear legitimately in dispute and a witness with personal knowledge is readily available, that witness should be offered. Similarly, when a document is relied upon that is readily available, that too should be presented.

Nor do we agree with Applicant’s further implication (Motion for Leave to File Response at 5-7) that the leeway given an expert witness (in both court litigation and administrative proceedings) to base his testimony upon hearsay, if of the type reasonably relied upon by experts in the field, permits him to establish the material facts in dispute although he is lacking in personal knowledge. His *opinions* may be arrived at upon information that may not be admissible in evidence, and they will be accepted as expert opinions if reasonably qualified, but those expert opinions cannot substitute for, or establish, the material facts about which the expert witness may lack competence as a fact witness, i.e., have personal knowledge.

Turning now to the material submitted to us, we observe that Applicant has chosen to rely to a great extent on affidavits of persons without direct knowledge of basic material facts. To the extent that some of these facts are not actually in dispute, we would not require that either an affiant in summary disposition, or a witness at hearing, have personal knowledge of the facts asserted. We would rely upon our authority as an

administrative tribunal and under the Commission's rules to consider hearsay as competent evidence, taking into account Intervenors' failure to contradict directly the assertions in judging their reliability. Those facts that Intervenors genuinely dispute, however, should be supported by persons with firsthand knowledge, if possible.

Intervenors, on the other hand, have not made our task easy, having declined to specify which of the material facts asserted by Applicant they dispute. However, they have technically complied with § 2.749(a) by submitting short and concise statements of material facts in which they contend that there exist genuine issues to be heard, albeit unreferenced to the numbered statements put forth by Applicant. While they have specified in detail the portions of Applicant's affidavits they contend are incompetent, they leave it up to the Board to reference those portions back to Applicant's statements of material facts containing those record citations and decide whether, in light of Intervenors' statement of disputed facts, those particular material facts asserted by Applicant are genuinely in dispute.

Furthermore, to a large extent, Intervenors rest their opposition on general denials of Applicant's and Staff's assertions. At this point in time, after extensive discovery, Intervenors should be in a position either to accept or specifically contradict many of these assertions with affirmative evidence on their part. If they cannot do so now, they stand little hope of doing so at a full-fledged evidentiary hearing, and we should not have to waste the resources of the parties and Board in offering one. Were the hearing (already set to begin during the week of May 5, 1986) not impending, we would have Intervenors file a further document pinpointing each of Applicant's stated material facts which they genuinely dispute and setting forth the basis for their belief that the facts are not as stated. Under the circumstances, we have done the best we can in determining which material facts are genuinely in dispute because they are realistically opposed by Intervenors and have not been reasonably established through reliable evidence.

We have *granted* summary disposition on Subcontentions 5.A, 5.C, 6.G, 6.I, 9.D, 10.F, 12.E, 13.B, and 14.B.4. On some of these subcontentions, we have stated our grounds for granting the motion. On the others that we have granted, we will issue our full written decision at a later date. On the remaining issues, although we have denied summary disposition, we have determined which of the material facts stated by Applicant are not genuinely in dispute and need not be further established at the forthcoming evidentiary hearing.

ROREM SUBCONTENTION ITEM 3.C

3. Contrary to Criterion II, "Quality Assurance Program," of 10 C.F.R Part 50, Appendix B, Commonwealth Edison Company has failed to established a quality assurance program which complies with the requirements of Appendix B and which is documented by written policies, procedures and instructions and is carried out in accordance with those instructions. Edison has failed to assure that its QA program provides controls over activities affecting quality and that such activities are accomplished under suitably controlled conditions and are appropriately verified for quality by inspection.
- C. The Applicant's electrical contractor (Comstock) utilized Level I Quality Control Inspectors for inspection and acceptance of electrical welds. This involved 14 different Level I inspections over four years. (Inspection Report 85-06 Exh. 11.)

Board's Ruling on Summary Disposition (3.C)

The Board *denies* summary disposition and accepts certain material facts, as modified, as to which there is no genuine issue to be heard.

Certain of the contractors at the Braidwood site authorized the use of unqualified Level I Quality Control Inspectors in the performance of visual weld inspections as required of Level II Inspectors. In the place of a 100% reinspection program, Applicant has developed the "Level I Reverification Program" (LRP). The LRP is designed to demonstrate on a sampling basis that the welds in question contained no design-significant discrepancies. Applicant urges the Board to accept its claim that the LRP will assure that the quality of the weld inspections did not compromise the safe construction of the plant or significantly invalidate the effectiveness of the quality assurance program. From this position, Applicant argues that Staff should be designated to review the results of the LRP to ensure that the program's results prove what Applicant claims.

Intervenors oppose a grant of summary disposition on the grounds that it is inappropriate to delegate this authority to the NRC Staff. In addition, Intervenors have put in issue the adequacy of the design, organization, methodology, implementation, and the results of the LRP. In doing so, Intervenors refer specifically to discovery depositions that allegedly establish specific defects in the program.

Considering the prospective nature of the LRP and the necessity for us to pass judgment upon the methodology and design of this program, we would be remiss in passing this issue on to Staff. *See Commonwealth Edison Co.* (Byron Nuclear Power Station, Units 1 and 2), ALAB-770, 19 NRC 1163, 1175 (1984), and *Louisiana Power and Light Co.* (Waterford Steam Electric Station, Unit 3), ALAB-732, 17 NRC 1076, 1103

(1983), in which the Appeal Board ruled against delegating similar responsibilities to Staff. In our opinion, Intervenors must be given the opportunity to question Applicant's program at a full evidentiary hearing, and the Board be given opportunity to determine the merits of that program after the evidentiary record is complete.

Material Facts as to Which There Is No Genuine Issue to Be Heard (3.C)

1. As a result of inspection activities related to the Braidwood Construction Assessment Program (BCAP), the NRC Staff assessed an item of noncompliance with respect to L.K. Comstock's (LKC) use of Level I inspectors to perform visual weld inspections, as well as another item of noncompliance (later withdrawn) relating to the BCAP Task Force's apparent failure to document this LKC practice as a BCAP observation. (Affidavit of George Orlov on Rorem QA Subcontention 12.E (hereinafter, "Orlov Affidavit") at 3-12; Deposition of Ronald N. Gardner, dated October 31, 1985, at Tr. 55-72.)

2. Review of LKC and E.C. Ernst records establishes that a total of thirteen or fourteen Level I inspectors performed visual weld inspections over a period from March 1977 to April 1984. After April 1984, LKC only used Level II inspectors to perform visual weld inspections. (E.C. Ernst was the original electrical contractor at Braidwood. In the Spring of 1979, LKC took over the responsibilities for the electrical installation.) (Gieseke Affidavit on Rorem QA Subcontention 3.C (hereinafter, "Gieseke Affidavit") at 2-3.)

3. To address the concern regarding the LKC's and E.C. Ernst's use of Level I weld inspectors, CECO has developed the "Level I Reverification Program" (LRP). The LRP is designed to demonstrate on a sampling basis that the welds inspected by LKC and E.C. Ernst Level I inspectors contain no design-significant discrepancies. (Gieseke Affidavit at 4.)

4. The total population of inspection reports generated by LKC and E.C. Ernst Level I inspectors is approximately 9000. A random probability sample of 475 inspection reports will be selected and all the welds of interest covered by these selected inspection reports will be reinspected. According to Applicant, this sample size is sufficient to allow one to conclude with at least 99% reliability at a 99% confidence level that, if there are not design-significant weld discrepancies in the sample, there are none in the entire population. (Gieseke Affidavit at 5-6; Frankel Affidavit on Subcontention Item 3.C at 8-10.)

5. If necessary, a supplementary sample will be selected to ensure that a minimum of five inspection reports are selected for each of the thirteen inspectors. (Gieseke Affidavit at 6; Frankel Affidavit on Subcontention Item 3.C at 9.)

6. LRP reinspections will be performed by currently certified LKC Level II inspectors, with overview by a Level III inspector. No reinspector will reinspect welds which he or she initially inspected or approved. The identities of the original inspectors and the original inspection results will be withheld from the reinspectors. The reinspectors will use currently approved LKC visual weld inspection procedures, which incorporate acceptance criteria that have been reviewed and approved by the NRC Staff. (Gieseke Affidavit at 7-8.)

7. Engineering evaluation will be performed to determine the design significance of each identified weld discrepancies. These evaluations will be performed in the same way as for the Byron Quality Control Inspector Reinspection Program. (Kostal Affidavit on Rorem QA Subcontention 3.C.)

8. If any design-significant discrepancies are identified in the original sample, they will be repaired or otherwise appropriately resolved. According to Applicant, the sample will be expanded to a size sufficient to establish again with 99% reliability at a 99% confidence level that, if there are not design-significant weld discrepancies in the sample, there are none in the entire population. If the number of design-significant discrepancies found precludes obtaining an expanded sample size that is less than the entire population of Level I inspection reports, then the entire population will be reinspected. (Gieseke Affidavit at 8-9.)

ROREM SUBCONTENTION ITEM 5

5. Contrary to Criterion III, "Design Control," of 10 C.F.R. Part 50, Appendix B, Commonwealth Edison Company has failed to establish measures to assure that applicable regulatory requirements and design bases are correctly translated into specifications, drawings, procedures, and instructions including provisions to assure that appropriate quality standards are specified in design documents and the deviations from such standards are controlled. Applicant has also failed to require that measures are established for the identification and control of design interfaces and for the coordination among participating design organizations, that the measures include the establishment of procedures among participating design organizations for the review, approval, release, distribution, and revisions of documents involving design interfaces and that the design control measures provide for verifying or checking the adequacy of design, such as by the performance of design reviews, by the use of alternate or simplified calculational methods, or by the performance of a suitable testing program.

Subcontentions 5.A, 5.B, and 5.C individually allegedly assert, with greater particularity, specific instances of nonconformity.

Board's Ruling for Summary Disposition (5.A)

Subcontention 5.A states:

- 5.A. The NRC CAT inspection concluded that in the area of [sic]* the most significant finding was the failure to annotate unincorporated design changes on controlled design documents. The most significant finding in the area of design change control was design change documents written against superseded revisions of the approved design drawings. In at least one instance, this deficiency resulted in a pipe support being installed and inspected to other than the latest approved design. (CAT Inspection Report 84-44/40, Exh. 10.)

We *grant* summary disposition to Applicant on Subcontention 5.A. To facilitate preparation for hearing on the other issues, we will issue our full decision on this issue at some later date.

Board's Ruling on Summary Disposition (5.B)

- 5.B. Repairs to coating by Midway Industrials in the Unit 1 and 2 containments were performed utilizing a coating system not qualified for the Design Basis Accident in accordance with Section 5 of ANSI N101.2 (1972). (Inspection Report 85-15, Exh. 17.)

We *deny* summary disposition on this subcontention. On the facts given, there is some question in our minds as to how the discrepant inspection could have occurred if the proper procedures were in place, based upon a simple error in judgment by the Quality Control Inspector. Further testimony on this subject should be illuminating.

Furthermore, while we are not concerned with the exact amount of affected area since our focus is on overall quality assurance, we are not at all certain that the significance of the quality assurance failure in this matter has been fully delineated. Intervenors have raised some apparently legitimate questions regarding the scope of the problem and, consequently, whether the proper corrective action was taken. Further testimony would be desirable.

*Both the Applicant and the NRC Staff remedied a deficiency in the statement of Subcontention 5.A with slightly different combinations of words. The Applicant addressed the "control of design documentation . . ."; the Staff addressed "design control . . ."

Material Facts as to Which There Is No Genuine Issue to Be Heard (5.B)

1. Portions of the steel containment liners and related auxiliary items such as equipment hatches on the insides of the Braidwood Units 1 and 2 containments are coated with safety-grade coating systems. Midway Industrial Contractor, Inc. (MIC) was responsible for installing the coating system. The original coating installation took place in 1978. (Leigh Affidavit at 2.)

2. Two distinct but related coating systems are used in different areas of each containment. The most extensive area is covered with a single coating system consisting of a layer of inorganic carbolere-zinc primer (CZ-11) applied over bare metal. The less extensive coating consisted of a dual coating system utilizing a layer of CZ-11 primer over bare metal plus a layer of organic (epoxy-like) phenoline finish coat applied on top of the primer. (Kostal Affidavit at 3-4.)

3. The total amount of coated area in each containment, counting both single coating and dual coating systems, is about 100,000 square feet. The total amount of coated area covered by the dual coating system is about 26,000 square feet per containment. (Kostal at 5, 7.)

4. Under NRC regulatory requirements, coating systems must be designed to withstand the conditions of a design basis accident (DBA) without unduly degrading the performance of plant fluid systems. It is sufficient for this purpose if a coating system meets the requirements of ANSI Standard N101.2. (Kostal at 2-3.)

5. ANSI N101.2 requires that each coating system be qualified to the DBA. In practice, qualification is achieved by testing "coupons," i.e., sample metal substrates with the coating system applied as it will be in the field, to DBA ambient conditions. The coating system passes if the test coupon after exposure is compared to certain photographs of coating degradation in the applicable ASTM standard and shows degradation no more severe than that in a particular photograph. (Kostal at 2.)

6. Metal surface preparation is an important element of a coating system. Each coating method must be requalified for different metal preparation methods. The single coating system consisting of CZ-11 primer alone over bare metal was qualified over a metal surface prepared by sandblasting and over a metal surface prepared by power-tool grinding. The dual coating system consisting of a CZ-11 primer coat covered with a phenoline-305 top coat was qualified in accordance with ANSI N101.2 only over a sandblasted metal surface. (Leigh Affidavit at 2; Kostal Affidavit at 3-4.)

7. The applicable procedure for the application of coating systems was MIC Procedure QCP-3. This procedure fully carried into effect the

requirements of N101.2 by requiring that the dual coating system, CZ-11/Phenoline-305, be applied only over sandblasted metal surfaces. (Leigh Affidavit at 2.)

8. Containment liners were installed by first erecting 30' x 10' segments of liner plate into place, then welding them together. The 30' x 10' plates were sandblasted and coated with CZ-11 primer in the fabrication shop prior to erection, except that a narrow strip along each edge was left free of primer for welding. The plates were then welded together. (Leigh Affidavit at 2-3.)

9. After welding, the narrow, uncoated strips along each weld had to be coated with primer. However, by this time the weld strips had spots of weld spatter, small rust blooms, and occasional sharp edges. MIC personnel used a power tool to grind off these minor imperfections before applying the CZ-11 but did not re-sandblast the affected areas. (Leigh Affidavit at 2-3.)

10. Because the areas in question were to have a finish coat of Phenoline-305, the grinding of the affected areas without re-sandblasting created a situation in which the spots over which the dual coating system was applied on ground surfaces were not properly qualified in accordance with ANSI N101.2 (Kostal Affidavit at 3-4.)

11. ANSI N101.4 deals with quality assurance requirements for the application of coating systems in accordance with N101.2. N101.4 requires, *inter alia*, that surface preparation methods be properly inspected for conformity with the requirements specified in the application procedure. (Kostal Affidavit at 2-3.)

12. Applicable regulatory requirements allow for the existence of some unqualified coatings in containment. Perfection is not required. In particular, ANSI N101.4 provides for documentation for compiling a coatings exception list. The coatings exception list permits the totality of unqualified coatings in containment to be evaluated for acceptability in the light of the purposes of qualification. Edison has developed a coatings exception list and the areas relevant to this issue are on it. (Kostal at 7-8.)

13. The NRC Staff has accepted placement of the affected areas on the coatings exception list as adequate corrective action for this problem. (Kostal Affidavit at 8.)

14. The purpose of qualifying the coating system with a particular surface preparation method is to control adhesion and prevent delamination. If a coating were to delaminate in large pieces or sheets in large quantities after exposure to DBA conditions, it could clog the strainers of fluid systems necessary to control post-accident conditions in the

plant. Proper surface preparation controls adhesion of the coating and prevents delamination. (Kostal at 5-6.)

Disposition of Intervenor's Subcontention 5.C

The generic statement of Intervenor's Subcontention 5 appears at the outset of this section. Subcontention 5.C states:

- 5.C. Edison employed designs for safety-related HVAC duct supports based on Chapter E36.0 of S&L's Structural Standard Document which did not limit the slenderness ratio for ceiling-mounted duct supports. (Inspection Report 85-43/39, Exh. 19.)

Board's Ruling on Summary Disposition (5.C)

We *grant* summary disposition to Applicant on Subcontention 5.C. To facilitate preparation for hearing on the other issues, we will issue our full decision on this issue at some later date.

ROREM SUBCONTENTION ITEM 6.F

- 6. Contrary to Criterion V, "Instruction, Procedure and Drawings," of 10 C.F.R. Part 50, Appendix B, Commonwealth Edison Company has failed to ensure that activities affecting quality are prescribed by documented instructions, procedures, or drawings, and are accomplished in accordance with these instructions, procedures, or drawings.
- F. In June 1984, Phillips Getschow, piping contractor, found piping that violated minimum wall requirements. This defect was not reported to owner in accordance with 10 C.F.R. 21.21. (Inspection Report 84-21/20, Exhibit 20.)

On June 1, 1984, during a receipt inspection, Phillips Getschow Company identified a 10-foot section of pipe, 2 feet of which did not conform to the minimum thickness requirement of the materials specifications used for purchase of the pipe. The minimum wall requirement was 0.629 inch. Two feet of the 10-foot length were found to be 0.620 inch by digital ultrasonic measurement. (Staff Exh. 6.F-2 at 6.) This pipe was regarded as "customer-supplied material" by Phillips Getschow. Phillips Getschow identified and documented this deficiency on PGC Co (Phillips Getschow Company) NCR 1615 which was initiated on June 13, 1984. The disposition of NCR 1615 was to scrap the 2 feet of pipe containing the nonconforming section. This was the only length of pipe of this heat number ever received at the Braidwood site. (Affidavit of

David A. Boone at 3-4.) None of the nonconforming pipe was ever installed in the Braidwood facility. In its motion for summary disposition, CECo states that when Phillips Getschow identified the nonconforming pipe, Phillips Getschow performed an undocumented review for 10 C.F.R. Part 21 reportability. This review determined that the deficiency was not reportable under Part 21. Later reviews of this deficiency by Commonwealth Edison reached the same conclusion. Phillips Getschow procedure QAP-110, a procedure designed to facilitate compliance with 10 C.F.R. Part 21, required Phillips Getschow to notify Commonwealth Edison of the deficiencies such as those identified on NCR 1615. Phillips Getschow failed to report this deficiency pursuant to QAP-110. Applicant acknowledges this failure but argues that the deficiency which Phillips Getschow failed to report under QAP-110 was of a limited nature and that the incident has no significant implications for the quality of the Braidwood facility and concludes that the item of noncompliance, the failure to report, was an isolated occurrence.

Phillips Getschow's failure to submit NCR 1615 to Commonwealth Edison was identified through Phillips Getschow's corrective action in response to a Phillips Getschow corporate audit. This audit reviewed in part Phillips Getschow's compliance with the requirements of Procedure QAP-12 which required submission of NCRs to Commonwealth Edison. As part of their response to the corporate audit, Phillips Getschow documented the failure to submit NCR 1615 to Commonwealth Edison on Phillips Getschow NCR 2027, issued on September 4, 1984. (Boone Affidavit 6.F at 7-8). Phillips Getschow submitted NCR 2027 to Commonwealth Edison for review. Commonwealth Edison personnel documented its determination that NCR 2027 to which NCR 1615 was attached was not reportable under 10 C.F.R. Part 21. Mr. Boone, a Construction Field Engineer employed by Daniel Construction Co. on contract to Commonwealth Edison's Project Construction Department at Braidwood, has a specific recollection of reviewing NCR 1615 for reportability under Part 21 as a part of the review of NCR 2027. (Boone Affidavit at 8.) Commonwealth Edison approved NCR 2027 on September 12, 1984. This was several days before the NRC inspector discussed Phillips Getschow's failure to notify Commonwealth Edison of the deficiency documented on NCR 1615 with Phillips Getschow's QC Manager.

As a result of the NRC inspector's concerns, Phillips Getschow and Commonwealth Edison undertook additional corrective actions which CECo contends adequately resolve Phillips Getschow's failure to notify Commonwealth Edison of the deficiency identified by NCR 1615. Phillips Getschow issued a report of noncompliance in accordance with QAP-110. Commonwealth Edison informed the material supplier of the

deficiency and once again determined that the deficiency was not reportable under 10 C.F.R. Part 21. To ensure that Phillips Getschow personnel observed appropriate reporting procedures, Commonwealth Edison discussed this item with appropriate Phillips Getschow personnel. The corrective actions taken were acceptable to the NRC Staff and they closed this item. NRC Inspection Reports No. 50-456/85007 and 50-457/85007.

NRC Staff agrees with the Applicant that the incident described in Subcontention 6.F was an isolated incident of failure of one contractor to report a single deficiency pursuant to procedures and does not represent a pervasive breakdown in the Applicant's QA program. None of the information available to the Staff indicates any subsequent failure to comply with 10 C.F.R. Part 21 reporting requirements. Staff argues that Intervenor has not provided any information during discovery which supports a contrary view and because there are no genuine issues of material fact to be heard regarding this subcontention, Applicant appears to be entitled to a favorable decision on this subcontention as a matter of law.

Intervenor argues that there are still facts in dispute; that Phillips Getschow Company failed to report to Edison its identification of piping which violated minimum wall thickness specifications; and, that Commonwealth Edison, once it learned of the defects, failed to promptly inform the material supplier of the defect. The matter was brought to the attention of the NRC inspector by an anonymous tip that a safety concern existed and that the defect should have been reported to Edison management, pursuant to 10 C.F.R. Part 21. Ultimately, Edison informed the supplier of the defect but only after the NRC expressed concern about the matter to Phillips Getschow. In their response, Intervenor raises several questions, e.g.: Why didn't Phillips Getschow's NCR procedure require a Part 21 evaluation? Why didn't Edison, itself, report the defect to the supplier when it learned of the problem instead of waiting for the NRC action? Intervenor also questions the competence of Mr. Boone to sponsor the testimony on this issue, stating that Mr. Boone appears to be a licensing and compliance man with no stated personal knowledge of the matters in issue with the exception of the specific action referred to. Intervenor also states that they requested production of Phillips Getschow Company's review of closed NCRs. This information has not yet been made available to Intervenor. Intervenor also objects to portions of the affidavit of NRC Inspector Schulz (items 5, 6, 7, and first sentence of item 8) as being simple hearsay or opinion as to the ultimate factual issues.

Board's Ruling on Summary Disposition (6.F)

The Board *denies* the motion on this issue. While the Board accepts most of the Applicant's proposed material facts, the questions raised by Intervenor in its response require an answer through competent testimony.

Material Facts as to Which There Is No Genuine Issue to Be Heard (6.F)

1. On June 1, 1984, during a receipt inspection, Phillips Getschow Company identified 2 feet out of a 10-foot length of pipe which did not conform to the minimum thickness requirements of the material specification used for purchase of the pipe. This pipe was regarded as "customer-supplied material" by Phillips Getschow. Phillips Getschow identified and documented this deficiency on PGCo NCR 1615. The disposition of NCR 1615 was to scrap the 2 feet of pipe containing the non-conforming section. This was the only length of pipe of this heat number ever received at the Braidwood site. (Affidavit of David A. Boone at 3-4.) ("Boone Affidavit 6.F.")

2. Phillips Getschow Procedure QAP-110 required Phillips Getschow to notify Commonwealth Edison of the deficiencies such as those identified on NCR 1615. QAP-110 proceduralizes Phillips Getschow's obligations under 10 C.F.R. § 21.21. Phillips Getschow failed to report this deficiency pursuant to QAP-110. (Boone Affidavit 6.F at 5-6.)

3. Phillips Getschow Procedure QAP-12 required submittal of NCR 1615 to Commonwealth Edison for review. Commonwealth Edison's review of this NCR would have included a review of the failure of the 2-foot length of pipe to meet the wall-thickness specification for reportability under 10 C.F.R. Part 21. (Boone Affidavit 6.F at 6-7.)

4. Phillips Getschow failed to submit NCR 1615 to Commonwealth Edison. Phillips Getschow's failure to submit NCR 1615 to Commonwealth Edison was identified through Phillips Getschow's corrective action in response to a Phillips Getschow corporate audit. This audit reviewed, in part, Phillips Getschow's compliance with the requirements of QAP-12, which required submission of NCRs to Commonwealth Edison. As a part of their response to the corporate audit, Phillips Getschow documented the failure to submit NCR 1615 to Commonwealth Edison on Phillips Getschow NCR 2027 issued on September 4, 1984. (Boone Affidavit 6.F at 7-8.)

5. Phillips Getschow submitted NCR 2027 to Commonwealth Edison for review. Commonwealth Edison Project Construction documented its determination that NCR 2027, to which NCR 1615 was at-

tached, was not reportable before it approved NCR 2027 on September 12, 1984. Mr. Boone has a specific recollection of reviewing NCR 1615 for reportability under Part 21 as a part of the review of NCR 2027. (Boone Affidavit 6.F at 8.)

6. Phillips Getschow personnel responsible for submitting NCRs written against customer-supplied material or items to Commonwealth Edison were given training on the PGC Co QA Manual and implementing procedure QAP-12 on September 12, 1984. (Boone Affidavit for 6.F at 8.)

7. The NRC identified Phillips Getschow's failure to notify Commonwealth Edison of the deficiency identified in NCR 1615 under QAP-110 as item 2 in Inspection Report 50-456/84-21, 50-457/84-20. The NRC inspector discussed this concern with Phillips Getschow on September 17, 1984. (Boone Affidavit 6.F at 3, 9.)

8. As a result of the NRC's concerns, on September 19, 1984, Phillips Getschow issued a Report of Noncompliance to Commonwealth Edison pursuant to QAP-110 notifying Commonwealth Edison of the deficiency identified on NCR 1615. A Report of Noncompliance is the formal method prescribed by QAP-110 for initiating a Part 21 review by Commonwealth Edison. Upon notification, Commonwealth Edison informed the material supplier of the deficiency in the material and determined that the deficiency was not reportable under 10 C.F.R. Part 21. (Boone Affidavit 6.F at 9-10.)

9. As part of its response to the NRC's concern, Commonwealth Edison discussed this item with appropriate Phillips Getschow personnel to enhance awareness of the reporting requirements of QAP-110. (Boone Affidavit 6.F at 10-11.)

10. The NRC found Commonwealth Edison's corrective action acceptable and closed the item of noncompliance. (Boone Affidavit 6.F at 11.)

11. Phillips Getschow has initiated changes to its QA Manual. QAP/B-12 (formerly QAP-12) and to QAP/BR-110 (formerly QAP-110) and has developed QAP/BR-12.3 to enhance reporting. Under current procedure, Phillips Getschow performs a documented review of all NCRs for reportability under 10 C.F.R. Part 21. Only those NCRs which Phillips Getschow deems reportable are reported under QAP-110. (Boone Affidavit 6.F at 12-13.)

12. Phillips Getschow has evaluated all closed PGC Co NCRs generated on or before May 4, 1984, for potential reportability under 10 C.F.R. Part 21. Phillips Getschow determined that none of these NCRs were reportable. Phillips Getschow also evaluated a random sample of NCRs generated between May 4, 1984, and April 3, 1985, and determined that

none of these NCRs were reportable. Commonwealth Edison has evaluated those NCRs in this population which were not contemporaneously submitted for its review as required by Phillips Getschow's procedure and has concurred with Phillips Getschow's reportability reviews in all cases. (Boone Affidavit 6.F at 12-13.)

13. Phillips Getschow is in the process of implementing revisions to QAP-110 which will provide more specific criteria for evaluation and reporting of NCRs under 10 C.F.R. Part 21. (Boone Affidavit 6.F at 12-14.)

ROREM SUBCONTENTION ITEM 6.G

6.G. Applicant placed purchase orders with an unapproved bidder, H.H. Howard Corporation of Chicago, that did not have an approved QA program. Purchase orders were for cleaning of 206,744 feet of safety-related piping. (Inspection Report 84-17, Exhibit 12.)

In 1981, Edison decided to have a large amount of SA 106 Grade B carbon steel piping chemically cleaned because rust and corrosion had formed on the inside and outside surfaces of the pipe from exposure to the elements.

H.H. Howard documented the chemical cleaning methods that would be used, in a letter to Braidwood Project Construction. This list of methods was forwarded to Sargent & Lundy for review of technical adequacy prior to approval by Edison. A Field Change Request allowing the cleaning was then approved.

Edison did not detect this error because at the time Edison's procedure controlling the purchase of services did not require review by Edison's Quality Assurance Department of all purchase orders relating to safety-related equipment.

Applicant acknowledges that having the pipe cleaned by a non-safety-related vendor was an error and constituted a noncompliance with the requirements of Criterion V, "Instructions, Procedures, and Drawings" of Appendix B to 10 C.F.R. Part 50. Applicant concedes that its QA Manual at QP 4-1 requires that vendors of safety-related services be listed in an approved bidders list and that purchase orders for such services be reviewed and accepted by Applicant's Quality Assurance Department to assure that the necessary technical and quality requirements are included in the procurement documents and that the procurement is made from the plant location for which the vendor's quality assurance program is approved. Applicant contends that this noncompliance was

an isolated incident and Edison has taken effective corrective action to prevent recurrence.

Edison decided in 1981 to have chemical cleaning performed on a quantity of safety-related carbon steel small-bore pipe because rust and corrosion had formed on the pipe from exposure to the elements. Edison issued two purchase orders to the H.H. Howard Company for the cleaning process. These methods of cleaning were considered by CECO to be standard commercial methods and Edison believed they would not adversely affect the pipe. Edison erroneously concluded that the cleaning process itself was not safety-related and, accordingly, issued the purchase orders to H.H. Howard, a non-safety-related vendor. As a non-safety-related vendor, H.H. Howard was not required to have an approved QA program and was not on the approved bidders list. Edison now recognizes that sending the pipe to a non-safety-related vendor for cleaning was an error in judgment. This error went undetected because at that time Edison's procedure controlling the purchase of services did not require that Edison's Quality Assurance Department review all purchase orders related to safety-related equipment. To determine whether similar errors had occurred in other purchases affecting safety-related pipe, Edison reviewed other purchases of this type of service. No other purchases affecting safety-related pipe were found.

To prevent recurrence of this type of noncompliance, Commonwealth Edison revised Braidwood procedure PCD-07, "Site Purchasing Instructions." The revised procedure requires all purchases of services relating to safety-related equipment to be reviewed by the QA department. It also requires that Construction Supervisors review purchase requests to ensure proper inclusion of quality assurance requirements. When a procurement document designates a service relating to safety-related equipment as non-safety-related it must also designate the organization directing the work, the applicable QA program, required procedures, and any necessary procedure training. Thus, even non-safety-related services performed in connection with safety-related equipment must be performed in accordance with an approved QA program. The NRC Staff reviewed this corrective action and found it acceptable. The issue was closed in NRC Inspection Report 84-42.

The acceptability of the pipe that was chemically cleaned by H.H. Howard Company is the subject of Subcontention 11.C of Intervenor's QA Contention. Applicant and NRC Staff both argue that there appear to be no genuine issues of material fact to be heard regarding this subcontention as a matter of law. Intervenor's disagree. Intervenor's state that there are unanswered questions concerning this matter. For example: Why did Edison store this safety-related pipe outdoors in an

uncovered condition? Why did it decide to employ a chemical cleaning process in order to install this corroded pipe in the plant? And: Why did Edison employ an unapproved vendor without a quality assurance program to perform this critical task on a safety-related component? Intervenors also question whether Applicant's affiant Michael A. Gorski has personal knowledge of any of the matters stated in his affidavit and further states that neither Edison nor NRC looked into the question of the root cause of this item of noncompliance, stating that the cause, significance, and implication of Edison's handling of a vast quantity of safety-related material must be addressed on the merits and that summary disposition is inappropriate.

Board's Ruling on Summary Disposition (6.G)

The Board *grants* the motion. Although Intervenors raise some questions concerning the root cause of the noncompliance and the issue of direct knowledge as to matters stated in the affidavit, the matter was a one-time mistake, acknowledged as such by Applicant, with very little impact on the overall quality assurance program. There would be little value in holding an evidentiary hearing on this matter.

Board's Findings of Fact (6.G)

1. In 1981, Edison decided to have a large amount of SA 106 Grade B carbon steel piping chemically cleaned because rust and corrosion had formed on the inside and outside surfaces of the pipe from exposure to the elements. (Gorski Affidavit at 1.)

2. H.H. Howard documented, in a letter to Braidwood Project Construction, the chemical cleaning methods that would be used. This list of methods was forwarded to Sargent & Lundy for review of technical adequacy prior to approval by Edison. A Field Change Request allowing the cleaning was then approved. (Gorski Affidavit at 2.)

3. Edison did not detect this error because at the time Edison's procedure controlling the purchase of services did not require review by Edison's Quality Assurance Department of all purchase orders relating to safety-related equipment. (Gorski Affidavit at 2-3.)

4. Edison performed a review of other purchases of this type of service and found no other purchases affecting safety-related pipe. (Gorski Affidavit at 3.)

5. Edison revised its procedure controlling the purchase of services to prevent recurrence of this type of noncompliance. The revised procedure requires all purchases of services relating to safety-related equip-

ment to include reviews by the QA Department. The procedure also requires that Construction Supervisors review purchase requests to assure that QA requirements are included. The procedure also requires that when a procurement document designates a service for safety-related equipment as non-safety-related, the document also designates the organization directing the work, the applicable QA program, required procedures and any necessary procedure training. Thus, even non-safety-related services performed in connection with safety-related equipment must be performed in accordance with an approved QA program. (Gorski Affidavit at 3-4.)

6. The NRC Staff reviewed the corrective action taken by Edison and found it acceptable. This issue was closed in NRC Inspection Report No. 84-42. (Gorski Affidavit at 4.)

7. The issue whether the pipe cleaned by H.H. Howard Company is acceptable for use in safety-related applications is raised by Item 11.C of Intervenor's QA Subcontention. Edison has performed a detailed analysis of this issue and will present that analysis in response to Subcontention Item 11.C. (Gorski Affidavit at 4.)

ROREM SUBCONTENTION ITEM 6.I

6.I. Material installed for the pipe whip restraint plate was not of proper specifications. (Inspection Report 84-09, Exhibit 22.)

Board's Ruling on Summary Disposition (6.I)

We *grant* summary disposition to Applicant on Subcontention 6.I. To facilitate preparation for hearing on the other issues, we will issue our full decision on this issue at some later date.

ROREM SUBCONTENTION ITEM 9.A

Remem Subcontention 9.A states in pertinent part:

9. Contrary to Criterion IX, "Control of Special Processes," of 10 C.F.R Part 50, Appendix B, Commonwealth Edison Company has failed to ensure that measures are established to assure that special processes, including welding are controlled and accomplished in accordance with applicable codes, standards, specifications, criteria and other special requirements.
 - A. 127 safety-related structural steel fillet welds were painted prior to acceptance of the work and the welds were subsequently visually inspected for acceptance, with 79 accepted in the painted condition. In addition, visual weld inspections were not performed on safety-related full penetration welds

completed under the jurisdiction of Structural Specifications R/L-2735 and F/L-2722 prior to May 1, 1984. The welds were accepted based on other methods of nondestructive examination, but were not accepted in accordance with the requirements of Section 8.15, Quality of Welds, Visual Inspection.

Subcontention 9.A encompasses two separate events. Event I involves alleged inspection of fillet welds through paint. Event II involves an alleged failure to perform visual weld inspections on certain full-penetration welds. Only Event I was addressed in Applicant's Motion for Summary Disposition.

Board's Ruling on Summary Disposition (9.A)

The Board *denies* summary disposition and accepts certain material facts, as modified, as to which there is no genuine issue to be heard.

This issue arose through discovery by an NRC inspector in 1984 of a visual weld inspection report of Pittsburgh Testing Laboratories (PTL), Applicant's independent testing contractor, indicating that certain fillet welds had been inspected through paint. This was contrary to Braidwood Quality Procedures.

Upon learning of this problem, PTL reviewed the approximately 4000 visual inspection reports which had been completed up to that point in 1984 to determine if there were other instances where fillet welds had been inspected through paint. PTL discovered five other reports notating an inspection through paint. Altogether, the reports reflected the inspection of 127 welds in painted condition.

Applicant offers that it has taken measures to ensure that inspections, after the problem was identified, have been conducted in accordance with requirements, and has inspected and dispositioned the 127 identified welds to assure that the violation of procedures did not result in any hardware problems in the field.

As Intervenors point out, however, no explanation whatever is provided for the apparent assumption that in all instances where the welds were inspected through paint, the improper inspections were documented on the inspection reports themselves. Intervenors suggest that the two inspectors who documented this practice may have done so to evidence their protest of such obviously faulty inspection procedures or because they were especially diligent. Intervenors ask how many other welds might have been inspected through paint but not documented as such. Intervenors question why the faulty inspection procedure was adopted in the first instance and, secondly, why an effectively qualified

and trained PTL weld inspector would follow such an improper procedure, whether documented or not.

We agree with Intervenor's that these matters must be explored at a full evidentiary hearing.

Material Facts as to Which There Is No Genuine Issue to Be Heard (9.A)

1. In May 1984, while conducting a review of Pittsburgh Testing Laboratories (PTL) documents in connection with an unrelated matter, an NRC inspector found one visual weld inspection report which indicated that certain fillet welds had been inspected through paint. This inspection report had been prepared in 1980. The inspection report related to an inspection of structural steel fillet welds installed by Napoleon Construction Company (NCC). (Fred D. Forrest Affidavit at 3.)

2. The NRC inspector brought this visual weld inspection report to the attention of PTL's site manager. PTL's site manager acknowledged that an inspection of fillet welds through paint was contrary to PTL procedures. (Fred D. Forrest Affidavit at 3.) The NRC issued an item of noncompliance, severity level IV as a result of these improper inspections.

3. To determine whether there were further visual weld inspections which had been done through paint, the PTL site manager ordered a review of all PTL visual weld inspection reports which totaled approximately 4000 at that time. (Fred D. Forrest Affidavit at 3.)

4. Five additional visual weld inspection reports were found which contained a similar notation indicating that visual weld inspections had been done after the welds were painted. The six visual weld inspection reports involved were reports numbered 561, 709, 711, 713, 716, and 717. PTL found no other weld inspection reports indicating that inspections had been conducted of painted welds. (Fred D. Forrest Affidavit at 3-4.)

5. The welds covered by Report 561 had been visually inspected through paint, but Edison QA had also directed that the welds be subjected to magnetic particle inspection. Despite the prior successful magnetic particle inspection, Edison instituted an NCR to disposition the breach of visual weld examination procedures reflected in Report 561. The subject welds were reinspected visually and by use of magnetic particle examination in an unpainted condition pursuant to this NCR. (Fred D. Forrest Affidavit at 3-4.)

6. The other five visual weld inspection reports identified were all completed by a single PTL inspector in a 9-day period in 1980. The five

reports encompassed approximately 125 fillet welds. (Fred D. Forrest Affidavit at 4.)

7. PTL instituted an NCR to investigate and correct the problem represented by these five visual weld inspection reports. The method chosen by PTL to disposition this problem was to have the paint removed from the subject welds and to conduct a reinspection of each weld. (Fred D. Forrest Affidavit at 4.)

8. Upon further investigation, it was determined that certain of the original welds had been deleted in work done subsequent to 1980. It was also determined that certain of the welds were currently inaccessible because of work done subsequent to 1980. For all welds which were still in existence and accessible, Gust K. Newberg Construction Company ("Newberg"), the structural steel welding contractor at Braidwood in 1984, removed the paint from each weld. Within approximately 1 week of the discovery of the problem, PTL had conducted a reinspection of all of the welds which were still in existence and accessible. (Fred D. Forrest Affidavit at 4.)

9. Upon reinspection, PTL accepted some of the welds and did not accept others. Most of the welds which were not accepted by PTL upon reinspection were reworked by Newberg. These reworked welds were subsequently inspected and accepted by PTL. (Fred D. Forrest Affidavit at 4-5.)

10. It was determined upon reinspection that certain of the fillet welds that had been placed in 1980 were shorter than what was called for.

11. In addition, three of the welds encompassed by the subject reports were dispositioned pursuant to Edison NCRs. Two of these welds were inaccessible because of work done in 1980. These were analyzed by Sargent & Lundy. One of the inaccessible welds was found not to require analysis because subsequent work had made it redundant. The other was accepted by Sargent & Lundy after reviewing the results of PTL's reinspection of the other welds included in the subject inspection reports. Sargent & Lundy found that the design margin for the inaccessible weld was high compared to the type of weld deficiencies found in similar welds, concluding the weld could be accepted "as is." The third weld which was the subject of an Edison NCR was a fillet weld which was shorter than called for by the design drawings and for which there was insufficient room to place a longer weld. Sargent & Lundy found that the weld was of sufficient length. (Fred D. Forrest Affidavit at 5.)

12. By January 1985, all of the welds which had not been deleted had been inspected and accepted or dispositioned pursuant to Newberg and Edison NCRs. (Fred D. Forrest Affidavit at 6.)

13. All of the welds which were included in visual weld inspection report numbers 561, 709, 711, 713, 716, and 719 have now been reinspected in an unpainted condition and accepted or have been dispositioned pursuant to Newberg and Edison NCRs. (Fred D. Forrest Affidavit at 6.)

14. After discovery of this problem in May 1984, Edison issued a letter to PTL directing that all future visual weld inspections shall be done while welds are in an unpainted condition to prevent recurrence of the problem. PTL's site manager has also instructed his inspectors that all inspections shall be done in accordance with procedures. (Fred D. Forrest Affidavit at 6-7.)

15. NRC has closed out this item of noncompliance after review of the corrective action taken by the Licensee and its contractors. (NRC Inspection Reports No. 50-456/85-40 and 50-457/85-39.)

ROREM SUBCONTENTION ITEM 9.C

Roem Subcontention 9.C states in pertinent part:

9.C. Nine L.K. Comstock filler metal withdrawal authorization forms documented the release of E-7018 weld rod for cable pan welds between May 25, 1982, and July 28, 1985 (Inspection Report 84-13, Exhibit 24).

Board's Ruling on Summary Disposition (9.C)

The Board *denies* summary disposition and accepts certain material facts, as modified, as to which there is no genuine issue to be heard.

During a routine safety inspection in 1984, NRC resident inspectors reviewing over 300 filler metal withdrawal authorization forms at L.K. Comstock (LKC) found that nine of them documented the release of E-70 series electrodes for use in cable pan welding, when LKC procedures had specified the use of E-60 series of electrodes. Five of the nine forms indicated that E-60 weld drives had been used, although their heat numbers corresponded to E-70 electrodes. Thus, the accuracy of the filler metal withdrawal authorization forms was in doubt. To disposition this discrepant condition, LKC revised its procedures in order to improve control of the filler metal and committed itself to a review of all filler metal withdrawal forms issued since the start of the project. Subsequently, it did not complete the review, but, on an engineering evaluation, determined that there was no design significance to interchanging the two types of weld rods. NRC accepted this disposition.

Intervenors point out that no effort was made to determine the root cause of the document discrepancy problems that resulted in the wrong heat numbers or rod-type specifications being listed on the quality documents. Furthermore, they challenge the engineering judgment that there was no design significance to interchanging the two types of weld rods, on the basis of deposition testimony that the workability of the two types of rods was different, which could result in welds with subsurface porosity or cracking that might be undetectable even upon visual inspection.

While this Board is not concerned, in general, with the "hardware" issues, i.e., the safety effects of each of the identified quality assurance discrepant conditions, we have a concern about the validity of an engineering judgment that disposes the entire issue so that the root cause and the extent of the document discrepancy problems have not been examined.

We believe an evidentiary hearing on this matter is necessary.

Material Facts as to Which There Is No Genuine Issue to Be Heard (9.C)

1. Filler material withdrawal authorization forms at L.K. Comstock (LKC) document the release of electrodes to welders. During a routine safety inspection from June 5 through July 6, 1984, NRC resident inspectors reviewed over 300 such forms and found that nine of them documented the release of #7018 weld rod, an E-70 series electrode, for use in cable pan welding. The NRC Staff assessed a severity level IV item of noncompliance as a result of this finding. Sargent & Lundy drawings and LKC procedures had specified use of E-60 series electrodes for cable pan welding. Although five of the nine forms indicated that E-6013 weld rods had been used, their heat numbers corresponded to E-7018 weld rods. Thus, the accuracy of the metal withdrawal authorization forms (identification of weld rods as E-60 or E-70 series) was indeterminate. (Affidavit of James W. Giesecker at 2, 3 (hereinafter "Giesecker Affidavit").)

2. Cable pans are thin-gauge carbon steel channels supported by hangers at regular intervals. The cable pan welds for which E-60 series had been specified, but E-70 series weld rods may have been used, are those which attach a cable pan to its support. Nonconformance Report (NCR) 3275 was issued by LKC to track and disposition the discrepancy. (Giesecker Affidavit at 3-4.)

3. LKC took the following steps to disposition NCR 3275. First, LKC Procedure 4.3.10 Rev. D was revised in order to improve control

of filler metal. Additionally, appropriate personnel involved in issuance and control of filler metal received training in the applicable procedure. Finally, LKC committed itself to a review of all filler metal withdrawal forms issued since the start of the project to identify any additional document discrepancies in which actual heat numbers might not match the type of electrode withdrawn, as was the case with five of nine withdrawal forms discussed above. The NRC closed this item on March 12, 1985, in Inspection Reports No. 50-456/85-005(DRS) and 50-457/85-005(DRS). (Gieseke Affidavit at 4.)

4. LKC did not complete a review of all such forms; instead, it dispositioned the discrepancy by an engineering analysis that concluded that there was no design significance to interchanging E-60 weld rods with E-70, or vice-versa.

5. A subsequent NRC inspection found that no significant deficiency exists in either LKC's control of filler metal withdrawal or in its documentation. Inspection Reports No. 50-456/85-009(DRS) and 50-457/85-009(DRS). A random sample of LKC filler metal withdrawal forms covering a 3-year period by the NRC inspector identified one typographical error and one misfiling. No other deficiencies were found. The report also concluded that LKC had in place adequate weld filler material controls, in light of the corrective action LKC had taken in NCR 3275 to improve control of filler metal. (Gieseke Affidavit at 6.)

ROREM SUBCONTENTION ITEM 9.D

9. Contrary to Criterion IX, "Control of Special Processes," of 10 C.F.R Part 50, Appendix B, Commonwealth Edison Company has failed to ensure that measures are established to assure that special processes, including welding are controlled and accomplished in accordance with applicable codes, standards, specifications, criteria and other special requirements.

D. [A] quality [structural steel, flux core welding procedure,] was not approved for use by the Architect-Engineer, Sargent & Lundy, but was released for use in installation by the structural steel contractor and documented as being used for cover plate welds. Furthermore, the welder documented as performing the welding was not qualified. In addition, RPS Division loop B, reactor records identifying the welder or welder filler metal utilized. (The words in brackets represent corrections to Intervenors' statement of the NRC item of noncompliance set forth in Subcontention 9.D.)

Subcontention 9.D encompasses two separate events. Event I involves alleged use of an unapproved structural steel welding procedure by an allegedly unqualified welder. Event II involves the absence of complete documentation for a socket weld joint for instrumentation piping. A

separate statement of material facts as to which there is no genuine issue to be heard is provided for each event. The two events are discussed together, since they were characterized as separate examples of one severity level V item of noncompliance by the NRC Staff.

Board's Ruling on Summary Disposition (9.D)

We *grant* summary disposition to Applicant on Subcontention 9.D. To facilitate preparation for hearing on the other issues, we will issue our full decision on this issue at some later date.

ROREM SUBCONTENTION ITEM 10.F

10. Contrary to Criterion X, "Inspection," of 10 C.F.R Part 50, Appendix B, Commonwealth Edison Company has failed to ensure that a program for inspection of activities affecting quality was established and executed by or for the organization performing the activity to verify conformance with the documented instructions, procedures and drawings for accomplishing the activity.

F. Electrical contractor, Comstock, inspected and accepted a junction box which was later determined to have deficiencies in the location of the anchors used for mounting of the junction box. Anchors were accepted even though they were 3" from the required location specified by Sargent & Lundy Drawing 20E-1-3571.

Board's Ruling on Summary Disposition (10.F)

We *grant* summary disposition to Applicant on Subcontention 10.F. To facilitate preparation for hearing on the other issues, we will issue our full decision on this issue at some later date.

ROREM SUBCONTENTION ITEM 12.E

12. Contrary to Criterion XVI, "Corrective Action," of 10 C.F.R Part 50, Appendix B, Commonwealth Edison Company has failed to ensure that measures were established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances are promptly identified and corrected. And in the case of significant conditions adverse to quality, Applicant failed to ensure that the cause of the condition is determined and corrective action taken to preclude repetition.

E. Although BCAP had identified that Level I QA inspectors had inspected and accepted construction activities, this nonconforming condition was not documented as a BCAP observation. (Inspection Report 85-06, Exhibit II.)

This subcontention asserts that the BCAP (Braidwood Construction Assessment Program) Task Force identified a nonconforming condition but failed to document it as a BCAP observation. The alleged nonconforming condition relates to Comstock use of Level I inspectors for visual weld inspections. Applicant states that the BCAP Task Force did, in fact, issue an observation documenting Comstock's practice. The NRC Staff has withdrawn the item of noncompliance upon which this subcontention is based. Applicant contends that there was no violation of Criterion XVI of 10 C.F.R. Part 50, Appendix B. Applicant argues that, while it is true that there was a failure of communication between the BCAP Task Force and the NRC Staff inspector, it is also apparent from the circumstances that the proposed item of noncompliance would never have been issued had the NRC Staff inspector not been monitoring the activities of the BCAP Task Force exceptionally closely and had the Assistant Director of BCAP not been open and candid in advising the NRC Staff inspector of the task force's deliberations concerning whether the identified Comstock practice was or was not a violation of the applicable requirements of ANSI Standard N45.2.6-1978. Applicant contends that Subcontention Item 12.E is based on a factual error and asserts that the BCAP Task Force failed to document something which, in fact, it did document. The steps Commonwealth Edison is taking to resolve the NRC Staff's concern regarding Comstock's use of Level I inspectors are described in the affidavit submitted in response to Subcontention Item 3.C. These actions are not material with respect to this Subcontention Item 12.E. Even if the Licensing Board were to conclude there is a genuine issue of material fact as to Subcontention Item 3.C, Applicant contends that the Licensing Board can grant summary disposition on Subcontention 12.E.

Staff agrees with Applicant that Rorem Subcontention 12.E is premised on a factual error and shares the Applicant's view that there is no genuine issue as to any material fact regarding this subcontention. The fact is that BCAP personnel did not fail to identify instances in which Level I QC inspectors were used to inspect and accept construction activities. Consequently, the facts underlying Rorem Subcontention 12.E do not indicate that Applicant has violated 10 C.F.R. Part 50, Appendix B, Criterion XVI by failing to assure that conditions adverse to quality were "promptly identified and corrected." Accordingly, both Applicant and Staff submit that there is no genuine issue as to any material fact to be heard and Applicant is entitled to a favorable decision on this subcontention as a matter of law.

Intervenors do not agree, stating that Edison's Braidwood Construction Assessment Program (BCAP) has been presented to the NRC and

the public as a comprehensive assessment of a quality of construction of the Braidwood facility. Intervenor's allege that BCAP refused to acknowledge the serious programmatic QA deficiencies represented by the practice of utilizing Level I QC inspectors to perform the visual inspection of welds and that this casts serious doubt on the integrity and reliability of the BCAP effort. Intervenor's state that documenting the Level I concern as an observation was initiated only after NRC Inspector Ron Gardner had identified his dissatisfaction with BCAP's failure to do so. Far from demonstrating a conservative, cautious approach to a significant question implicating quality and safety of construction, Intervenor's allege that BCAP's treatment of the Level I QC inspector issue evidences a false and overly technical defense of a flaw in the inspection practice. Intervenor's contend that Subcontention Item 12.E must be considered together with Subcontention 3.C which raises the substance of the improper use of Level I QC inspectors.

Board's Ruling on Summary Disposition (12.E)

The motion for summary disposition is *granted*. The Board agrees with Applicant and Staff that there are no genuine issues of material fact to be heard concerning this contention, and Applicant is entitled to a favorable decision on its motion. Any concerns about the improper use of Level I inspectors can be ventilated during the litigation of Rorem Subcontention 12.E.

Board's Findings of Fact (12.E)

1. In late 1984, the Braidwood Construction Assessment Program (BCAP) Task Force noted that Comstock's procedures for visual inspections of welds required that the inspectors who performed the inspection be certified to at least Level I, and also required that each inspection report be reviewed and approved by a Level II inspector. (Affidavit of George Orlov on Rorem QA Subcontention 12.E (hereinafter, "Orlov Affidavit") at 5.) The question arose within the BCAP Task Force whether this practice was consistent with the requirements of the applicable standard, ANSI N45.2.6-1978 (*Id.*).

2. ANSI N45.2.6-1978 is ambiguous as to what methods Level II inspectors must use to establish the acceptability of Level I inspectors' visual weld inspection results, and the degree of responsibility which may be given to Level I inspectors performing such visual weld inspections. (Orlov Affidavit at 4-5; Deposition of Ronald N. Gardner, dated October 31, 1985, at Tr. 66-71.)

3. In late 1984, the Assistant Director of BCAP, George Orlov, told NRC Project Inspector Ron Gardner that the BCAP Task Force would document this concern with respect to Comstock's practice by issuing an observation. However, in February 1985, Mr. Orlov told Mr. Gardner that the BCAP Task Force would not issue such an observation because Comstock's practice did not depart from the requirements of ANSI N45.2.6-1978. (Orlov Affidavit at 6-9; Gardner Deposition at Tr. 57-58, 62-63.)

4. After this conversation, Mr. Orlov sensed that he had failed to convince Mr. Gardner that Comstock's practice was acceptable. Accordingly, he discussed Mr. Gardner's concern with the BCAP Task Force Director, who directed him to document the question concerning Comstock's practice by issuing an observation. (Orlov Affidavit at 10). This observation was in fact issued on February 27, 1985. (Orlov Affidavit at 10, and Exh. A.)

5. Prior to the completion of Mr. Gardner's inspection on March 1, 1985, the BCAP Task Force failed to communicate effectively to Mr. Gardner the fact that this observation had been issued. (Orlov Affidavit at 10.)

6. On March 8, 1985, the NRC Staff issued Inspection Reports No. 50-456/85-006 and 50-457/85-006 which included as an item of non-compliance the following statement:

Although the Braidwood Construction Assessment Program (BCAP) had identified that Level I QA inspectors had inspected and accepted construction activities, in violation of the requirements delineated in ANSI N45.2.6, this nonconforming condition was not documented as a BCAP observation.

(Orlov Affidavit at 3.)

7. CECO responded to this Inspection Report on May 6, 1985, and showed Mr. Gardner the BCAP observation written on February 27, 1985. (Orlov Affidavit at 10, and Exh. B.) On June 27, 1985, the NRC Staff agreed that this was not an item of noncompliance. The NRC Staff stated that the information presented in CECO's response was not known to the NRC inspector at the time of the inspection. (Orlov Affidavit, Exh. C.)

ROREM SUBCONTENTION ITEM 12.F

12.F. In addition, 37 BCAP observations were invalidated by S&L even though the documented basis for the invalidations of the observations did not support the invalidations. (Inspection Report 85-06, Exh. 11.)

A "Red Line Drawing" is a blueprint of a piping isometric drawing on which field changes to piping dimensions or routing are recorded, typically using a red pen. The purpose of a Red Line Drawing is to document any potential differences between the piping configuration in the architect/engineer's initial design and that which is eventually installed.

QC verification of the information contained in Red Line Drawings is required by 10 C.F.R. Part 50, Appendix B, and relevant CECO and Phillips Getchow Company (PGCo) procedures.

In its motion for summary disposition, Applicant states that Subcontention 12.F asserts that thirty-seven BCAP observations were invalidated by S&L (Sargent & Lundy). Applicant states that is not true. S&L recommended that thirty-seven BCAP observations relating to the lack of QC signatures on "Red Line Drawings" be invalidated but that recommendation was never accepted. The thirty-seven Red Line observations never were invalidated. (Orlov Affidavit at 11.) Applicant states that the BCAP task force at one time intended to invalidate the thirty-seven Red Line observations, but on a different basis from that suggested by Sargent & Lundy; namely, that the QC signatures on Phillips Getchow Company's Stop Work Order (SWO) forms were an acceptable substitute for the missing QC signatures on the Red Line Drawings. However, subsequent investigation by the BCAP Task Force and site QA personnel showed that the SWO forms were not acceptable alternative documentation, so the thirty-seven observations remain valid. The thirty-seven observations are being resolved by site QA. (Hunsader Affidavit at 1-3.) In its motion, Applicant states that the facts relating to this contention item illustrate the extremely strict scrutiny to which the BCAP Task Force was subjected. The Independent Expert Overview Group (IEOG) issued an observation relating not to a BCAP Task Force action, but to a Sargent & Lundy recommendation. Similarly, the NRC Staff issued an item of noncompliance to the BCAP Task Force for proposing to invalidate the thirty-seven observations (without, in the NRC Staff judgment, sufficient prior inquiry into the basis for the proposed invalidation). The NRC Staff maintained that this was an item of noncompliance even after being informed that the BCAP Task Force was awaiting the results of a QA surveillance prior to actual invalidation of the thirty-seven observations. Subsequently, in response to a recommendation from an NRC Staff, BCAP QA committed to review 100% of all invalidated BCAP observations and discrepancies to ensure that sufficient justification for such invalidation exists.

Applicant maintains that not only is Subcontention Item 12.F based on a misstatement of fact but the circumstances surrounding the issue

increase rather than diminish confidence that all conditions adverse to quality identified by the BCAP have been appropriately addressed.

NRC Staff generally agrees with Applicant and believes that the motion for summary disposition should be granted. The NRC Staff apparently did not recognize that Sargent & Lundy's action with respect to these thirty-seven BCAP observations was a recommendation for an invalidation rather than an outright invalidation. In evaluating Sargent & Lundy's justification, NRC Inspector Gardner learned that the QC inspector who signed the Stop Work Order (SWO) was not always the same QC inspector who actually performed the inspection in the field. Because of this, the existence of a signed SWO form was not an acceptable substitute for the lack of a QC signature on the verification drawing. It was on this basis that the Staff determined that the invalidation of the thirty-seven BCAP observations was an example of noncompliance with 10 C.F.R. Part 50, Appendix B, Criterion XVI, which requires Applicant "to assure that conditions adverse to quality . . . are properly identified and corrected."

While Applicant disagreed that the item at issue constituted an example of noncompliance, nevertheless, to address the Staff's concern, Applicant took two corrective actions. First, BCAP quality assurance personnel established mandatory hold points during the processing of invalidated observations or discrepancies to allow quality assurance personnel to review the justification for validation. Second, BCAP quality assurance personnel reviewed observations and discrepancies previously invalidated to ensure that sufficient justification for the invalidation existed.

The NRC Staff opines that there is no evidence indicating that the violation giving rise to Rorem Subcontention 12.F is not an isolated occurrence. The Staff feels that adequate measures have been taken by Applicant to remedy that violation, and the Staff's concerns have been resolved. Both Applicant and Staff say there is no genuine issue as to any material fact that needs to be heard, and Applicant is entitled to a favorable decision on its motion for summary disposition on Rorem Subcontention 12.F.

Intervenors disagree, stating that BCAP observations on this matter were improperly invalidated by Sargent & Lundy. BCAP failed to document any disagreement with the Sargent & Lundy invalidation until after the NRC inspection and admission of an amended quality assurance contention. Intervenors state that a series of decisions reflected in this item of noncompliance further evidence the overly narrow apologist approach taken by BCAP management toward serious and blatant quality assurance flaws. Intervenors also state that BCAP continued to defend

the improper practice of failing to require quality control field verification of the accuracy of as-constructed piping drawings in the face of an obviously vague and imprecise procedure and in the absence of any initiative to determine and evaluate actual practice. Intervenor's argue also that, in substance, Sargent & Lundy did, in fact, invalidate the thirty-seven BCAP observations without the least objection from BCAP, at least, not until Edison's May 6, 1985 response to the NRC items of non-compliance. (Orlov Affidavit, Exh. B.) Intervenor's state that Edison's argument rests on its interpretation of the BCAP procedure requiring BCAP to make the final determination of validity. The Independent Expert Overview Group (IEOG), the Evaluation Research Corporation (ERC), seems to have gotten it clear in the minds of the Intervenor's where they stated "S&L has responded to several BCAP observations . . . declaring them to be invalid." Intervenor's also state that no documentation whatever was filed with Applicant's motion for summary disposition evidencing BCAP disagreement with Sargent & Lundy's invalidation recommendation and none was produced upon request at or during Mr. Orlov's deposition. Mr. Orlov explained that the relative portions of the observation form were in the QA vault. When asked to specify when BCAP documented its disagreement with Sargent & Lundy's invalidation recommendation of December 27, 1984, Mr. Orlov identified the date as July 1985, more than 6 months after the NRC identified the noncompliance after Edison responded to the noncompliance and even after the admission of Intervenor's amended quality assurance contention raising this issue. Intervenor's contend that important issues remain for resolution regarding the reasons for such actions by BCAP and particularly the implications of such actions for the integrity of the BCAP program and that summary disposition is inappropriate and should be denied.

Board's Ruling on Summary Disposition (12.F)

Applicant's motion is *denied*. Questions raised by Intervenor's concerning the documentation of BCAP's disagreement with S&L's recommendation on the thirty-seven Red Line observations have not been fully answered and remain for hearing.

Material Facts as to Which There Is No Genuine Issue to Be Heard (12.F)

1. A "Red Line Drawing" is a blueprint of a piping isometric drawing on which field changes to piping dimensions or routing are recorded,

typically using a red pen. The purpose of a Red Line Drawing is to document any potential differences between the piping configuration in the architect/engineer's initial design and that which is eventually installed. (Affidavit of George Orlov on Rorem QA Subcontention 12F (hereinafter "Orlov Affidavit" at 3-4).)

2. QC verification of the information contained in Red Line Drawings is required by 10 C.F.R. Part 50, Appendix B, and relevant CECO and Phillips Getschow Company (PGCo) procedures. (Orlov Affidavit at 4.)

3. The BCAP Task Force initially interpreted the relevant PGCo procedure to require that there be a QA signature on each Red Line Drawing, indicating that QC verification had taken place. (Orlov Affidavit at 5-6.) The BCAP Task Force document reviewers quickly found thirty-seven Red Line Drawings for small-bore piping with no such QC signature, and accordingly the BCAP Task Force issued thirty-seven observations. (*Id.*)

4. In accordance with BCAP procedures, the architect/engineer Sargent & Lundy (S&L) reviewed the thirty-seven BCAP observations. At the end of December 1984 S&L recommended that all these observations be invalidated on the basis that the Red Line Drawings reviewed by the BCAP Task Force (which were called "re-lined record copy isometrics") were not required by the applicable S&L specifications or by the applicable PGCo procedures. (Orlov Affidavit at 5-7.)

5. On January 14, 1985, the Independent Expert Overview Group (IEOG) identified a concern regarding this S&L recommendation. IEOG indicated that the S&L recommendation was based on a technicality as to some of the Red Line Drawings, and that the thirty-seven observations were not invalid. (Orlov Affidavit at 7, and Exh. B.)

6. The IEOG concurred with the BCAP Task Force's proposed corrective actions. IEOG indicated that its observation would remain open until the BCAP's corrective actions were completed and subsequently verified by IEOG. (Orlov Affidavit at 9.)

7. In February 1985, the results of the BCAP re-review and the site Quality Assurance surveillance indicated that the SWO forms were not acceptable alternative documentation of QC verification of piping configurations and dimensions, because the signatures on the SWO forms were those of office QC technicians rather than field QC inspectors who performed the piping inspections. (Orlov Affidavit at 11.)

8. Also in February 1985, NRC Project Inspector Ron Gardner performed a followup review of the BCAP's response to the IEOG observation relating to the thirty-seven Red Line Drawings. At PGCo, he determined that the SWO forms were not acceptable alternative documenta-

tion. He later informed BCAP Task Force personnel that the BCAP Task Force should have done this research prior to submitting its January 25, 1985 response to the IEOG observation, indicating that the thirty-seven Red Line observations were invalid. (Orlov Affidavit at 12.) On March 8, 1985, the NRC Staff documented this inspection finding as an item of noncompliance. (*Id.*)

9. In response to an NRC Staff recommendation, on March 22, 1985, BCAP QA established mandatory hold points which prohibited the BCAP Task Force from invalidating any BCAP observations or discrepancies without BCAP QA review and concurrence. In addition, BCAP QA reviewed previously invalidated BCAP observations and discrepancies to ensure that sufficient justification for the invalidations exists. (Affidavit of Neil P. Smith on Rorem QA Subcontention 12.F (hereinafter "Smith Affidavit").)

ROREM SUBCONTENTION ITEM 12.J

12.J. In two areas, supports/restraints and piping runs, deficiencies were identified by the NRC CAT that were not identified by the BCAP inspectors. On the basis of the limited sample overinspected, it appears that BCAP inspection effort needs to be improved in areas of supports/restraints and piping runs.

Subcontention 12.J is based on the results of an NRC Construction Assessment Team (CAT) finding. The CAT inspection took place in December 1984 and January 1985, early in the period of the BCAP Task Force inspections when only a limited number of hardware items had been inspected by the BCAP Task Force. In four of the six areas overinspected by the CAT, there was general agreement between BCAP and CAT findings. Deficiencies in piping runs and pipe support/restraints were found by the CAT but were not identified by the BCAP Task Force inspectors working in those areas. The affidavit of Ed Shevlin, the BCAP Task Force Lead Mechanical/Welding Inspector, states that by his (Shevlin) count, three mistakes were made by a BCAP Task Force inspector in inspecting pipe runs and two BCAP Task Force inspector mistakes were made in inspecting supports/restraints. Other differences between the BCAP Task Force and the CAT were attributable to the instructions given to the BCAP Task Force inspectors or a different inspection technique. In its motion for summary disposition, Applicant concedes that in the two areas, piping runs and supports/restraints, deficiencies not identified by BCAP inspectors were found by the NRC Construction Appraisal Team (CAT) but argues that even the best inspectors make mistakes occasionally. It is unrealistic to expect perfection in QC

inspection activities anymore than in any other field of human endeavor. Applicant also implies that because BCAP inspections were just beginning in these areas, BCAP QA overinspections of BCAP Task Force inspection work had not begun and would likely have uncovered the same deficiencies identified by the NRC Construction Assessment Team.

In the area of pipe supports/restraints, the BCAP Task Force reverified all attributes called into question by the CAT findings on all previously inspected pipe supports/restraints. In the reverification program, no BCAP task force inspector reinspected his own work. The reverification program for supports/restraints resulted in only twenty new observations of which only eight were attributable to inspector error. Based on this reverification program, the initial BCAP task force inspections for these attributes were determined to be greater than 98% accurate. (Shevlin Affidavit at 26-27.)

In addition to the actions taken by the BCAP Task Force in response to the CAT findings, BCAP QA carried out an overinspection program in which from 16 to 23% of the BCAP Task Force inspections in the pipe run and pipe supports/restraint construction categories were overinspected by BCAP QA inspectors. The acceptance criteria for agreement between BCAP Task Force inspections and BCAP QA inspections was set at 95% for objective attributes, and 90% for subjective attributes. The BCAP Task Force inspections exceeded these acceptance criteria in each piping run and pipe supports/restraint construction category. (Smith Affidavit at 15.) Applicant argues that the affidavit submitted in support of this motion shows that there is no genuine issue of material fact to be heard with respect to the adequacy of BCAP Task Force inspections of pipe runs and pipe supports/restraints. Applicant contends that its inspection activities for piping runs and pipe supports/restraints complies with Criterion XVI of 10 C.F.R., Part 50, Appendix B. The NRC Staff agrees. As a result of the CAT inspection, in addition to a partial repeat inspection of 160 previously reinspected mechanical pipe supports, Applicant revised BCAP instructions for inspectors and additional training was provided to BCAP inspectors. (Gardner Affidavit 12.J, Item 11, at 133.) Staff affiant, Gardner, opined that these corrective actions adequately address the CAT findings and subsequent inspections of BCAP inspector performance in these areas provide further assurance that the BCAP inspection effort has been satisfactory. In his affidavit he reports that this item will be closed in the final BCAP inspection report expected to be issued in February 1986.

Intervenors disagree with both Applicant and Staff and contend that Edison and its Braidwood Construction Assessment Program (BCAP) have failed to ensure that conditions adverse to quality are identified

and corrected in a timely manner. Intervenor's contend that the Construction Sampling Reinspections (CSR) are at the core of the BCAP effort to assess and establish the quality of construction at Braidwood. Serious questions exist as to the effectiveness of the CSR inspection effort. In their answer to Applicant's motion for summary disposition on Subcontention 12.J, Intervenor's cite additional construction deficiencies which, they state, reinforce the CAT findings. Intervenor's cite Inspection Report 85-02 of February 13, 1985, where an NRC inspector witnessed overinspections of a concrete placement and noted four deficiency items not found by BCAP inspectors and an overinspection of electrical concrete hangers where additional items, again not found by BCAP inspectors were noted. Intervenor's contend that certain portions of Mr. Gardner's affidavit are unreliable based on (1) failure to affirmatively demonstrate competence to testify on the matters based on personal knowledge; and (2) impermissible expressions of opinion as to the ultimate facts. Intervenor's allege that ¶ 7 of Mr. Gardner's affidavit regarding the CAT inspection is hearsay and not founded upon personal knowledge and Mr. Gardner's statements in ¶ 12 are opinion as to the ultimate facts and are, therefore, unreliable, stating that in his opinion that Item 12.J will be closed in the final BCAP inspection report is mere speculation. The item remains open. Applicant and Staff both state that with regard to Subcontention 12.J BCAP inspection efforts were, in fact, improved in the areas of pipe supports/restraints and pipe runs and that Intervenor's have not presented any information during discovery to controvert Mr. Gardner's or Applicant's assertions.

Board's Ruling on Summary Disposition (12.J)

The Board *denies* the motion for summary disposition. The issues are apparently still open with respect to the NRC Staff's and the BCAP's final inspection reports either not yet completed and/or not part of the motion submitted. Staff's and Applicant's experts should be subject to questioning on their conclusions at an evidentiary hearing.

Material Facts as to Which There Is No Genuine Issue to Be Heard (12.J)

1. As documented in Inspection Reports 50-456/84-44 and 50-457/84-40, an NRC Construction Assessment Team (CAT) inspection was performed on December 10-20, 1984, and January 7-18, 1985, at the Braidwood site. The schedule for the Braidwood Construction Assessment Program (BCAP) inspections was such that only limited hardware

samples were available for NRC CAT overinspection. It was possible to overinspect a very small sample of hardware in the areas of pipe supports/restraints, piping runs, HVAC supports and ducts for welding, HVAC ducts for configuration, and conduit runs. In four of the six areas that were overinspected there was general agreement between BCAP and NRC CAT findings: in two areas, pipe supports/restraints and piping runs, deficiencies were identified by the NRC CAT that were not identified by the BCAP inspectors. (*Id.* at A-1.)

2. The BCAP Task Force inspectors who performed inspections of piping runs and pipe supports/restraints were all certified to ANSI N45.2.6-1978, Level II or Level III. Their average quality control experience was approximately 9 years. None of them had any prior involvement with Braidwood. (Shevlin Affidavit at 3-6.)

3. With respect to piping runs, the BCAP inspections overinspected by the NRC CAT were associated with four isometric drawings. Two differences in findings were identified, both involving the same isometric drawing and the same BCAP Task Force inspector. In one case, the BCAP inspector had failed to add to her measurement a "take-out" dimension (a dimension taken from a table when measuring a curved section of pipe). In the other case, a mistake in the isometric drawing contributed to the BCAP inspector's error. (Shevlin Affidavit at 10-13.)

4. The BCAP Task Force Lead Mechanical/Welding Inspector, Ed Shevlin (who is certified to ANSI N45.2.6-1978 Level III) discussed these errors in detail with the BCAP Task Force inspector involved and with all of the BCAP Task Force inspectors, reviewing measurement techniques and the use of "take-out" dimensions, as well as reminding them to take the time necessary to do each inspection correctly. He also directed two BCAP Certified Lead Inspectors separately to overinspect portions of the work of the BCAP Task Force inspector who made the errors. These overinspections identified no further problems. Based on his evaluation of the circumstances, Mr. Shevlin advised the BCAP Task Force Director that the errors were an isolated incident, and that no further reverification of piping run inspections was necessary. (Shevlin Affidavit at 14-15.) The BCAP Task Force Director accepted this advice and allowed BCAP Task Force piping run inspections to continue. (Kaushal Affidavit at 4.)

5. The NRC CAT overinspected six pipe supports and restraints which had undergone previous inspections by the BCAP Task Force. The NRC CAT found that three of the pipe supports or restraints had discrepant conditions not identified by the BCAP Task Force inspectors. (Shevlin Affidavit at 17-19.)

6. Upon investigation of the CAT findings, the BCAP Task Force Lead Mechanical/Welding Inspector, Mr Shevlin, found two items which he attributed to inspector errors. He also found one item (relating to attachment location along supplementary steel) where the instructions given to BCAP Task Force inspectors required clarification. Finally, one item (relating to verification of vendor fabrication dimensions) had not hitherto been treated as within the scope of the BCAP Task Force inspections. (*Id.* at 19-22.)

7. In January 1985, soon after learning of the CAT findings, the BCAP Task Force Director suspended BCAP Task Force inspection activities for pipe supports/restraints and initiated a plan to reverify those aspects of previous BCAP Task Force pipe support/restraint inspections called into question by the CAT findings. (Kaushal Affidavit at 2, 5-6.)

8. The reverification program covered all 160 BCAP Task Force pipe support/restraint inspections which had been performed through January 18, 1985. The BCAP Task Force inspectors who performed the reverification were not aware of the identities of the original BCAP Task Force inspectors or the results of the original BCAP Task Force inspections. No BCAP Task Force inspector reinspected his own work. The reverification program resulted in only twenty new observations. (*Id.* at 6; Shevlin Affidavit at 26-27.)

9. Following evaluation of the new observations and "feedback" training sessions with the BCAP Task Force inspectors, inspections of supports/restraints resumed on February 1, 1985. (Kaushal Affidavit at 6.)

10. After the CAT inspection, the Independent Overview Group and the NRC Staff performed numerous reviews and overinspections of BCAP Task Force inspections in the mechanical/welding area. Neither IEOG nor the NRC Staff ever issued any other observation or item of noncompliance with respect to BCAP Task Force inspections of pipe runs or of pipe supports or restraints. (Kaushal Affidavit at 7; Shevlin Affidavit at 28.)

11. In addition to reviewing the qualifications, the training of the BCAP Task Force inspectors, and the instructions and checklists which they followed, BCAP QA also performed overinspections of the BCAP Task Force inspections. Those BCAP QA overinspections were just beginning at the time of the NRC CAT inspection and had not taken place with respect to any of the items overinspected by the CAT. (Smith Affidavit at 7-11; Kaushal Affidavit at 2.)

12. For the five pipe run and pipe support/restraint construction categories, the percentage of BCAP Task Force inspections overinspected by BCAP QA ranged from 16% to 23%. The acceptance criteria for

agreement between the BCAP QA overinspectors and the BCAP Task Force inspectors were established at 95% for objective attributes and 90% for subjective attributes. For each pipe run and support/restraint construction category, the BCAP Task Force inspections met these acceptance criteria. (Smith Affidavit at 12-15.)

ROREM SUBCONTENTION ITEM 13.B

13. Contrary to Criterion XVII, "Quality Assurance Records," of 10 C.F.R Part 50, Appendix B, Commonwealth Edison Company has failed to ensure that sufficient records were maintained to furnish evidence of activities affecting quality. The records are to include at least the following: results of reviews, inspections, tests, audits, monitoring of work performance, and materials analyses. Applicant has failed to make such records identifiable and retrievable.
 - B. Sargent & Lundy Engineers calculations which provided the original justification for the factor design methodology and magnitude were not retrievable. (Inspection Report 84-43/39, Exh. 19.)

Board's Ruling on Summary Disposition (13.B)

We *grant* summary disposition to Applicant on Subcontention 13.B. To facilitate preparation for hearing on the other issues, we will issue our full decision on this issue at some later date.

ROREM SUBCONTENTION ITEM 14.B

14. Contrary to Criterion XVIII, "Audits," of 10 CFR Part 50, Appendix B, Commonwealth Edison Company has failed to ensure that a comprehensive system of planned and periodic audits is carried out to verify compliance with all aspects of the quality assurance program and to determine the effectiveness of the program. The Applicant also failed to ensure followup action, including reaudit of deficient areas.
 - B. A special NRC QA inspection report May 7, 1984 that:
 - Mechanical contractor Phillips, Getschow, Co. has not established and executed a plan for auditing the implementing procedures of the quality assurance program on a period [sic] basis to determine the effectiveness of the program in accordance with the Phillips, Getschow, QA Manual.
 - Electrical contractor L.K. Comstock Co./L.K. Comstock Engineering Company auditing activities neither conformed with the comprehensive annual schedule of planned and periodic audits established as required by QA Program Manual Section 4.14.1, nor did they verify compliance with all aspects of the Quality Assurance Program.

- HVAC contractor Pullman Construction Industries, Inc. did not meet their yearly schedule for audit activities required by their QA Manual, Section 18, in that the following implementing procedure[s] were not audited:
 - B 3.a.F, Design Control
 - B 5.1.F, HVAC Repair Adjustment
 - B 9.3.F, Expansion Anchor Installation
 - B 10.2.F, Visual Weld Inspection
- Edison's audits of the installation of small-bore instrumentation and process piping were inadequate in that contractor hanger design calculation problems were not identified for more than two years.

(Inspection Report 83-09, Exh. 5.)

Subcontention 14.B lists four separate examples of a single item of noncompliance which was identified by the NRC Staff. These four instances are alleged to demonstrate collectively a failure on the part of Commonwealth Edison Company to comply with the requirements of Criterion XVIII of Appendix B to 10 C.F.R. Part 50 which requires that a comprehensive system of planned and periodic audits be carried out to verify compliance with all aspects of the quality assurance program and to determine the effectiveness of the program.

Applicant concedes that the first three examples of noncompliance listed in Subcontention 14.B represent a violation of Criterion XVIII of 10 C.F.R. Part 50, Appendix B, but argues that the examples of non-compliance properly constitute only one violation of Criterion XVIII and that the noncompliance occurred because of a differing interpretation of Regulatory Guide 1.144-1980, the Regulatory Guide which provides guidance on how to achieve compliance with Criterion XVIII. Applicant states that the contractors involved here have undertaken effective corrective actions as independently verified by both Commonwealth Edison and the NRC Staff to resolve the noncompliance and to prevent recurrence of similar noncompliance. With regard to Subcontention part 4, Applicant argues that this item is not a bona fide item of noncompliance but rather simply a mistake by the NRC inspector as to the dates on which Applicant's audit activities were required. NRC Staff agrees with the Applicant's arguments and supports the motion for summary disposition.

On the first three items of noncompliance, Intervenors argue that Applicant's attempt to achieve summary disposition must fail for three reasons. First, Intervenors state that Applicant is attempting to rewrite history to make it now appear that the violations of Criterion XVIII were merely the result of differing interpretations by the NRC and Edison,

but that this is inconsistent with the evidence. Secondly, Intervenors allege that Applicant does not provide competent evidence to sustain its allegations of material fact. And lastly, Intervenors claim that important discovery is still ongoing with respect to this contention. In summing up their arguments, Intervenors state that Edison's motion is inconsistent with the evidence revealed to date; its material facts and supporting testimony are not competent or reliable; and, there is still much discovery to be had and questions to be answered before any of this subcontention is ripe for decision.

We agree with Intervenors on the lack of competent evidence to support the allegations of material fact. For that reason, we have not accepted any facts as not being genuinely in dispute.

About the only matter which does not appear to be hotly contested relates to item four, concerning the mistake by an NRC inspector on the dates that certain work was performed and audits were required. Intervenors appear only to question whether these audits identified contractor hanger design calculation problems, as required. We find Applicant's and Staff's affidavits to establish convincingly that substantial audits were performed on a timely basis and that no further matters need be heard at an evidentiary hearing on item four.

Board's Ruling on Summary Disposition (14.B)

The Board *denies* summary disposition on the first three items of non-compliance and declines to accept any material facts in advance of the evidentiary hearing. The Board *grants* summary disposition on item four and will issue its opinion at a later date.

Order

For all of the foregoing reasons and based upon a consideration of the entire record in this matter, it is, this 21st day of April 1986, ORDERED

1. That Applicant's motion for summary disposition on issues 5.A, 5.C, 6.G, 6.I, 9.D, 10.F, 12.E, 13.B, and 14.B.4 is *granted*; and

2. That Applicant's motion with regard to the other issues is *denied* but the Board *accepts* certain material facts on these issues on which no

further evidence will be taken at hearing, as detailed in the body of the Memorandum, above.

**FOR THE ATOMIC SAFETY AND
LICENSING BOARD**

**Herbert Grossman, Chairman
ADMINISTRATIVE JUDGE**

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ADMINISTRATIVE LAW JUDGE

Ivan W. Smith

In the Matter of

Docket No. 30-20982
License No. 37-23370-01
EA 85-01
(ASLBP No. 86-516-01-OT)

NORTH AMERICAN INSPECTION, INC.
P.O. Box 88
Laurys Station, Pennsylvania 18059

April 15, 1986

MEMORANDUM AND ORDER TERMINATING
PROCEEDING

On January 9, 1986, the Licensee, North American Inspection, Inc., and Counsel for the NRC Staff submitted a joint motion to terminate this civil penalty proceeding. The motion is supported by an agreement between the President of the licensee corporation and the Director of Inspection and Enforcement. It contains several stipulations and commitments by the Licensee.

A stipulation for the settlement of a civil penalty proceeding must be approved by the presiding officer if one has been designated in a notice of hearing. The presiding officer must accord due weight to the position of the Staff in considering settlement agreements. He may, on the other hand, order an adjudication of the issues if it is required in the public interest. 10 C.F.R. § 2.203. I was unable to make a finding that the proposed settlement is in the public interest solely from the papers before me. Therefore the parties joined me in a transcribed telephone conference call on April 10, 1986, to explain certain aspects of the agreement. The Staff has assured me that the settlement agreement resolves the

Staff's concern as expressed in the Notice of Violation. Tr. 25 (Chidakel). The parties have agreed that the settlement agreement may be construed in light of the transcript of the conference call of April 10. Tr. 24 (Chidakel, Shumway).

I am satisfied that the settlement is in the public interest. It is approved. The settlement agreement is attached hereto and its terms, as construed by the transcript of the conference call,* are embodied in this order. The proceeding is terminated.

Ivan W. Smith
ADMINISTRATIVE LAW JUDGE

Bethesda, Maryland
April 15, 1986

ATTACHMENT: Agreement Between the Staff and Licensee Concerning Settlement of Civil Penalty Proceeding, 1/9/86

[The attachment has been omitted from this publication but can be found in the NRC Public Document Room, 1717 H Street, NW, Washington, DC 20555.]

*The NRC Staff's Proposed Transcript Corrections submitted today are approved subject to reconsideration if the Licensee comments on transcript corrections by April 25, 1986.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

OFFICE OF THE EXECUTIVE DIRECTOR FOR OPERATIONS

Victor Stello, Jr., Executive Director for Operations

In the Matter of

Docket No. PRM-20-16

A.N. TSCHAECHÉ

April 23, 1986

The Nuclear Regulatory Commission is denying a petition for rulemaking submitted by A.N. Tschaeché. The petitioner requested that the Commission amend its regulations to state that full compliance with the Commission's regulations is evidence acceptable in a court of law that the licensee was not negligent, and that the Commission's regulations must be violated before a *prima facie* case is pleaded on the issues of negligence and causation in any action to recover for injuries claimed to have resulted from exposure to ionizing radiation. The Commission is denying the petition because it is inconsistent with the intent of the Commission's regulations and because the Commission lacks the legal authority to grant the petitioner's request.

NUCLEAR REGULATORY COMMISSION: RULEMAKING
AUTHORITY

The Commission has no legal authority to promulgate rules of evidence for the courts.

REGULATIONS: EVIDENCE OF NEGLIGENCE

Evidence of compliance with the Commission's nuclear safety regulations constitutes evidence of a person's having acted reasonably but is not conclusive proof of the absence of negligence. *Silkwood v. Kerr-McGee Corp.*, 485 F. Supp. 566, 577-79 (W.D. Okla. 1979), *aff'd in part and rev'd in part*, 667 F.2d 908 (10th Cir. 1981), *rev'd and remanded*, 464 U.S. 238 (1984), *on remand*, 769 F.2d 1451, 1457-58 (1985).

REGULATIONS: INTERPRETATION (RADIATION PROTECTION STANDARDS)

The Commission's radiation protection standards are not intended to establish absolute safe levels of exposure below which it can be conclusively presumed that no injury could occur. Rather, in view of scientific uncertainty about radiation exposure, the Commission requires its licensees to ensure that radiation exposures are kept "as low as is reasonably achievable."

RULES OF PRACTICE: PETITIONS FOR RULEMAKING (DENIAL)

Pursuant to 10 C.F.R. § 2.802(e), the Commission may seek public comments prior to denying a petition for rulemaking; however, it is not required to do so.

DENIAL OF PETITION FOR RULEMAKING

I. THE PETITION

On October 28, 1985, the Commission received a petition for rulemaking from A.N. Tschaeche. The petitioner requested that the NRC amend its regulations to state that a licensee's full compliance with the Commission's regulations, and particularly with the regulations set forth in 10 C.F.R. Part 20, is evidence acceptable in a court of law that the licensee was not negligent, and that the Commission's regulations must be violated before a *prima facie* case is pleaded on the issues of negligence and causation in any action based on injuries claimed to have resulted from exposure to ionizing radiation. The petitioner further requested that the amended regulations clearly state that noncompliance with the Commission's regulations, and in particular, exceeding the standards set forth in 10 C.F.R. Part 20, does not in and of itself confer negligence on the licensee. Finally, the petitioner requested that, if the Commission determines that it does not have the authority to comply with the petition, the Commission seek the requisite authority from the Congress.

The petitioner asserts that resources are being "recklessly, wantonly, and uselessly squandered on radiation injury claims cases, both Workman's compensation and in tort, that are brought against NRC licensees who have demonstrably complied with the Commission's regulations."

He cites the *Silkwood* case as a well-known example, and questions the reasonableness of allowing a jury of laypersons to determine whether the Commission's regulations result in safety.

According to the petitioner, the specific issue is whether a licensee who complies with the Commission's regulations can be considered to have met its obligation to provide an adequately safe working environment for conducting its licensed activities. The petition encompasses all NRC regulations, but emphasizes those set forth in 10 C.F.R. Part 20, particularly the external occupational dose limits in § 20.101 and the limits for intake of radionuclides in air and water in § 20.103. The petitioner argues that there is no evidence based on observation of humans that demonstrates any harm to an individual or group from NRC-licensed activities performed in accordance with NRC regulations. In addition, he states that there is no evidence from animal or other studies that demonstrates any harm or risk of harm to workers or the general public from such activities.

The petitioner urges that his proposal would save money, alleviate public fear of radiation, protect licensees against claims of negligence, and clarify the intent of NRC regulations. He therefore requests that the Commission affirmatively state that compliance with its regulations is sufficient to demonstrate the absence of negligence. If the Commission considers that statement overly broad, the petitioner requests that the Commission apply it to all of Part 20 and to Appendix I of Part 50. If the Commission finds even that statement too broad, the petitioner requests that the Commission apply it to §§ 20.101 and 20.103. According to the petitioner, this could be easily accomplished if the Commission were to adopt the point of view that activities performed in accordance with its regulations are safe unless and until experience demonstrates differently.

II. REASONS FOR DENIAL

As the petitioner anticipated, the Commission has no legal authority to grant the petitioner's request. In essence, the petitioner would have the Commission promulgate rules of evidence for the courts. This would clearly exceed the Commission's rulemaking authority. Rules of evidence are derived from statutes, case law, and court rules.

In addition, the petitioner's request is contrary to judicial precedent. In general, compliance with government safety regulations is accepted as evidence of a person's having acted reasonably but is not considered conclusive proof of the absence of negligence. In its *Silkwood* decision, the District Court examined a number of cases in various contexts and reaffirmed that general rule. *Silkwood v. Kerr-McGee Corp.*, 485 F. Supp.

566, 577-79 (W.D. Okla. 1979), *aff'd in part and rev'd in part*, 667 F.2d 908 (10th Cir. 1981), *rev'd and remanded*, 464 U.S. 238 (1984), *on remand*, 769 F.2d 1451 (1985). The court found no authority for the proposition that a different rule should apply to nuclear safety regulations. Accordingly, the court held that evidence of Kerr-McGee's compliance with the Commission's regulations was not conclusive proof of the absence of negligence. Subsequent decisions in the case did not disturb that holding. Thus, *Silkwood* is controlling on this point.

As the petitioner pointed out, the District Court considered the intent of the Atomic Energy Commission (AEC) in promulgating its radiation protection standards. Because the AEC did not intend the standards to establish absolute safe levels of exposure below which no injury could occur, the court concluded that the standards were not dispositive of the issues of negligence or causation. The petitioner urges that the NRC change the intent of its regulations to establish such absolute levels and thereby preclude a finding of negligence if a licensee complies with NRC standards. However, the Commission has never taken the position that there is a level of radiation exposure below which one can conclusively presume that no injury will result. Rather, in view of scientific uncertainty about radiation exposure, the Commission has required its licensees to ensure that radiation exposures are kept "as low as is reasonably achievable." In short, the Commission lacks the technical basis to make the finding that the petitioner requests.

For this reason, it would be pointless for the Commission to ask Congress to give it the necessary legal authority to promulgate the requested rules. Similarly, it would serve no purpose to seek public comments on this petition for rulemaking, as is the Commission's usual practice. *See* 10 C.F.R. § 2.802(e). Accordingly, the Commission denies the petition.

For the Nuclear Regulatory
Commission

Jack W. Roe
Acting Executive Director for
Operations

Dated at Bethesda, Maryland,
this 23rd day of April 1986.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

COMMISSIONERS:

Nunzio J. Palladino, Chairman
Thomas M. Roberts
James K. Asselstine
Frederick M. Bernthal
Lando W. Zech, Jr.

In the Matter of

Docket Nos. 50-289-RA
50-289-EW
(Special Proceeding)

GENERAL PUBLIC UTILITIES
NUCLEAR CORPORATION
(Three Mile Island Nuclear
Station, Unit 1)

May 15, 1986

The Commission issues an advisory opinion regarding the involvement of former Licensee official Robert Arnold in Licensee's December 5, 1979 response to an October 25, 1979 NRC Notice of Violation. The Commission finds that there is no reasonable basis to conclude that Arnold made a knowing, willful, or reckless material false statement in the response. The Commission grants Edward Wallace's request for a hearing on whether he made a knowing, willful, or reckless material false statement in Licensee's December 5, 1979 response.

ADVISORY OPINION AND NOTICE OF HEARING

BACKGROUND

The Commission decided not to reopen the TMI-1 restart proceeding record on the issue of Licensee officials Robert Arnold's and Edward Wallace's involvement in Licensee's December 5, 1979 response to an October 25, 1979 NRC Notice of Violation (NOV) because the significance of the issue, if any, was mooted by Licensee's removal of Arnold and Wallace from TMI-1 operations. The Commission required Licensee to notify it before returning either of these individuals to responsible positions at TMI-1. CLI-85-2, 21 NRC 282, 323 (1985).

CLI-85-19, 22 NRC 886 (1985), which was issued in response to Arnold's and Wallace's request for a hearing in order to clear them of any wrongdoing, invited interested persons to comment on whether there was a reasonable basis to believe that Arnold or Wallace knowingly, willfully, or with reckless disregard made a material false statement in Licensee's December 5, 1979 NOV response. Seven sets of comments were submitted. In addition, Arnold and Wallace commented on those submissions and we have taken those comments into consideration.

SUMMARY AND CONCLUSION

Advisory Opinion

The Commission finds that there is no reasonable basis to conclude that Arnold made a knowing, willful, or reckless material false statement in the NOV response, and it does not view Arnold's involvement in the NOV as requiring any constraint on his employment in the regulated nuclear industry.

Mr. Arnold has stated that he did "not object to a continuation of the notification requirement" in CLI-85-2 regarding his possible return to TMI-1, and that he did not "know of any plans by GPU to offer him a position involving TMI-1." For these reasons, the condition imposed in CLI-85-2 is not changed by our finding.

Notice of Hearing

The evidence regarding Wallace's involvement in possible willful, knowing, or reckless material false statements is much more difficult to

evaluate. The Commission understands that Wallace wants the Commission to withdraw the adverse implications about his integrity drawn in various NRC documents in the TMI-1 restart proceeding, and to issue a statement to the effect that there are no constraints on his utilization in NRC-regulated activities. If a hearing is required to accomplish this, Wallace requests one. We grant Wallace's hearing request.

ANALYSIS

A. Context of Alleged Material False Statements

In brief, the NOV alleged that (1) TMI-2 Emergency Procedure 2202-1.5 required that the block valve be closed if, among other things, the valve discharge line temperature exceeded 130°F, (2) the temperature had been 180°-200°F since October 1978, (3) a temperature of 283°F was noted at 5:21 on March 28, 1979, the day of the TMI-2 accident, and (4) the valve was not closed until 6:10 on March 28. The cover letter to the NOV pointed out that this was one of the more significant issues.

Licensee's NOV response stated that "Emergency Procedure 2202-1.5, 'Pressurizer System Failure,' was not violated during the period from October 1978 through March 28, 1979 notwithstanding the temperatures of the discharge line from the pilot operated (electromatic) relief valve ('PORV')." With regard to the failure to close the valve prior to March 28, Licensee's response explained that the procedure 2202-1.5 described possible failures, a number of "symptoms," and immediate and followup actions. Licensee asserted that the existence of a single symptom — elevated temperatures — did not mean that the failure existed, but rather that conditions should be examined to determine whether the problem exists. Licensee stated that, while the temperatures generally were 170° to 190°F, they did not appear to have been caused by a leaking PORV. Licensee, to support this assertion, listed the following factors:

- (1) The reactor coolant drain tank leak rate (which would have reflected leaks past the PORV) was essentially zero through January;
- (2) The increase in the drain tank leak rate after January was accompanied by a sharp increase in the discharge line temperatures for the code relief valves;
- (3) "These matters were discussed by the plant staff. Based on temperature readings, a determination was made that code relief valve RVIA was leaking" and a work request was made to repair this valve;

- (4) The higher temperatures on the PORV discharge line occurred even when the plant was in hot shutdown.

Licensee stated that “[t]hese values make it clear that discharge line temperatures did not, of themselves, establish that the PORV was leaking. More likely, the temperatures resulted from the heating of the line by conductivity from the pressurizer itself.” In sum, Licensee concluded that the 170°-190°F temperatures were normal, and that the procedure should have been changed.

The NOV response also contained the statement that, “although Metropolitan Edison is concerned about this issue, there is no indication that this procedure or the history of the PORV discharge line temperatures delayed recognition that the PORV had stuck open during the course of the accident.”

The following questions have been raised about the accuracy of Licensee’s NOV response. The response denied that the emergency procedure had been violated, yet Licensee appears to have had information in its possession to the contrary. Some evidence even indicates that Licensee was unsure whether the PORV was leaking, yet consciously chose not to close the PORV block valve. It also appears questionable whether Licensee had determined prior to the accident that the PORV was not leaking, contrary to the implication in the NOV response. Finally, there is evidence indicating that Licensee had in its possession information contrary to the assertion that there was “no indication” that operators had been desensitized by the elevated tailpipe temperatures. For instance, a draft of the Keaten Task Force Report and a Licensee report, TDR-054, both available at the time of the NOV response, indicated that operators had been desensitized.

We will now address the knowledge of Arnold and Wallace regarding this contrary information, and whether there is any basis to believe that either knowingly, willfully, or recklessly made material false statements.

B. Knowledge and Involvement of Arnold in Questioned Statements

An examination of the evidence involves determining what contrary information Arnold had at the time the NOV response was filed, and inferring from that whether he recklessly, willfully, or knowingly made a material false statement. The evidence as we evaluate it shows that Arnold knew of the following:

- (1) That the emergency procedure was violated, in that he was aware that all the symptoms of a leaking PORV were present,

the procedure required closing the block valve in this instance, but the block valve was not closed;

- (2) That there was leakage from the top of the pressurizer, and that some operations personnel were not sure of the source of the leakage.

In addition, the following evidence provides a possible basis for inferring additional knowledge on Arnold's part:

- (1) Arnold reviewed and signed the NOV response — it could be inferred that he carefully studied it and acquainted himself with *all* relevant facts in Licensee's possession, in particular
 - (a) statements by Zewe, Faust, Frederick, and Miller indicating a conscious management decision was made to violate the procedure, and
 - (b) statements by Zewe indicating that elevated temperatures existed that may have delayed recognition that the PORV was stuck open;
- (2) a draft of the Keaten Task Force Report stated that evidence indicated that the procedure was violated pursuant to a conscious management decision, and Arnold was listed on distribution for that draft prior to the NOV — it could be inferred that he read the draft before signing the NOV;
- (3) A draft of the Keaten Task Force report and a Licensee report, TDR-054, both indicated that elevated temperatures existed and may have delayed recognition of the stuck open PORV. Arnold was listed on distribution of the draft Keaten Report and TDR-054 — it could be inferred that he read them before signing the NOV.

While one can argue whether Arnold should have, or must have, known of this information, the only direct evidence in this regard is his acknowledgment that he may have been aware of Zewe's statements in (1)(b) above. The information in these statements is the same as in (3). He states he does not remember seeing the statements in the Keaten drafts or TDR-054. While inferences are highly judgmental, we do not believe it reasonable to infer that Arnold, given his high management position, knew of the evidence in (1)(a), (2), or (3).

As we see it then, the major issue regarding Arnold involves the fact that he knew the procedure had been violated, yet the NOV response denied that it had been violated as alleged. Arnold now asserts that the NOV response was directed at the literal language of the NOV, which in his view was that the procedure had been violated *solely* because of elevated discharge line temperatures. Arnold asserts that elevated tem-

peratures alone did not require that the block valve be closed, and that this was the point being made in the NOV response.

It can be argued in hindsight that Arnold in the NOV response should have acknowledged that the procedure was violated, even if not for the reasons alleged in the NOV.¹ The NOV cover letter identified violation of this emergency procedure as one of the more significant issues, and Arnold was aware of Staff's conclusion in NUREG-0600 that all the symptoms of a leaking PORV were present. Hence it can be argued that Arnold should have known that the NOV intended to address all the symptoms of a leaking PORV.

However, in the absence of persuasive evidence indicating that Arnold was aware of a conscious management decision to violate the procedure, we cannot say that the argument that he was responding to the literal language of the NOV is inherently unreasonable. Hence we conclude that there is no reasonable basis to conclude that Arnold made a reckless, willful, or knowing material false statement when he responded to the literal language of the NOV and denied that the procedure had been violated as alleged.

With regard to the assertion in the NOV response that it had been determined by Licensee that a code safety, not the PORV, was leaking, it is now questionable whether a determination had in fact been made that the PORV was not leaking. The question regarding Arnold, however, is whether he acted with reckless disregard for the truth in accepting Wallace's representations to this effect, given that Arnold knew that there was some question regarding whether the PORV was leaking. The arguments given by Wallace are not facially unreasonable, and in our view it was reasonable for a manager in Arnold's position to have accepted Wallace's assertions without personally checking them.

With regard to the other statement at issue in the NOV response — the "no indication" of delayed recognition — we also conclude that the available evidence does not reasonably indicate that Arnold knowingly, willfully, or with reckless disregard made a material false statement in accepting Wallace's representations. Arnold apparently was aware of statements by operators that can be read as implying that they were desensitized. While we agree with Arnold that the phrase "no indication" was "ill-chosen," the statements by the operators do not clearly say they were desensitized, and Arnold's explanation that he felt they did not recognize the open PORV for other reasons (e.g., expected discharge

¹ This would be particularly true if it could be established that Arnold was aware of the information indicating that there had been a conscious management decision to violate the procedure.

temperatures greater than 300°F) is reasonable. In the absence of persuasive evidence that he was aware of contrary information, we cannot reasonably conclude that he exhibited a reckless disregard for the truth in connection with this statement.

Based on its review of the evidence, the Commission finds that there is no reasonable basis for concluding that Arnold knowingly, willfully, or recklessly made a material false statement to the NRC. Accordingly, the Commission finds that there are no constraints beyond the condition imposed in CLI-85-2 on Arnold's employment in NRC-licensed activities.

C. Knowledge of and Involvement of Wallace in Questioned Statements

As with Arnold, an examination of the evidence concerning Wallace involves determining what information he had that may have contradicted the NOV response, and inferring from that whether he recklessly, willfully, or knowingly made a material false statement.

Based on its review of the evidence, the Commission cannot, as Wallace requests, clear his name without additional evidence. However, the Commission emphasizes that no final judgment has been made, and it may be that a full hearing will not support the position that he engaged in wrongdoing.

The Commission has therefore decided to grant Wallace's request for a hearing. The hearing is to address the following questions:

- (1) Does any part of the following statements — including the accompanying explanation — in Licensee's December 5, 1979 NOV response constitute a material false statement:

Metropolitan Edison believes that Emergency Procedure 2202.1.5, "Pressurizer System Failure", [sic] was not violated during the period from October 1978 through March 28, 1979 notwithstanding the temperatures of the discharge line from the pilot operated (electromatic) relief valve ("PORV"). Although this procedure was understood by the plant staff, it is not clearly written and does not reflect actual plant conditions. It will be changed. However, although Metropolitan Edison is concerned about the issue, there is no indication that this procedure or the history of the PORV discharge line temperatures delayed recognition that the PORV had stuck open during the course of the accident.

- (2) If there was a material false statement, what knowledge and involvement, if any, did Wallace have in making that statement?
- (3) If Wallace knew of or was involved in making a material false statement, does that knowledge or involvement indicate willful, knowing, or reckless conduct?

- (4) If Wallace engaged in willful, knowing, or reckless conduct, should there be any constraints on his employment in NRC-regulated activities? (His performance to date may be considered in this connection.)

Accordingly, pursuant to the Atomic Energy Act of 1954, as amended, and the regulations in Title 10, Code of Federal Regulations, Part 2, notice is hereby given that a hearing will be held before an Administrative Law Judge to be appointed by the Chief Administrative Judge, Atomic Safety and Licensing Board Panel. The Administrative Law Judge will set the time and place for the hearing and shall hold prehearing conferences as necessary. The scope of the hearing will be as set forth above. The hearing will be conducted pursuant to the procedures contained in 10 C.F.R. Part 2, Subpart G. Any petitions to intervene by persons who responded by filing comments in response to CLI-85-19 shall be filed in accordance with 10 C.F.R. § 2.714 and, to be timely, shall be filed within 45 days of the date of this Notice. No other interventions shall be permitted except upon a balancing of the factors in 10 C.F.R. § 2.714(a)(1). NRC Staff shall participate as a party. Any party who advocates that Wallace made a knowing, willful, or reckless material false statement in the NOV response shall have the burden of going forward and persuasion. If no person intervenes against Wallace and NRC Staff does not advocate a position against Wallace, then the proceeding shall be terminated and the TMI-1 notification requirement as to Wallace shall be removed.

Pursuant to 10 C.F.R. § 2.785, the Commission authorizes an Atomic Safety and Licensing Appeal Board to exercise the authority and perform the review functions which would otherwise be exercised and performed by the Commission.

THE CLI-85-2 NOTIFICATION REQUIREMENT

The Commission will not lift the notification requirement imposed in CLI-85-2. For Arnold, there are no current plans to return Arnold to TMI-1 operations and Arnold does not object to continuation of the condition. For Wallace, any further action regarding the condition must await the conclusion of a hearing.

Chairman Palladino and Commissioner Asselstine disapproved this Order in part. Their separate views are attached. The separate views of Commissioner Roberts are also attached.

It is so ORDERED.

For the Commission²

SAMUEL J. CHILK
Secretary of the Commission

Dated at Washington, D.C.,
this 15th day of May 1986.

SEPARATE VIEWS OF CHAIRMAN PALLADINO

I believe that the Commission should hold a hearing for Mr. Arnold as well as Mr. Wallace.

The evidence demonstrates a reasonable basis to conclude that there was a material false statement, in that the Licensee possessed significant information contrary to the statements in the NOV response. Moreover, there is information cited by the NRC Staff that Mr. Arnold knew that the emergency procedure had been violated notwithstanding that the NOV response denied the violation. Whether this conduct constitutes reckless behavior is a matter of judgment; a hearing would be of value to fully resolve the issue.

Also noteworthy is the fact that Mr. Arnold's explanation for his denial that the emergency procedure had been violated is not the explanation provided by Mr. Wallace in his interview by the Office of Investigations. A hearing could address this apparent difference as well.

Finally, I believe that a hearing would provide a clearer basis for Commission conclusions with respect to Mr. Arnold and would be in the public interest.

² Commissioner Asselstine was absent when this Order was affirmed. He had previously disapproved the Order in part and had he been present he would have affirmed his prior vote.

SEPARATE VIEWS OF COMMISSIONER ASSELSTINE

I agree in part and disagree in part with the Commission's Order. I agree with that portion of the Order which grants Mr. Wallace a hearing and sets out the procedures for that hearing. However, I cannot support the Commission's decision to absolve Mr. Arnold without holding a hearing. There appears to be enough information available to raise questions about the extent of Mr. Arnold's knowledge. That information should be the subject of a hearing.

In addition, as I explained in my separate views on CLI-85-19, I do not believe that Mr. Arnold's involvement in the preparation of Metropolitan Edison's response to the Commission's NOV is the only relevant issue remaining. *See* 21 NRC at 890. I would have included two other issues for consideration: TMI leak rate falsifications and the Parks discrimination issue.

SEPARATE VIEWS OF COMMISSIONER ROBERTS

We find that there is no reasonable basis for concluding that Mr. Arnold knowingly, willfully, or recklessly made a material false statement. However, because he did not ask that it be removed, we leave in place the requirement that the NRC be notified prior to Mr. Arnold's return to responsible duties at TMI-1. I see no reason for our continuing to require notification prior to Mr. Arnold's return to responsible duties at TMI-1. I would remove that single remaining and meaningless "constraint" on Mr. Arnold's employment in NRC-licensed activities. That is what we said we intended to do if we determined there was not a reasonable basis for an unfavorable conclusion. CLI-85-19, 22 NRC 886, 889 (1985).

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

COMMISSIONERS:

Nunzio J. Palladino, Chairman
Thomas M. Roberts
James K. Asselstine
Frederick M. Bernthal
Lando W. Zech, Jr.

In the Matter of

**GOVERNOR OF NEW MEXICO'S
REQUEST TO RETURN TO THE
UNITED STATES THE NEW MEXICO
PROGRAM FOR THE LICENSING
OF EXTRACTION OR CONCENTRATION
OF SOURCE MATERIAL FROM
SOURCE MATERIAL ORE AND THE
RESULTING BYPRODUCT MATERIAL**

May 23, 1986

The Commission grants the Governor of New Mexico's request to return a portion of New Mexico's regulatory program to NRC jurisdiction. On an interim basis, the Commission keeps all affected licenses in effect as currently issued.

**ATOMIC ENERGY ACT: COOPERATION WITH STATES
(TERMINATION; HEARING RIGHTS)**

The Commission believes that a hearing is not required when the NRC reasserts its regulatory authority in an Agreement State at the request of the Governor of that State.

ORDER

Pursuant to § 274j(1) of the Atomic Energy Act of 1954, as amended, the Commission grants the request of the Governor of New Mexico for the Nuclear Regulatory Commission to accept the return of authority over the licensing and regulation in New Mexico of the extraction and concentration of source material from source material ore and the management and disposal of the resulting byproduct material as defined in § 11e(2) of the Act.* The Commission finds that this action is required in the interest of the public health and safety.

New Mexico is an Agreement State, but its Agreement does not include a needed amendment to cover the continued regulation by the State of the byproduct material (as defined in § 11e(2) of the Act) produced by the extraction or concentration of source material from source material ore. For this and other reasons, the Governor of the State has advised the Commission that the State is no longer in a position to administer that portion of its Agreement State program and has requested its return to Commission jurisdiction. Under current federal law, the extraction of source material from source material ore and the management and disposal of the resultant byproduct material cannot be left unregulated. Accordingly, the Commission finds it necessary to accept the return of that portion of the New Mexico program. Since the State will continue to license and regulate source material for other uses, no revision is needed in the present text of the New Mexico Agreement. It is also pertinent to note that the returned portion of the program does not remove from the State any authority with respect to the mining of source material ore. The Nuclear Regulatory Commission does not regulate the mining of source material ore.

The Commission staff has reviewed the files of the New Mexico Environmental Improvement Division and has identified all relevant licensing documents for transfer to the Commission. In order to aid in a smooth transition, however, the Commission deems it essential to maintain continuity in the licensing and regulatory obligations of the New Mexico licensees whose dockets are being transferred to the Commission. Such continuity may be assured by keeping in effect on an interim

*By letter dated May 8, 1986, a New Mexico lawyer, Michael S. Yesley, provided to the Chairman and requested that he circulate to other Commissioners an unsigned memorandum that Mr. Yesley said outlined the reasons why the NRC should afford a hearing on the Commission's action in response to Governor Anaya's request. Mr. Yesley's letter does not appear to constitute a hearing request, but the Commission believes in any event that no hearing is required when the Commission reasserts its regulatory authority in an Agreement State at the request of the Governor of that State.

basis all New Mexico licenses as currently issued, until such time as the licenses are modified to meet federal standards for the processing of source material ore and the management and disposal of the resulting byproduct material.

Therefore, the Commission hereby orders that all New Mexico-issued licenses, license amendments, outstanding orders (if any), or other documents establishing obligations for specific licensees that are transferred to the Commission shall remain in full force and effect as if issued by the Commission. The Commission staff will review all transferred licensing documents and see to their revision as necessary to meet applicable federal standards.

For the Commission

SAMUEL J. CHILK
Secretary of the Commission

Dated at Washington, D.C.,
this 23rd day of May 1986.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Administrative Judges:

Christine N. Kohl, Chairman
Gary J. Edles
Dr. Reginald L. Gotchy

In the Matter of

Docket Nos. 50-352-OL
50-353-OL

PHILADELPHIA ELECTRIC COMPANY
(Limerick Generating Station,
Units 1 and 2)

May 7, 1986

The Appeal Board affirms, subject to an additional license condition, the Licensing Board's third partial initial decision in this operating license proceeding, LBP-85-14, 21 NRC 1219 (1985), with one exception; that matter, relating to the availability of an adequate number of bus drivers to evacuate students, is remanded to the Licensing Board for further prompt action.

RULES OF PRACTICE: BRIEFS

Appeals that are not briefed are considered waived. *See* 10 C.F.R. § 2.707; *Public Service Co. of Indiana* (Marble Hill Nuclear Generating Station, Units 1 and 2), ALAB-461, 7 NRC 313, 315 (1978); *Mississippi Power and Light Co.* (Grand Gulf Nuclear Station, Units 1 and 2), ALAB-140, 6 AEC 575 (1973).

EMERGENCY PLANS: CONTENT (EVACUATION)

The purpose of an evacuation time estimate (ETE) is to provide information (i.e., the time required to evacuate the emergency planning zone and any unusual problems) so that emergency coordinators can decide what protective actions (such as sheltering or evacuation) might be necessary. The Commission's emergency planning regulations, however, do not set any particular time limits for evacuation of the plume emergency planning zone. *Cincinnati Gas & Electric Co.* (Wm. H. Zimmer Nuclear Power Station, Unit No. 1), ALAB-727, 17 NRC 760, 770-71 (1983).

REGULATORY GUIDES: APPLICATION

NUREG-0654/FEMA-REP-1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants" (Rev. 1 1980) [hereafter, "NUREG-0654"], simply serves as guidance for the NRC staff's review and does not prescribe regulatory requirements. ALAB-819, 22 NRC 681, 710 (1985).

EMERGENCY PLANS: CONTENT (ACTIVATION OF EMERGENCY ORGANIZATION)

There are four categories of radiological emergencies. They are (in ascending order of significance) — "(1) notification of unusual events, (2) alert, (3) site area emergency, and (4) general emergency." 10 C.F.R. Part 50, Appendix E, § IV.C.

EMERGENCY PLANS: CONTENT (EVACUATION)

The purpose of an ETE in emergency planning is to provide a representative time frame for evacuation so that emergency officials can make well-informed, *realistic* decisions about protective action options. An ETE need not be based on "worst case" assumptions. See NUREG-0654, Appendix 4 (especially at 4-6, 4-7). See also *Zimmer*, 17 NRC at 770-71.

EMERGENCY PLANNING: BASIS FOR REQUIREMENT

The low probability that an accident requiring evacuation might occur is not an appropriate consideration when determining the adequacy of an

emergency plan. ALAB-819, 22 NRC at 713. This does not mean, however, that the options provided for under the plan must assume, *in addition*, the presence of the worst conceivable extraneous conditions. See generally *San Luis Obispo Mothers for Peace v. NRC*, No. 84-1410 (D.C. Cir. April 25, 1986).

EVIDENCE: ADMISSIBILITY (SPONSORSHIP BY EXPERT)

Technical documents are properly excluded from the record in the absence of sponsorship by an appropriate witness. See *Duke Power Co.* (William B. McGuire Nuclear Station, Units 1 and 2), ALAB-669, 15 NRC 453, 477 (1982).

LICENSING BOARD: RESOLUTION OF ISSUES

In general, contested issues should be resolved through the hearing process and not be left for post-hearing resolution by the NRC staff. *Consolidated Edison Co. of New York* (Indian Point Station, Unit No. 2), CLI-74-23, 7 AEC 947, 951-52 (1974).

EMERGENCY PLANS: CONTENT (SUFFICIENCY)

Findings in the emergency planning area are essentially predictive in nature: an emergency plan need not be final in every detail, just sufficiently developed to permit the "reasonable assurance" finding required by the Commission's regulations, 10 C.F.R. § 50.47(a)(1). Consequently, in some instances post-hearing verification by the staff of emergency planning measures is not an improper delegation of decisionmaking authority to the staff. See *Louisiana Power and Light Co.* (Waterford Steam Electric Station, Unit 3), ALAB-732, 17 NRC 1076, 1103-04 (1983).

LICENSING BOARD: RESOLUTION OF ISSUES

The determination of the overall adequacy of medical arrangements, specifically required by 10 C.F.R. § 50.47(b)(12), is not a proper subject for post-hearing staff oversight. See ALAB-819, 22 NRC at 711-15.

RULES OF PRACTICE: CROSS-EXAMINATION (LIMITATION)

Even if a licensing board wrongly denies a party cross-examination, the complaining party must demonstrate actual prejudice. *See Waterford*, 17 NRC at 1096.

APPEAL BOARDS: SCOPE OF REVIEW

Issues not raised before a licensing board cannot be properly raised on appeal. *See ALAB-819*, 22 NRC at 699 n.20; *ALAB-828*, 23 NRC 13, 20 (1986).

EMERGENCY PLANNING: FEMA FINDING (REBUTTABLE PRESUMPTION)

While Federal Emergency Management Agency (FEMA) findings constitute rebuttable presumptions on the adequacy of state and local emergency plans (10 C.F.R. § 50.47(a)(2)), it is not the NRC's function to monitor FEMA's work for compliance with that agency's own regulations. *See Memorandum of Understanding Between Federal Emergency Management Agency and Nuclear Regulatory Commission*, 50 Fed. Reg. 15,485 (1985), which sets forth the respective emergency planning responsibilities of, and the areas of cooperation between, FEMA and the NRC.

RULES OF PRACTICE: CONSOLIDATION

A licensing board's consolidation, on its own initiative, of parties with "substantially the same interest . . . and who raise substantially the same questions" is explicitly authorized by the Commission's Rules of Practice, 10 C.F.R. § 2.715a. Consolidation can, of course, be improper if it results in prejudice to an intervenor. *Statement of Policy on Conduct of Licensing Proceedings*, CLI-81-8, 13 NRC 452, 455 (1981).

RULES OF PRACTICE: CROSS-EXAMINATION (LIMITATION)

Although the Commission's Rules of Practice do not expressly refer to the imposition of time restrictions on witness examination, this is clearly among the necessary tools an NRC adjudicatory board possesses to regulate the course of a hearing — providing there is no prejudice to

the rights of any party. See 10 C.F.R. §§ 2.718, 2.743(c), 2.757. See also *Statement of Policy*, 13 NRC at 453.

RULES OF PRACTICE: APPELLATE REVIEW (CROSS-EXAMINATION RULINGS)

A mere demonstration that a licensing board erred by curtailing cross-examination is not sufficient to warrant appellate relief. The complaining party must demonstrate actual prejudice — i.e., that the ruling had a substantial effect on the outcome of the proceeding. See *Duke Power Co.* (Catawba Nuclear Station, Units 1 and 2), ALAB-813, 22 NRC 59, 75-76 (1985); *Houston Lighting & Power Co.* (South Texas Project, Units 1 and 2), ALAB-799, 21 NRC 360, 376-77 (1985).

RULES OF PRACTICE: CONTENTIONS

A party is bound by the literal terms of its own contentions. ALAB-819, 22 NRC at 709.

EMERGENCY PLANS: CONTENT (SUFFICIENCY)

Offsite emergency plans need not be final before a board can make the reasonable assurance finding required by 10 C.F.R. § 50.47(a)(1). See, e.g., *Waterford*, 17 NRC at 1104; *Detroit Edison Co.* (Enrico Fermi Atomic Power Plant, Unit 2), ALAB-730, 17 NRC 1057, 1066 (1983).

EMERGENCY PLANNING: EMERGENCY PLANNING ZONE (SIZE)

A contention that the ten-mile EPZ concept does not afford adequate protection to people residing near a nuclear power plant amounts to a challenge to the Commission's emergency planning regulations and is thus barred by 10 C.F.R. § 2.758.

EVIDENCE: HEARSAY

Hearsay evidence is generally admissible in NRC proceedings. *Cleveland Electric Illuminating Co.* (Perry Nuclear Power Plant, Units 1 and 2), ALAB-802, 21 NRC 490, 501 n.67 (1985). See also *Mobile Consortium of CETA v. Dep't of Labor*, 745 F.2d 1416, 1419 n.2 (11th Cir. 1984).

EMERGENCY PLANS: NOTIFICATION REQUIREMENTS

Neither 10 C.F.R. § 50.47(b)(5) nor Planning Standard E of NUREG-0654 specifies the means for notifying emergency workers; they simply require that such procedures be established.

RULES OF PRACTICE: BURDEN OF PROOF

It is the applicant's burden to prove reasonable assurance that adequate protective measures can and will be taken in an emergency. See 10 C.F.R. § 50.47(a)(1); *Consumers Power Co.* (Midland Plant, Units 1 and 2), ALAB-123, 6 AEC 331, 345 (1973).

EMERGENCY PLANS: CONTENT (SUFFICIENCY)

Under 10 C.F.R. § 50.47(c)(1), emergency planning deficiencies could result in the suspension of an outstanding license unless it is demonstrated: "that [the] deficiencies . . . are not significant for the plant in question, that adequate interim compensating actions have been or will be taken promptly, or that there are other compelling reasons to permit plant operation."

EMERGENCY PLANS: FEMA REVIEW

Formal FEMA review of state and local radiological emergency plans is not triggered until the state has reasonable assurance of the adequacy of the plans and applies to FEMA for final approval. See 44 C.F.R. § 350.7.

APPEARANCES

David Stone, Pottstown, Pennsylvania (with whom **Phyllis Zitzer** and **Maureen Mulligan**, Pottstown, Pennsylvania, were on the brief), for intervenor Limerick Ecology Action, Inc.

Robert L. Anthony, Moylan, Pennsylvania, intervenor pro se and for intervenor Friends of the Earth.

Robert M. Rader, Washington, D.C. (with whom **Troy B. Conner, Jr.**, and **Nils N. Nichols**, Washington, D.C., were on the brief), for applicant Philadelphia Electric Company.

Zori G. Ferkin, Harrisburg, Pennsylvania, for the Commonwealth of Pennsylvania.

Henry J. McGurran (with whom **Donald F. Hassell** and **Nathene A. Wright** were on the brief) for the Nuclear Regulatory Commission staff.

DECISION

In its third partial initial decision in this operating license proceeding, the Licensing Board discussed the numerous issues raised concerning the adequacy of the offsite emergency plan for the Limerick facility.¹ The Board resolved all issues in favor of applicant Philadelphia Electric Company (PECo), subject to two conditions. See LBP-85-14, 21 NRC 1219 (1985). Intervenors Limerick Ecology Action (LEA) and Robert L. Anthony/Friends of the Earth (Anthony/FOE) appeal the Board's decision.² On the other hand, PECo, the Commonwealth of Pennsylvania, and the NRC staff urge affirmance.³ For the reasons set forth below, we

¹ Appeals raising technical, environmental, and onsite emergency planning issues were addressed at earlier stages of the proceeding. See ALAB-785, 20 NRC 848 (1984); ALAB-804, 21 NRC 587 (1985); ALAB-819, 22 NRC 681 (1985). The Commission has declined review of each of these decisions. See Notices from the Secretary (March 1, 1985; May 31, 1985); CLI-86-5, 23 NRC 125 (1986). Appeals from the Licensing Board's fourth partial initial decision, concerning the adequacy of the emergency plan for the State Correctional Institution at Graterford (which lies within Limerick's emergency planning zone), are pending.

² Another intervenor, Air and Water Pollution Patrol (AWPP), also filed a notice of appeal, but never submitted a supporting brief, as required by the Commission's Rules of Practice, 10 C.F.R. § 2.762(b). AWPP is therefore in default, and its appeal from the Board's third partial initial decision is dismissed. See 10 C.F.R. § 2.707; *Public Service Co. of Indiana* (Marble Hill Nuclear Generating Station, Units 1 and 2), ALAB-461, 7 NRC 313, 315 (1978); *Mississippi Power and Light Co.* (Grand Gulf Nuclear Station, Units 1 and 2), ALAB-140, 6 AEC 575 (1973). We therefore need not decide whether AWPP — which did not participate in this part of the proceeding before the Licensing Board — has standing to appeal LBP-85-14.

³ We are compelled to note at the outset that the state of the appellants' briefs, as well as the record, in this proceeding made appellate review a formidable task. Appellants' briefs are poorly organized and hard to follow. Much of LEA's brief, in particular, amounts to a "cut and paste" collection of its proposed findings and portions of other earlier filings. LEA also relies on exhibits that were never offered into evidence. It mentions, in passing, adverse Licensing Board rulings, but fails to object specifically to them. We are sensitive to the limited resources of many intervenors, but we can address only those arguments that are articulated lucidly enough for us to comprehend.

The other parties are not blameless, insofar as the state of the record is concerned, either. Applicant's counsel, in particular, made numerous, frivolous objections to testimony, leading other counsel to do likewise. This served only to waste valuable time and to freight an already lengthy transcript with pointless, distracting material. See *infra* p. 502. Further, the prefiled testimony of some parties was unpaginated and assembled in a disorganized and confusing manner.

(Continued)

reverse and remand for further action on one issue (school bus driver availability) and otherwise affirm LBP-85-14, subject to an additional condition concerning traffic control.⁴

I. RELIABILITY OF THE EVACUATION TIME ESTIMATES

The Licensing Board received extensive evidence on various issues concerning the Evacuation Time Estimates (ETE) for the Limerick plume emergency planning zone (EPZ).⁵ The purpose of an ETE is to provide information (i.e., the time required to evacuate the EPZ and any unusual problems) so that emergency coordinators can decide what protective actions (such as sheltering or evacuation) might be necessary. The Commission's regulations, however, do not set any particular time limits for evacuation of the EPZ. *Cincinnati Gas & Electric Co.* (Wm. H. Zimmer Nuclear Power Station, Unit No. 1), ALAB-727, 17 NRC 760, 770-71 (1983).

LEA contention 23 generally challenged the reliability of the Limerick ETE.⁶ The Board concluded, however, that the ETE study is consistent with the NRC's regulatory requirements and guidance and is reasonably accurate. See LBP-85-14, 21 NRC at 1236-50. On appeal, LEA raises a number of objections to the Board's findings and conclusions in this regard.

A. Identification of Transport-Dependent Population

Emergency planning officials from Montgomery, Chester, and Berks Counties conducted a survey to determine the special needs of the resident population within the Limerick emergency planning zone.⁷ The survey was mailed to every home or building in the EPZ that receives a

Compounding these problems was the lack of care taken to preserve the record in this case. Only about 65 of the 207 exhibits tendered were ever submitted to us and to the Commission's Secretary, the official custodian of the record, and not all exhibits were listed in the appendix to the Licensing Board's decision. Eventually Licensing Board personnel located at least one copy of all but a few exhibits; those not located fortunately were not essential to our review. Equally, if not more, important, a licensing board's citations to the record should be correct and accurately reflect the overall gist of the material, relevant, and noncumulative evidence.

⁴ In ALAB-808, 21 NRC 1595 (1985), we denied LEA's motion for a stay of the Board's third partial initial decision. The Commission made a similar determination in CLI-85-13, 22 NRC 1 (1985).

⁵ For a general discussion of the emergency planning requirements for a nuclear facility, see *Long Island Lighting Co.* (Shoreham Nuclear Power Station, Unit 1), ALAB-832, 23 NRC 135, 143-45 (1986).

⁶ This contention states:

The draft county plans are deficient because they do not contain reliable evacuation time estimates.

⁷ The Limerick EPZ has a radius of roughly ten miles and includes portions of each of the three named counties. See also *infra* pp. 497-500.

PECo electric bill. It asked the recipients to indicate, via an enclosed pre-addressed, postage prepaid envelope, if anyone in their households would have a special need (such as transportation) in the event of an emergency. The names, addresses, and telephone numbers of such individuals were then collected and filed with the appropriate local emergency planning center. The Licensing Board concluded that these survey data are accurate and can properly be used for planning purposes. *Id.* at 1245-47. *See also id.* at 1389.

LEA argues that this method of identifying the transport-dependent population is inadequate and, as a result, the number of buses necessary to evacuate such persons is understated. More trips would therefore be necessary, causing delay and undermining the accuracy of the ETE. LEA contends that 1980 U.S. Census data should have been used instead, as suggested by the principal emergency planning document prepared jointly by the NRC and the Federal Emergency Management Agency (FEMA) — NUREG-0654/FEMA-REP-1, “Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants” (Rev. 1 1980), Appendix 4 at 4-2 [hereafter, “NUREG-0654”]. By multiplying the number of households with no vehicles, as shown in the Census data, by 2.59 (the average number of persons per household), LEA finds many more transport-dependent people, particularly in the more densely populated areas like Phoenixville and Pottstown, than was reflected in the counties’ survey data. LEA also claims that the survey overlooks many day care facilities, further distorting the transport-dependent numbers. Brief in Support of Appeal (June 13, 1985) at 16-23, 30-31 [hereafter, “LEA’s Brief”].

We see no basis for disturbing the Licensing Board’s judgment that the transport-dependent population has been adequately identified. At the outset, we note that although NUREG-0654 states that special attention should be devoted to the transport-dependent population, it permits “alternative approach[es]” to estimate the number of persons involved; Census “or other reliable data” may be used. NUREG-0654 at 4-2 to 4-3.⁸ Moreover, this document “simply serve[s] as guidance for the staff’s review and [does] not prescribe regulatory requirements.” ALAB-819, *supra* note 1, 22 NRC at 710.

⁸ FEMA agrees that “a survey can be an acceptable technique for measuring the transport-dependent population.” FEMA Update, fol. Tr. 20,150, at hand-numbered 9 (re: LEA-23).

We also find the explanation for the differences between the survey and the Census data to be persuasive.⁹ PECO's witnesses pointed out that the Census lists households without their own transportation, while the survey asked if the households had transportation "available" — i.e., transport including that provided by friends, neighbors, or relatives. The greatest discrepancies in the data thus are

in urban areas where more friends, neighbors or relatives would live in close proximity. In less populated areas, the survey results and Census estimates are comparable.

Bradshaw and Klimm, fol. Tr. 17,191, at 18-19. To be sure, the counties' survey was not perfect. As LEA notes, households not billed by PECO (for example, apartment renters who do not pay their own utilities) apparently did not receive the questionnaire. But local social service agencies and municipal offices, as well as the news media, informed the public about the survey, thereby supplementing the mailing. *Id.* at 17; Tr. 13,732-33.¹⁰ As for the Census on which LEA would rely, it too is not without its flaws. LEA acknowledges that, with respect to ambulance estimates, there is a large discrepancy between the Census and survey data, "but in the opposite direction" (i.e., the Census understates the need for ambulances). LEA's Brief at 31. Moreover, Census data are compiled for a wide variety of purposes, whereas the counties' survey was specifically conducted for emergency planning needs. The Census also does not identify the specific individuals who might need transportation in an emergency. LEA has thus failed to provide us with a convincing reason to eschew the counties' survey data in favor of the numbers based on Census data.

LEA's claim that many day care facilities were overlooked by the survey is also wide of the mark. It is apparent from the record that there

⁹ We agree with LEA, however, that the counties' attempt to verify the accuracy of the survey by telephoning those on the list of transport-dependent persons cannot reveal those who might have been missed by the survey. See LBP-85-14, 21 NRC at 1245. We therefore do not rely on the counties' efforts in this regard.

¹⁰ Referring to the testimony of one of its witnesses, W. Richard Whitlock, LEA states its belief that, at most only about 15 percent of recipients respond to surveys conducted by mail. LEA's Brief at 20; Tr. 18,383. Mr. Whitlock, however, is a teacher and Chairman of the South Coventry Township Board of Supervisors; no showing of his credentials to testify on statistics and sampling techniques was made. See Tr. 18,376. Further, the only basis for his testimony was his township's experience with mail-out surveys for unspecified "other activities." Tr. 18,383.

We have examined the survey in question. See LEA Exh. E-44. Although it could have been designed to be more "attention-grabbing," it is adequately drafted to elicit the desired response. That is, a recipient needed to do *nothing* unless a member of the household has a transportation or other special problem. If that is the case, one simply checked the appropriate boxes and returned the form in the postage paid envelope provided. Contrary to Mr. Whitlock's unsupported testimony, we think this questionnaire reasonably served the purpose for which it was intended — identification of those with no transportation available in an emergency.

was never any intent to rely solely on the counties' survey to identify the special needs of such facilities. Licensed day care centers were identified from state records. Unlicensed facilities (operating in a church, for example) were found by checking telephone directories, social service agencies, and other informal contacts. Because these latter facilities are less stable, the identification of them is admittedly more difficult and thus is an ongoing process. Once identified, day care centers were/are sent a copy of a model day care center emergency plan. Tr. 19,899-901; LBP-85-14, 21 NRC at 1329-32. The Director of the Chester County Department of Emergency Services, Timothy R.S. Campbell, testified that he was generally satisfied with the means undertaken to identify all day care facilities. Tr. 19,998-99. LEA offers no colorable reason for disputing this testimony or for questioning the Licensing Board's determination that day care facilities in the EPZ have been and continue to be adequately identified.

B. Margin for Error

Relying on the testimony of staff witness Dr. Thomas Urbanik, LEA claims that there are errors in the ETE of 10 to 20 percent and more.¹¹ Such errors would add another hour to the approximate five-hour evacuation time. According to LEA, this would diminish the usefulness of the ETE to emergency officials in making protective action decisions, contrary to the Licensing Board's finding. LEA's Brief at 34. *See* LBP-85-14, 21 NRC at 1238.

LEA, however, has misunderstood Dr. Urbanik's testimony. On cross-examination, he stated that an error of 10 to 20 percent in a projected evacuation time would be acceptable and would not limit the usefulness of the evacuation time estimate. Tr. 19,211-13. When asked "what would happen if it is more than 20 percent," Dr. Urbanik replied that, in such a "hypothetical" situation, one would be "unhappy" and "uncomfortable" with an estimate so "widely off the mark." He stressed, however, that he had no reason to believe the error in the Limerick ETE is more than 20 percent. Tr. 19,249. Dr. Urbanik's testimony thus does not support LEA's claim.

¹¹ Dr. Urbanik is an associate research engineer at the Texas Transportation Institute of Texas A&M University. Urbanik, fol. Tr. 19,203, at 1.

C. Mobilization Times

LEA also appears to challenge certain mobilization times in the ETE. See LEA's Brief at 32-34. As we understand its argument, LEA contends that the average one-hour mobilization time for school buses in the ETE is "unrealistically brief" because it does not include "travel time to the school and time to load the buses" and incorrectly assumes "prepositioning" of buses. *Id.* at 32. LEA also points to the Licensing Board's acknowledgment that, in a "worst case" scenario, mobilization times could exceed one hour. *Ibid.* See LBP-85-14, 21 NRC at 1248.

LEA has again misunderstood the testimony and evidence adduced in connection with the ETE. In the first place, the ETE's average one-hour mobilization time *does* include travel time from the garage to the school and time for loading the students onto the buses. Applicant Exh. E-67, Evacuation Time Estimates (May 1984), at 5-5 [hereafter, "ETE"]; Bradshaw and Klimm, fol. Tr. 17,191, at 16-17; Tr. 17,258-59.¹² LEA apparently confuses the ETE's one-hour school bus mobilization time with the longer "unit mobilization" times in the Montgomery County Radiological Emergency Response Plan (RERP). As the Licensing Board found, these unit mobilization times (up to two hours for about 20 percent of the bus providers) "include the time necessary to obtain drivers and have buses ready to depart from a provider's garage" — in addition to the travel time from the garages to the schools, which is already included in the ETE. LBP-85-14, 21 NRC at 1248. See Tr. 12,955, 17,259.

It is reasonable for the ETE to exclude the increment of time necessary to gather the drivers and prepare the buses for departure because, in "the most likely scenario," this activity will occur well before any order to evacuate. LBP-85-14, 21 NRC at 1249. Contrary to LEA's assertion, school and county plans provide for the notification of bus providers at the alert stage¹³ and the positioning of buses at staging areas or assigned schools in advance of any evacuation order. Bradshaw and Klimm, fol. Tr. 17,191, at 16. See, e.g., Applicant Exh. E-3, Montgomery County RERP, at I-2 to I-3.¹⁴ Thus, even though additional time may be necessary to mobilize some drivers and vehicles, this is pre-evacuation

¹² The average one-hour time is actually a 30 to 90-minute range. ETE at 5-3, 5-5; Bradshaw and Klimm, fol. Tr. 17,191, at 16-17.

¹³ There are four categories of emergencies (in ascending order of significance) — "(1) notification of unusual events, (2) alert, (3) site area emergency, and (4) general emergency." 10 C.F.R. Part 50, Appendix E, § IV.C.

¹⁴ LEA's reliance on *Zimmer* is misplaced. There we found certain county plans for school evacuation to be deficient for lack of details about how buses and drivers would be mobilized. 17 NRC at 772-73. No similar claim is pressed in connection with the particular LEA contention at issue here. *But see infra* pp. 512-20.

activity that does not undercut the validity of the ETE's assumption of a one-hour mobilization time commencing with the decision to evacuate.¹⁵

LEA's claim that the ETE should be based on worst case assumptions is unconvincing. PECO's expert witness, Robert D. Klimm, explained that the purpose of an ETE is to provide a representative time frame for evacuation so that emergency officials can make well-informed, *realistic* decisions about protective action options. Tr. 13,871, 17,260.¹⁶ This is consistent with the NRC staff's planning guidance in NUREG-0654, which makes no mention of the use of worst case assumptions but does refer to consideration of "normal" and "adverse" conditions expected as a result of specific site characteristics. See NUREG-0654, Appendix 4 (especially at 4-6, 4-7). See also *Zimmer*, 17 NRC at 770-71. As Dr. Urbanik testified, the ETE was prepared in accordance with NUREG-0654 and thus took account of a wide range of seasonal, weather, and other conditions. See Tr. 19,223; ETE at 2-1 to 2-8. In these circumstances, we cannot agree with LEA that the ETE must be premised on worst case scenarios of bus mobilization times.¹⁷

D. Traffic Flow Assumptions

LEA is also generally critical of the "zero base traffic flow" assumption of the ETE and the study's failure to compare evacuation traffic patterns with actual rush hour conditions. See LEA's Brief at 35. Although the traffic flow assumptions underlying the ETE could be better explained in the study, the ETE's methodology in this regard is reasonable and does not conflict with the staff guidance on ETes in NUREG-0654, Appendix 4.

The zero base flow assumption is simply one of the "blocks" used in "building" a computer model of an evacuation. It places *all* vehicles for the various population groups in the EPZ (i.e., permanent residents, persons at special facilities such as schools and hospitals, and transients) at their points of origin at the time of notification of an evacuation. They are then added onto and distributed throughout the evacuation network

¹⁵ It bears repeating that there is no regulatory time limit for an evacuation or any part thereof. See *supra* p. 486.

¹⁶ Mr. Klimm, a transportation engineer, is the principal author of the Limerick ETE and a developer of the state-of-the-art NETVAC computer simulation evacuation model, which has been used at approximately 20 nuclear power plant sites throughout this country. Klimm, fol. Tr. 13,794, Professional Qualifications Statement; Tr. 13,795, 13,816-23.

¹⁷ In ALAB-819, 22 NRC at 713, we pointed out that the low probability that an accident requiring evacuation might occur is not an appropriate consideration when determining the adequacy of an emergency plan. That does not mean, however, that the options provided for under the plan must assume, *in addition*, the presence of the worst conceivable extraneous conditions. See *generally San Luis Obispo Mothers for Peace v. NRC*, 789 F.2d 26 (D.C. Cir. 1986) (en banc).

over a period of about two and one-half hours. In reality, of course, many of these vehicles would already be in transit somewhere in the traffic network. Contrary to LEA's apparent belief, no one associated with the ETE meant to suggest that the traffic routes would, in fact, be empty. Simulating the position of these vehicles in the network, however, would be difficult and would invariably lead to double-counting and an unrealistic basis for decisionmaking. *See supra* p. 491. Hence, to minimize this problem, the ETE model simply assumes the vehicles will evacuate from their respective origin points (e.g., residences). *See* ETE at 2-3, 5-2, 5-3.¹⁸ Most important in terms of the study's integrity, however, is that all vehicles are accounted for. *See* Tr. 13,866-70, 14,033-39. *See also* Tr. 19,213-14 (zero base flow assumption neither required nor prohibited by staff guidance).

Similarly, the ETE does not superimpose postulated evacuation traffic on actual rush hour traffic, so as to avoid the double-counting problem. Tr. 19,214-16. Further, Mr. Klimm testified that comparison of these two traffic patterns would not be particularly useful inasmuch as the conditions underlying each (e.g., origins and destinations and the extent of traffic control) are so different. *See* Tr. 17,040. LEA has failed to convince us otherwise — i.e., that such a comparison would be relevant.

II. TRAFFIC CONGESTION OUTSIDE THE EPZ

LEA contention 24, combined with Anthony/FOE contention 1, raised concerns about traffic congestion in two areas beyond the EPZ — the Route 100 corridor between Marsh Creek State Park and Exton (*see* Applicant Exh. E-69), and the Valley Forge National Park and King of Prussia area, primarily in Upper Merion Township (*see* Applicant Exhs. E-68 and E-92). The contention sought inclusion of these areas in the EPZ or, in the alternative, "adequate plans for traffic control and direction."¹⁹ Although the Licensing Board found no basis for enlarging the EPZ to encompass either of these areas, it concluded that additional traffic control is necessary in the King of Prussia area so as to assure that

¹⁸ Even this approach is conservative due to certain inevitable double-counting. For instance, transients (i.e., workers, shoppers, and visitors) may also be permanent residents and thus are counted twice. ETE at 3-1, 3-7. Moreover, vehicles temporarily out of the area are nevertheless included as well.

¹⁹ The combined contention states, in full:

There is no assurance that plans for evacuation of the ten mile radius will not be impeded by traffic congestion in the vicinity of Marsh Creek State Park, Exton area (involving Route 100) and Valley Forge Park, King of Prussia area.

These areas should either be included in the Emergency Planning Zone or adequate plans for traffic control and direction should be made to avoid adverse effects on EPZ evacuation.

evacuation traffic can continue to move once it reaches the EPZ boundary. The Board accordingly imposed a license condition requiring the NRC's Director of the Office of Nuclear Reactor Regulation (NRR) to verify plans to implement such traffic control before authorizing operation of the Limerick plant above five percent of rated power. LBP-85-14, 21 NRC at 1250-69, 1407.²⁰

LEA devotes a substantial part of its brief to the claimed need for traffic control in the two non-EPZ areas in question. We thus turn to those arguments first.

A. Traffic Control Points

The ETE shows expected traffic congestion (vehicle queuing) at various time intervals during an evacuation. At the 270-minute mark in the simulation, virtually all queuing within and just outside the EPZ has dissipated. ETE, Appendix 11 (especially at A11-4, A11-7). *See* LBP-85-14, 21 NRC at 1252-53. LEA complains generally that this analysis is "wrong," particularly insofar as the King of Prussia area is concerned, but provides no concrete or specific reason for rejecting the ETE's hypothesis. Instead, LEA simply asserts its belief that queuing will likely continue in this area beyond 270 minutes into the evacuation. *See, e.g.,* LEA's Brief at 36-37, 44. Such speculation, however, does not supply an adequate basis for a serious challenge to the ETE.²¹

Most of LEA's arguments, however, boil down to the same basic point — the need for advance identification of and planning for additional traffic control points in the Valley Forge/King of Prussia area. *See, e.g.,* LEA's Brief at 38, 40, 42, 45-47, 53. *See also* Anthony/FOE Brief (June 6, 1985) at 3. LEA relies principally on the testimony of Dr. Urbanik to support this view. *See* Tr. 19,277-83. But as a result of that very testimony, the Licensing Board has, in fact, provided for additional traffic control in the Valley Forge/King of Prussia area in the form of a

²⁰ As discussed below (p. 494), pursuant to this requirement 17 additional control points have been designated and will (or may already) be incorporated into the Montgomery and Chester County radiological emergency response plans. *See* Letter from D.F. Hassell to Licensing Board (June 5, 1985), Enclosure with Attachments [hereafter, "FEMA Memoranda"]. The Commission subsequently authorized issuance of a full-power license and the plant is in operation. *See* CLI-85-15, 22 NRC 184 (1985).

²¹ In this connection, LEA claims that it was denied the opportunity to question Mr. Klimm about queuing beyond the 270-minute mark, while the Licensing Board itself pursued the matter. LEA's Brief at 36. The referenced portions of the hearing transcript, however, do not support LEA's claim. The Board only sustained an objection to LEA's characterization of a map in the ETE as not showing areas outside the EPZ. Tr. 13,931-33. Indeed, it is apparent from the testimony and the maps themselves that they do show areas and queuing beyond the EPZ. ETE, Appendix 11; Tr. 14,101. It is equally apparent that LEA was not precluded from questioning Mr. Klimm about the basis of the ETE's conclusion that queuing will dissipate outside the EPZ by the 270-minute mark.

license condition. LBP-85-14, 21 NRC at 1254, 1269, 1407. And, as noted above (note 20), 17 additional control points have already been designated in fulfillment of that license condition. Thus, the request for "adequate plans for traffic control and direction" in the Valley Forge/King of Prussia area in LEA contention 24/FOE contention 1 has been satisfied.²²

LEA complains, however, that the Board's imposition of a license condition in response to contention 24 denied its asserted right to cross-examination on the matter of additional traffic control. See LEA's Brief at 44, 52. LEA thus contends that the Board improperly delegated to the staff the post-hearing verification of these traffic control measures. *Id.* at 51. These arguments are without merit.

In general, contested issues should be resolved through the hearing process and not be left for post-hearing resolution by the staff. *Consolidated Edison Co. of New York* (Indian Point Station, Unit No. 2), CLI-74-23, 7 AEC 947, 951-52 (1974). In *Waterford, supra* note 22, 17 NRC at 1103-04, however, we explained that findings in the emergency planning area are essentially predictive in nature: an emergency plan need not be final in every detail, just sufficiently developed to permit

²² LEA raises several other objections to primarily evidentiary rulings by the Licensing Board in connection with the traffic control issue. Specifically, it claims that the Board wrongly excluded the testimony of Ronald Wagenmann, Manager of Upper Merion Township (the Valley Forge/King of Prussia area), on "spontaneous evacuation" outside the EPZ. (This is "voluntary" evacuation by persons not required to evacuate under the emergency plan. See *Louisiana Power and Light Co.* (Waterford Steam Electric Station, Unit 3), ALAB-732, 17 NRC 1076, 1101-02 & n.41 (1983).) LEA's Brief at 38, 45. LEA also complains about the Board's exclusion of two exhibits (LEA Exhs. E-46 and E-56), as well as its discussion of the testimony of Dr. Norman Vutz, Township Supervisor and Emergency Management Coordinator for Schuylkill Township. LEA's Brief at 38, 42, 55.

LEA's arguments about the exclusion of its Exhs. E-46 and E-56 are groundless. LEA was unable to produce witnesses who were willing and able to sponsor and testify about these documents (a traffic engineering master plan study of the Routes 100 and 113 corridors, and an interim traffic study for Upper Merion Township). Tr. 19,041-43, 19,179-81. Accordingly, the Board properly excluded them from evidence. Tr. 19,067, 19,190. See *Duke Power Co.* (William B McGuire Nuclear Station, Units 1 and 2), ALAB-669, 15 NRC 453, 477 (1982). Moreover, the two documents have little relevance to the emergency evacuation plan for Limerick and, thus, would have been entitled to limited weight in any event.

LEA's other arguments, however, have some merit. First, the Licensing Board sustained an objection to Anthony/FOE's attempt to question Mr. Wagenmann about spontaneous evacuation in Upper Merion Township because it was "beyond the scope of the contention." Tr. 17,419. Compare Tr. 13,951-53 (LEA's cross-examination of Mr. Klimm about "simultaneous" evacuation outside the EPZ). But LEA contention 24/FOE contention 1 refers to the possible adverse effects of traffic congestion in that vicinity, which reasonably encompasses spontaneous evacuation as a source of that traffic congestion. See Tr. 14,572-73. Second, although the Board did not "ignore" Dr. Vutz's testimony, as LEA claims (LEA's Brief at 42), it sets it forth in a somewhat incomplete and misleading way. Compare LBP-85-14, 21 NRC at 1266-67, with Tr. 14,425-549. For example, although Dr. Vutz's understanding of some of the assumptions in the ETE was not correct, that was due to shortcomings in the ETE's explanatory material or the very brief time afforded him to review the ETE — not a lack of diligence on his part, as the Board implies. See Tr. 14,459-62. But because both the Wagenmann and Vutz testimony was intended to show a need for more traffic control and the license condition imposed by the Board meets that need, any errors by the Board in its treatment of their testimony were harmless.

the "reasonable assurance" finding required by the Commission's regulations, 10 C.F.R. § 50.47(a)(1). Consequently, in some instances post-hearing verification by the staff of emergency planning measures is not an improper delegation of decisionmaking authority to the staff.

In *Waterford*, for instance, we concluded that post-hearing verification by the staff of the installation and testing of the siren warning system, completion of letters of agreement for vehicles and drivers, and certain details concerning the communication system for the Emergency Support Organization was proper. Each of these items is essentially a detail relating to the implementation of the emergency plan, rather than a basic ingredient of the plan itself. See also *Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), ALAB-781, 20 NRC 819, 832-35 (1984) (certain deficiencies in county public information program and the emergency communication system can be resolved after hearing, through license condition).²³ The same can be said here about the plans for greater traffic control in the Valley Forge/King of Prussia area. Traffic control is achieved by the stationing of Pennsylvania State Police or local law enforcement personnel at designated locations (usually intersections) to restrict access to certain roads or to direct traffic more safely and expeditiously through an area. ETE at 7-1, 7-7. Thus, the Licensing Board did not err in authorizing the staff to verify the designation of additional traffic control points.²⁴

It follows that LEA was therefore not entitled to any cross-examination on the plans for additional traffic control. In any event, LEA has failed to explain exactly what relevant information it would have sought to elicit by such cross-examination,²⁵ or to show how it has been prejudiced. See *Waterford*, 17 NRC at 1096. As LEA recognizes, developing a traffic control plan requires participation by local officials

²³ By contrast, in *Zimmer*, 17 NRC at 773-74, we determined that, among other things, the adequacy of applicant's emergency communication system had not been shown on the record. In this circumstance, we concluded that intervenors were entitled to a hearing on the adequacy of an alternative system, which was not described in the emergency plan.

²⁴ To support its argument about additional traffic control, LEA cites the Licensing Board's determination in *Southern California Edison Co.* (San Onofre Nuclear Generating Station, Units 2 and 3), LBP-82-39, 15 NRC 1163, 1216-17 (1982), that the adequacy of arrangements for medical services for the public cannot be left for post-hearing staff resolution. For our purposes here, we need not recite the lengthy subsequent history at the Commission and in court of this *San Onofre* decision. Suffice it to say that we agree that the determination of the overall adequacy of medical arrangements, specifically required by 10 C.F.R. § 50.47(b)(12), is not a proper subject for post-hearing staff oversight. See also ALAB-819, 22 NRC at 711-15. But the difference between that critical element of emergency planning and the designation of several more traffic control points is manifest.

²⁵ LEA does state that it would "cross-examine the relevant authorities as to the intent to implement such measures and the extent of preparation." LEA's Brief at 52. But these matters go well beyond the scope of the contention. See *supra* note 19.

with local traffic knowledge. See LEA's Brief at 40.²⁶ Accordingly, the involved counties and townships, as well as the State Police, worked with PECO's consultant in designating the 17 points added to the Valley Forge/King of Prussia area and approved by FEMA and the Pennsylvania Emergency Management Agency (PEMA). See FEMA Memoranda, *supra* note 20. What LEA's cross-examination would have added is not evident.²⁷

We do agree with LEA and Anthony/FOE, however, in one respect. The record (particularly Dr. Urbanik's testimony) also demonstrates a need for more traffic control in the other area specified in LEA contention 24/FOE contention 1 — i.e., the Route 100 corridor near Marsh Creek State Park and Exton. See LEA's Brief at 37, 39, 47, 49; Anthony/FOE Brief at 4-5.²⁸ Specifically, Dr. Urbanik testified as to the need for traffic control at the Downingtown interchange (Exit 23) of the Pennsylvania Turnpike. Tr. 19,229. He explained that, without access control, traffic evacuating south via Route 100 could enter the turnpike at Downingtown and travel east. The next turnpike interchange is Valley Forge, where other evacuation traffic will be directed to enter the turnpike (designated as Interstate 276 at this point) and to continue east. See Commonwealth Exh. E-9, Evacuation Plan Map. Dr. Urbanik thus sees a conflict in the demands that could be placed on this part (Interstate 276) of the turnpike and a corresponding flaw in the ETE's assumption that this roadway has adequate capacity. He therefore suggested that some measure of traffic control be considered for the Downingtown interchange area. Tr. 19,234-39.

The Licensing Board's decision briefly addresses the issue of traffic control at the Downingtown interchange. See LBP-85-14, 21 NRC at 1259. The Board cites Mr. Klimm's testimony that PEMA, the

²⁶ Even Dr. Urbanik, on whose testimony LEA relies, was not willing to identify the specific locations of the traffic control points he urged be added. Tr. 19,281.

²⁷ At oral argument, LEA elaborated somewhat on what it would have pursued. See App. Tr. 12-17, 99. It referred to a study, but that document was properly excluded from the record. See *supra* note 22. LEA also indicated that it would have questioned a consultant who assisted in designating the additional 17 traffic control points. But, again, it is not clear what meaningful information LEA hoped to elicit. It is worth noting, in this connection, that LEA did not pursue any particular cross-examination with regard to the hundreds of traffic control points, inside and outside the EPZ, already designated in the county emergency plans. See Applicant Exh. E-1, Berks County RERP, Appendix K-2; Applicant Exh. E-2, Chester County RERP, Annex K, Appendix 1; Applicant Exh. E-3, Montgomery County RERP, Appendices K-2, K-4; ETE at 7-2 to 7-6, 7-8 to 7-15. Without specifics from LEA, it is thus difficult to perceive the likely nature of its cross-examination on the additional points.

²⁸ Some of Anthony/FOE's argument concerns the asserted need for control of through traffic in areas other than those specified in the contention and litigated below. These arguments cannot be properly raised for the first time on appeal. See ALAB-819, 22 NRC at 699 n.20; ALAB-828, 23 NRC 13, 20 (1986).

Pennsylvania Department of Transportation (PennDot), and county officials believe most vehicles will continue evacuating south on Route 100 and will not enter the turnpike. In their view, persons who nevertheless do enter the turnpike east at Downingtown would not affect the evacuation time estimate. *See* Tr. 13,953-54, 14,071-74, 14,082, 17,056; Klimm, fol. Tr. 13,794, at 3-4. The Board, however, fails to discuss Dr. Urbanik's contrary testimony. *See* Tr. 19,229, 19,234-39. We find persuasive his concern that, because the turnpike is an obvious choice for long-distance travel, many will opt for that route, rather than continuing on Route 100 south. *See* Tr. 19,239. Further, this view is not effectively refuted by the other cited testimony, which clearly recognizes the possibility of use of the turnpike option at Downingtown.

We therefore conclude that, just as Dr. Urbanik's testimony provided the basis for requiring more traffic control at Valley Forge/King of Prussia, it supports LEA's argument of a need for traffic control at Downingtown. Accordingly, as a condition for continued operation under its already-issued operating license, we direct PECO to take steps to establish in the appropriate emergency plans traffic control measures in the area of Route 100 and the Downingtown interchange of the Pennsylvania Turnpike. As in the case of the other 17 additional points, the Director of NRR is to verify that this action is taken within a reasonably expeditious period of time.²⁹

B. Scope of the EPZ

The Commission's regulations provide that

[g]enerally, the plume exposure pathway EPZ for nuclear power plants shall consist of an area about 10 miles (16 km) in radius The exact size and configuration of the EPZs surrounding a particular nuclear power reactor shall be determined in relation to local emergency response needs and capabilities as they are affected by such conditions as demography, topography, land characteristics, access routes, and jurisdictional boundaries.

10 C.F.R. § 50.47(c)(2). Both LEA and Anthony/FOE argue that the Limerick EPZ should be enlarged to include Valley Forge National Park and Marsh Creek State Park. LEA's Brief at 54-55; Anthony/FOE Brief

²⁹ We leave to the discretion of the involved federal (FEMA and NRC), state, and local officials the decision as to the type of traffic control desirable at Downingtown. For example, permitting entry only to the turnpike *west* might well be preferable to totally denying access to the turnpike at this interchange.

at 2-3. Except for a small portion of Valley Forge already included, both parks lie just outside the EPZ. *See* Commonwealth Exh. E-9.

Intervenors' arguments stem from LEA contention 24/FOE contention 1, which proposed including these park areas in the EPZ as an *alternative* to additional traffic control and direction. *See supra* note 19. Because added traffic control is now required for both the Valley Forge/King of Prussia area and at Downingtown in the Route 100 corridor near Marsh Creek, LEA's and Anthony/FOE's arguments are moot. Even if they were not, however, we see no deficiencies in the scope of the EPZ. The Limerick EPZ was defined by state and local emergency planning officials in accordance with 10 C.F.R. § 50.47(c)(2). Intervenors have failed to show why the judgment of these experts is wrong or not due the deference contemplated by the Commission's regulations. *See* 45 Fed. Reg. 55,402, 55,406 (1980) ("The exact size and shape of each EPZ will be decided by emergency planning officials after they consider the specific conditions at each site").³⁰

LEA and Anthony/FOE also do not explain what formal inclusion of these parks in the EPZ would accomplish. There is no question that the emergency planners considered both areas in determining evacuation routes. They concluded, however, that traffic originating there would not significantly affect the estimated evacuation time for vehicles leaving the EPZ. Further, the National Park Service (NPS) has expressed its willingness to cooperate during an emergency and to aid visitors to Valley Forge in exiting the park if necessary. *See, e.g.*, Tr. 14,567-69, 14,594, 14,679-86. *See also* LBP-85-14, 21 NRC at 1255-66.³¹

Anthony/FOE, however, raise several separate issues relating to the scope of the EPZ. They allege that FEMA has not fulfilled the responsibility to consult with state and local governments about the exact size and configuration of the EPZ, imposed by 44 C.F.R. § 350.7(b). Similarly, they assert that, as specified in 44 C.F.R. § 350.3(d), FEMA has not consulted with the National Park Service to determine the latter's view on including Valley Forge in the EPZ.³² Anthony/FOE rely on two letters from regional officials of FEMA and NPS, stating (in response to Freedom of Information Act requests) that they had no information in their

³⁰ It is interesting to note that Dr. Urbanik — upon whom LEA otherwise relies — testified that, in his judgment, there was no need to include Valley Forge National Park in the EPZ. Tr. 19,264-65.

³¹ At oral argument, LEA referred to the need for consistency and NPS involvement in the process. App. Tr. 27-31. With respect to the latter point, we explain at *infra* p. 500, that NPS was involved in the emergency planning process. Further, as noted above, NPS is willing to cooperate with state and local officials during any emergency, thus avoiding problems of "inconsistency."

³² 44 C.F.R. § 350.3(d) refers to FEMA's ongoing "cooperative effort with State and local governments and other Federal agencies in the development of State and local plans and preparedness to cope with the offsite effects resulting from radiological emergencies at commercial nuclear power facilities."

files about the establishment of the Limerick EPZ. Anthony/FOE Brief at 1-3, Attachments.

Anthony/FOE's arguments are without merit.³³ First, while FEMA's findings constitute rebuttable presumptions on the adequacy of state and local emergency plans (10 C.F.R. § 50.47(a)(2)), it is not the NRC's function to monitor FEMA's work for compliance with that agency's own regulations. *See* Memorandum of Understanding Between Federal Emergency Management Agency and Nuclear Regulatory Commission, 50 Fed. Reg. 15,485 (1985) [hereafter, "FEMA/NRC MOU"], which sets forth the respective emergency planning responsibilities of, and the areas of cooperation between, FEMA and the NRC.³⁴

In any event, there is nothing to suggest that FEMA did not comply with its own rules in this case. Pursuant to 44 C.F.R. § 350.7(b),

[t]he exact size and configuration of the EPZs surrounding a particular nuclear power facility *shall be determined by State and local governments in consultation with FEMA and NRC* taking into account such local conditions as demography, topography, land characteristics, access routes and local jurisdiction boundaries. [Emphasis added.]

FEMA stresses "the intention of this section to encourage the exercise of local planning responsibility, judgment, and decisionmaking." 48 Fed. Reg. 44,332, 44,335 (1983). This is precisely what occurred with regard to Limerick. State and local emergency planning and transportation officials initially defined the boundaries of the EPZ. *See, e.g.*, Tr. 19,495-97. FEMA subsequently reviewed their work. Tr. 20,234. As Richard Z. Kinard, FEMA's project officer for Limerick, explained:

We, at FEMA, work with various emergency management organizations, including FEMA, counties, municipalities, and school districts where necessary. We know of the expertise of the emergency planners in these different fields. We respect their abilities in the field of emergency planning. We feel that the individuals at the county, at the state, and at the municipalities have a much clearer feeling as to the local conditions in the areas surrounding nuclear power plants than we do. And we

³³ Although the letters on which Anthony/FOE rely raise questions about the record keeping practices of FEMA and NPS, they are not part of the record on appeal in this case. Thus, they cannot provide a basis for any ruling here. ALAB-828, 23 NRC at 20. Even if we could properly consider the letters, however, they are not significant enough to change the outcome.

³⁴ This Memorandum of Understanding supersedes that adopted in 1980 (45 Fed. Reg. 82,713) and cited by the Licensing Board (LBP-85-14, 21 NRC at 1228-29). The differences in the two memoranda, however, are not pertinent to our discussion.

are not deferring judgment to them. We honor their judgment and believe their expertise in this area is well warranted.

Tr. 20,243. *See also* Tr. 20,242, 20,246.³⁵

The record is likewise clear that the National Park Service was consulted with regard to the Limerick emergency plan. As the Licensing Board observed, NPS representatives met approximately four times with state and county officials “to discuss notification procedures and the responsibility of the National Park Service in facilitating traffic flow through the park as it leaves the EPZ.” LBP-85-14, 21 NRC at 1261. *See* Tr. 14,563, 14,656, 14,666-69, 14,679, 14,680-81. Presumably, this provided NPS the opportunity to seek inclusion of Valley Forge within the EPZ, but it chose not to do so. Indeed, it is clear that the Park Service is willing to defer to the judgment of the expert emergency planners on that score. *See* Tr. 14,659-60. Thus, there is no basis for Anthony/FOE’s suggestion that NPS had no input in the planning process, particularly insofar as the scope of the EPZ is concerned.

C. Alleged Procedural Errors

In connection with their combined contention on traffic congestion outside the EPZ, LEA and Anthony/FOE claim that several of the Licensing Board’s procedural rulings were erroneous and prejudiced them. First, they both object generally to the Board’s consolidation of their presentations. *See* LBP-84-18, 19 NRC 1020, 1069 (1984). In this regard, LEA complains that it had no opportunity for “cross-examination” of Mr. Wagenmann (*see supra* note 22), following Anthony/FOE’s direct examination of this intervenor-sponsored witness. LEA’s Brief at 41.³⁶ On the other hand, Anthony/FOE complain about the designation of LEA as “lead intervenor” on the traffic congestion issue. Anthony/FOE Brief at 5. Anthony/FOE also object to the time limits on cross-examination imposed by the Licensing Board. They contend that as a consequence of these “abuses of the judicial process,” the

³⁵ Anthony/FOE complain, in this connection, that the Licensing Board focused on NUREG-0654 too much, to the exclusion of 44 C.F.R. § 350.7. Anthony/FOE Brief at 1. This argument is frivolous. The Board clearly recognized the proper role of the guidance contained in NUREG-0654. LBP-85-14, 21 NRC at 1228. *See supra* p. 487.

³⁶ LEA also makes an argument about its Exh. E-56, but its point is unintelligible. In any event, the Licensing Board properly rejected LEA Exh. E-56. *See supra* note 22.

record is incomplete and they have been prejudiced. *Id.* at 2, 5.³⁷ See also LEA's Brief at 52, 68.

The Licensing Board rulings in question, however, are fully in accordance with the Commission's regulations and practice. A board's consolidation, on its own initiative, of parties with "substantially the same interest . . . and who raise substantially the same questions" is explicitly authorized by the Commission's Rules of Practice, 10 C.F.R. § 2.715a.³⁸ Consolidation can, of course, be improper if it results in prejudice to an intervenor. *Statement of Policy on Conduct of Licensing Proceedings*, CLI-81-8, 13 NRC 452, 455 (1981). But the generalized complaints of LEA and Anthony/FOE fail to establish any prejudice in this case. See generally *Waterford*, 17 NRC at 1096.

The Licensing Board's imposition of time limits on intervenors' cross-examination is similarly permissible under the Rules of Practice. In addition to conducting a fair and impartial hearing, a board has the duty to "take appropriate action to avoid delay" and to "[r]egulate the course of the hearing." 10 C.F.R. § 2.718. See also *Statement of Policy*, 13 NRC at 453. It should admit only evidence that is relevant, material, reliable, and not unduly repetitious. 10 C.F.R. § 2.743(c). Further, a board may

(c) Take necessary and proper measures to prevent argumentative, repetitious, or cumulative cross-examination; and

(d) Impose such time limitations on arguments as [it] determines appropriate, having regard for the volume of the evidence and the importance and complexity of the issues involved.

10 C.F.R. § 2.757. Although the rules do not expressly refer to the imposition of time restrictions on witness examination, we think this is clearly among the necessary tools an NRC adjudicatory board possesses to regulate the course of a hearing — again, providing there is no prejudice to the rights of any party.³⁹

Here the Board thoroughly sets forth its reasons for restricting — after 14 of a total 37 days of hearing — the direct and cross-examination of witnesses by *all* the parties. The Board explains that intervenors were

³⁷ Anthony/FOE refer us to their several earlier appeals (which we dismissed as interlocutory) raising these same objections. See, e.g., Appeal by R.L. Anthony/FOE (December 10, 1984); Appeal from R.L. Anthony/FOE (January 31, 1985). We have thus considered these arguments in reaching our decision here.

³⁸ LEA and Anthony/FOE do not dispute the commonality of their interests.

³⁹ The federal courts have approved the use of time limits on cross-examination in complex, lengthy litigation, like we have here. See, e.g., *MCI Communications Corp. v. American Telephone and Telegraph Co.*, 708 F.2d 1081, 1170-72 (7th Cir.), cert. denied, 464 U.S. 891 (1983); *Defenders of Wildlife, Inc. v. Endangered Species Scientific Authority*, 659 F.2d 168, 181-82 (D.C. Cir.), cert. denied, 454 U.S. 963 (1981). Cf. *International Harvester Co. v. Ruckelshaus*, 478 F.2d 615, 631 (D.C. Cir. 1973).

not well-prepared for the hearing and failed to comply with many Board evidentiary rulings and schedules. Despite being afforded some leeway, intervenors' lay representatives nonetheless continued to ask improper, repetitive, or unfocused questions of many witnesses. LBP-85-14, 21 NRC at 1233-36.

Anthony/FOE fail to refute any aspect of this Board discussion or to establish actual prejudice (for example, by describing the outcome-determinative testimony that was allegedly precluded by the time restrictions). See *Duke Power Co.* (Catawba Nuclear Station, Units 1 and 2), ALAB-813, 22 NRC 59, 75-76 (1985); *Houston Lighting & Power Co.* (South Texas Project, Units 1 and 2), ALAB-799, 21 NRC 360, 376-77 (1985). To be sure, the few transcript references cited by Anthony/FOE (e.g., Tr. 17,456, 20,248) show a rather abrupt termination of their cross-examination. Moreover, our own reading of the transcript reveals a hearing that the Board allowed to be peppered at times with frivolous time-consuming objections by *all* counsel to intervenors' attempts to question certain witnesses. See *South Texas*, 21 NRC at 378. On the other hand, the record overall is testament to the Board's confessed frustration in its efforts to conduct an orderly, productive hearing.⁴⁰ In this circumstance, we will not second-guess the Board: it did not abuse its discretion in imposing time limits on witness examination.

III. IMPLEMENTATION OF LOCAL AND COUNTY PLANS

A. Bucks County

In its contention 3, LEA alleged that "[t]he Montgomery County RERP [Radiological Emergency Response Plan] fails to provide reasonable assurance that the public will be adequately protected in that the Bucks County Support Plan, which is essential to the workability of the MontCo RERP, may not be approved." LBP-85-14, 21 NRC at 1402.⁴¹

⁴⁰ The unfocused and repetitive questioning by intervenors at the hearing resembles their briefs on appeal, lending further credence to the Licensing Board's action. See *supra* note 3.

⁴¹ LEA contention 3 states, in full:

The Montgomery County RERP fails to provide reasonable assurance that the public will be adequately protected in that the *Bucks County Support Plan*, which is essential to the workability of the MontCo RERP, *may not be approved*. The present Board of Commissioners have [sic] little knowledge of the contents and implications of the Bucks County Support Plan. There is *no assurance that the County will assume the responsibilities assigned to it* in the Support Plan, rather than use County resources to help Bucks County people first. The Montgomery County Plan relies on the Support Plan in at least these ways:

1. facilities for relocation and mass care of evacuees
2. augmentation of emergency workers, including use of county resources, on a continuous 24-hour basis

(Continued)

The Licensing Board, however, found otherwise and concluded that there is reasonable assurance that, in a radiological emergency at Limerick, Bucks County (which lies outside the EPZ) would implement its current draft plan and support Montgomery County's emergency efforts. *Id.* at 1407.

Although the Bucks County Commissioners have withheld their formal approval of the support plan pending the outcome of this and other litigation involving Limerick, the Board noted that the County has had an emergency plan for over 15 years and that it had earlier undertaken certain responsibilities in connection with the 1979 accident at Three Mile Island. The Board also based its reasonable assurance finding on the largely favorable results of an emergency exercise in Bucks County in November 1984. Despite questions raised by County Commissioners about the impact of thousands of Montgomery County evacuees on the safety of Bucks County residents, the Licensing Board was convinced by the testimony of state and Bucks County emergency officials that the County would and could cooperate in the event of an emergency, in accordance with the current draft plan. *Id.* at 1402-07.

On appeal, LEA makes numerous arguments ostensibly directed to the Licensing Board's disposition of contention 3. It contends that the adequacy of the Bucks County Support Plan in certain areas has not been demonstrated — specifically, the treatment of contaminated individuals at mass care centers; the identification of, and the execution of letters of agreement with, the schools designated to serve as such centers; the number of individuals and amount of equipment allocated for traffic control and various other emergency support activities; and the ability of the plan to accommodate spontaneous evacuation (*see supra* note 22) by Bucks County residents.⁴² LEA also complains that the November 1984 exercise on which the Licensing Board relied was too limited. LEA stresses that the Bucks County Commissioners have not yet approved the Support Plan. In its view, the Board should have given this greater weight than the testimony of PEMA and other county officials. Finally, LEA essentially argues that Bucks County should be a "risk" county, for which formal emergency planning should be undertaken, rather than limiting the county's role to support activities. LEA's Brief at 2-15.

3. See attachment "Excerpts and comments on the Bucks County Draft Evacuation Plan" for additional areas of support and interface.

It is contended that *without the approval of Bucks County Support Plan, the MontCo RERP is unworkable as it now stands.* [Emphasis added.]

⁴² With regard to the last item, LEA objects to the Board's reference to testimony indicating that, historically, spontaneous evacuation has not been a problem in non-radiological emergencies.

Plainly, the majority of LEA's arguments amount to an attempt to expand the scope of contention 3 well beyond its bounds. Although the contention is lengthy, by any reasonable reading it raises but one very narrow issue: whether Bucks County is likely to approve the emergency support plan and assume the responsibilities it has thereunder.⁴³ It does *not* challenge the adequacy, scope, or content of the Bucks County plan. *See supra* note 41.

Any doubt that the focus of the contention is on the likelihood of Bucks County's approval of the plan is dispelled by a review of how LEA contention 3 came to be admitted for litigation. When LEA initially proffered the contention, the Licensing Board observed that LEA was *not* claiming any deficiency in the Bucks plan itself; rather, without a plan adopted by Bucks (a support county), Montgomery County's plan would be unworkable. LBP-84-18, 19 NRC at 1041-42. The Board decided to defer ruling on the contention at that time because

[t]o admit [contention 3] now might be to burden the proceeding with litigation which, as *LEA readily grants* (Tr. 7647, 7665, 7674) may prove unnecessary. Indeed, we think that something short of formal adoption could make the litigation unnecessary, for according to the way we construe [this contention], LEA seeks no more than reasonable assurance the plan[] will be adopted. Tr. 7672. That is all we would seek.

Id. at 1043 (emphasis added). The Board gave LEA the opportunity to resubmit the contention later, when the various emergency plans in question would be more complete. *Id.* at 1043-44. LEA neither challenged the Board's characterization of its contention 3 nor voiced concern about the adequacy of any provision of the Bucks County plan.

After thus being put on notice as to how the Board interpreted the intent of contention 3, LEA later resubmitted it, with wording identical to the original version. The only difference was the addition of a reference to a July 17, 1984, letter from two Bucks County Commissioners, expressing their reluctance to further participation by that county in emergency planning and testing for Limerick. *Compare* LEA Off-site Emergency Planning Contentions (January 31, 1984) at 8, with LEA's Respecification of Off-site Emergency Planning Contentions (October 1, 1984), LEA-3 (pages unnumbered and out of order). This time the Board admitted the contention, noting that it was not then clear whether there was "reasonable assurance that the county ultimately will adopt

⁴³ The stated purpose of this plan is "to provide for the housing, feeding, medical and other social service needs for a maximum of 24,440 persons evacuated from Montgomery County in response to an incident at the Limerick Generating Station." Applicant Exh. E-4 at 7.

the relevant plans.” Licensing Board Memorandum and Order of October 26, 1984 (unpublished), at 5. Once again, LEA failed to challenge the Board’s construction of contention 3 or to attempt to expand it to encompass more than whether the Bucks plan would likely be approved.

Thus, to the extent LEA’s arguments on appeal challenge the adequacy of the Bucks County plan, they are impermissible at this late stage and necessarily fail.⁴⁴ As we pointed out at an earlier phase of this proceeding, “[p]erhaps LEA sought to litigate something else, but it is bound by the literal terms of its own contention.” ALAB-819, 22 NRC at 709 (footnote omitted).

LEA’s arguments that properly relate to the Board’s “reasonable assurance of approval” finding fail as well. For example, the Licensing Board did not err in giving weight to the participation of Bucks County in the November 1984 emergency exercise. *See* LBP-85-14, 21 NRC at 1403. Certainly, if Bucks County had *not* participated in this exercise (after failing to participate in another exercise four months earlier), that fact would have been of probative value in determining the merits of LEA contention 3. It is therefore entirely proper for the Board to have considered the county’s participation in the November exercise as some evidence of its willingness to implement its Emergency Support Plan. Although the FEMA witnesses were unable to state definitively that Bucks County would implement its plan, they regarded its participation in the exercise as an “optimistic” sign, and concluded that the County had adequately demonstrated its ability to perform the support functions called for by the plan. Tr. 20,169, 20,175-76; FEMA Update, fol. Tr. 20,150, at first page hand-numbered 2.⁴⁵ The County’s own Director of Emergency Services, Charles McGill, similarly concluded that the exercise showed both the capability and willingness of the participants to perform their emergency duties. Although the exercise was limited, it served its intended purpose and gave him no cause to doubt that the County could manage a full-blown exercise. Tr. 20,386-87.⁴⁶

LEA relies heavily on the fact that the Bucks County Commissioners have not yet approved the Support Plan and argues that the Licensing

⁴⁴ Because the details of the Bucks Support Plan were not challenged and litigated, it is not surprising that LEA has failed to cite any concrete evidence in this record supporting its claims of significant deficiencies in that plan.

⁴⁵ FEMA identified only one deficiency in Bucks County’s participation, classified as “Category B,” a lesser deficiency. *See* FEMA Exh. E-5 at 27-29, 35.

⁴⁶ Contrary to LEA’s suggestion, the November 1984 exercise was not intended as a full-scale test of the plan. As explained in FEMA’s report, its purpose was to supplement the earlier exercise. *Id.* at iii. Moreover, the NRC’s regulations do not require that exercises cover all aspects of an emergency plan at once. *See* 10 C.F.R. § 50.47(b)(14). *See also* NUREG-0654 at 71-74.

Board should have given their concerns greater weight. We disagree. In the first place, the Board indicated at the time LEA initially proffered contention 3 that formal adoption of the plan was not necessary — only reasonable assurance of its eventual adoption and implementation. LBP-84-18, 19 NRC at 1043. *See supra* p. 504. Similarly, the Board later determined that execution of a Memorandum of Understanding between the County and PEMA concerning the former's support of emergency response operations (LEA Exh. E-61) is not a prerequisite for either plan approval or the Board's reasonable assurance findings. LBP-85-14, 21 NRC at 1405. *See also id.* at 1229-31. The Board's conclusions are fully consistent with our cases holding that offsite emergency plans need not be "final" before a board can make the reasonable assurance finding required by 10 C.F.R. § 50.47(a)(1). *See, e.g., Waterford*, 17 NRC at 1104; *Detroit Edison Co.* (Enrico Fermi Atomic Power Plant, Unit 2), ALAB-730, 17 NRC 1057, 1066 (1983).

The Licensing Board thus took note of the County Commissioners' lack of action with regard to the Support Plan, but found this to be offset primarily by the testimony of Mr. McGill and PEMA officials, in addition to the successful participation of the County in the November 1984 exercise. LBP-85-14, 21 NRC at 1403-07. That testimony indicates that Bucks County is able and would not refuse to perform its designated support functions in an emergency, thus buttressing the Board's conclusions. *See, e.g., Tr.* 19,585, 20,386-87, 20,401-02; Hippert, fol. Tr. 19,498, at 5-6.

LEA directs our attention to no evidence of record that compels a contrary conclusion. It withdrew Bucks County Commissioner Carl F. Fonash as a witness (Tr. 18,262-63), and no other County Commissioner testified. Further, two letters on which LEA relies (one from Commissioner Fonash and the other from County Administrator William H. Rieser) were marked for identification as LEA Exhs. E-60 and E-72 (Tr. 19,527, 20,171), but apparently neither was offered or received into evidence and therefore they cannot serve as a basis for any decision.⁴⁷ Even Mr. Rieser's testimony, highlighted by LEA, clearly indicates that Bucks County has not ruled out adopting the Support Plan and would cooperate

⁴⁷ The content of the two letters does not, in any event, significantly undercut the Licensing Board's conclusions based on the testimony of the other witnesses at the hearing.

LEA complains that the Licensing Board did not permit Mr. Rieser to testify about an earlier version of the Bucks County Support Plan. LEA's Brief at 12-13. *See Tr.* 18,265-71. Both the transcript and LEA's argument are hard to follow. What is clear, however, is that (1) the Board expected and permitted Mr. Rieser to testify about the version of the plan that was most current and in evidence; (2) there was little difference between the two versions in question (Tr. 20,373); and (3) LEA has explained neither the significance of all this, nor how it has been prejudiced by the Board's ruling. In these circumstances, its argument is without merit.

in an emergency. Tr. 18,302-03, 18,307, 18,309, 18,325.⁴⁸ We are therefore unable to conclude, as LEA urges, that the Licensing Board erred in finding reasonable assurance that Bucks County will implement its emergency plan and perform the support functions required under it.

B. Other Municipalities

LEA contention 1 alleged that, because the risk counties and other affected municipalities and school districts have not yet adopted final RERPs, there is no reasonable assurance that the plans will be adopted or are capable of being implemented.⁴⁹ The Licensing Board, however, concluded otherwise.

In reaching this conclusion, the Board relied principally on four factors. First, it noted that, under Pennsylvania's Emergency Management Services Code, P.L. 1332, No. 323, 35 Pa. Cons. Stat. Ann. §§ 7501(a), 7502, 7503 (Purdon 1978) [hereafter, "P.L. 1332"], each municipality and county in the Commonwealth is required to establish an emergency plan, to appoint a professionally competent emergency coordinator, and to perform certain duties to implement that plan.⁵⁰ Second, the Board stressed that each county and municipal official who testified expressed his or her intent to comply with these requirements and to strive for the adoption of a workable emergency plan. Third, it pointed out that local emergency coordinators identified no serious deficiencies in the plans or impediments to their ultimate adoption. Last, the Board found that the current draft RERPs themselves (Applicant Exhs. E-1 to E-61) — earlier versions of which were reviewed by FEMA and PEMA — provide assurance that they can be implemented if the need arises. *See* LBP-85-14, 21 NRC at 1369-77, 1402. The Licensing Board also specifically discussed the status of RERP implementation in the 13 counties, townships, and boroughs for which LEA presented witnesses. *Id.* at 1377-1402.

⁴⁸ Both Messrs. Rieser and McGill testified that the County Commissioners' reservations stem not from the County's ability to implement the existing draft Support Plan, but rather from the underlying planning basis — i.e., the ten-mile EPZ concept. Tr. 18,340, 20,374-75, 20,396. LEA itself pursues this argument on appeal, contending that Bucks County's residents are not adequately protected by the emergency plan for Limerick. LEA's Brief at 7-8, 10, 11-12. But this amounts to a challenge to the Commission's emergency planning regulations and is thus barred by 10 C.F.R. § 2.758.

⁴⁹ This contention states, in full:

The Risk Counties, Municipalities, School Districts, and Institutions haven't promulgated or adopted final radiological emergency response plans, nor have they approved and adopted plans drawn up for them by Energy Consultants, Inc., a Harrisburg firm hired by Philadelphia Electric Company. There is no reasonable assurance that the present state of planning is predictive of final approval, or that the plans are capable of being implemented.

LBP-85-14, 21 NRC at 1369.

⁵⁰ Pertinent portions of P.L. 1332 are set out in Appendix A to this opinion.

LEA's arguments on appeal are similar to those it advanced in connection with the Bucks County Support Plan. Although it recognizes that the plans need not be final or formally adopted for the Board to make a reasonable assurance finding (*see supra* p. 506), LEA emphasizes that only a few jurisdictions so far have formally approved and adopted RERPs. More to the point, however, LEA contends that local officials' "good intentions" to comply with P.L. 1332 do not constitute reasonable assurance. LEA claims further that the record fails to show that these plans are capable of being implemented and therefore more hearings are necessary on this issue. *See* LEA's Brief at 59-64, 56.

We agree that good intentions alone are not enough to demonstrate reasonable assurance that the plans will be adopted and carried out in an emergency.⁵¹ But the Licensing Board's decision clearly shows more than just the local officials' desire to obey their state law. As noted above, the Board was persuaded by the testimony of these officials that the existing draft RERPs are indeed workable. Through their professional emergency coordinators, these officials are endeavoring to resolve any problems in the plans with the experts at PEMA. *See* LBP-85-14, 21 NRC at 1371-72, 1374-75. PEMA, as well, acknowledged these concerns, but does not regard them as major or unsurmountable. As Ralph J. Hippert, PEMA's Deputy Director of Plans and Preparedness, explained, resolution of the remaining problems identified by the counties and various municipalities is essentially a matter of time and protocol (i.e., going through the right channels). The basic plans, albeit evolving, are adequate and could be implemented now if necessary. Moreover, Mr. Hippert has no reason to believe that the involved jurisdictions will not eventually adopt their RERPs and submit them to PEMA and FEMA for final review. Tr. 19,597-600.

Although LEA complains generally about the Licensing Board's decision in this regard, it fails to challenge seriously and specifically either the testimony or the Board's findings. For example, LEA suggests that certain testimony of Paul Bartle, Chairman of the Montgomery County Board of Commissioners, undermines the Board's predictive finding that the Montgomery County RERP can and will be implemented. LEA's Brief at 63. The Board, however, explicitly addressed Mr. Bartle's concerns and concluded they were the result of a lack of complete information about protective action options in an emergency, and were not

⁵¹ It is noteworthy, however, that in addition to the mandatory language of sections 7501 and 7503 of P.L. 1332 — directing each political subdivision in the Commonwealth to establish and implement an emergency plan — section 7707(b) provides for the loss of federal funds to any subdivision failing to comply with the statute's requirements. This financial incentive may well prove to be the ultimate means to ensure formal adoption of the RERPs.

likely to affect adoption of the County's plan. The Board also cited other testimony by Mr. Bartle and the county emergency coordinator that supports its favorable conclusions about the plan. *See* LBP-85-14, 21 NRC at 1377-78. LEA has failed to show that the Board erred in its treatment of Mr. Bartle's testimony.

LEA argues that the Board erred "as a matter of law" in accepting "third hand" hearsay by one of PECO's witnesses on the subject of volunteer participation in local emergency functions. LEA's Brief at 61-62. LEA cites neither to the transcript where this testimony might be found, nor to that part of the decision where the Board supposedly relies on this testimony. We obviously cannot and will not entertain such unsubstantiated argument.⁵²

LEA also complains that the July and November 1984 emergency exercises are not predictive of reasonable assurance that the municipalities will adopt plans capable of being implemented in a real emergency. LEA's Brief at 61. We have already concluded, however, that participation in these exercises is probative evidence of a municipality's willingness to adopt an emergency plan. *See supra* p. 505. Such exercises are also useful not only for demonstrating the adequacy of a plan, but also in identifying areas in need of improvement, with a view toward making the plans even more workable. *See, e.g.*, LBP-85-14, 21 NRC at 1399, 1400, 1374-75. We therefore conclude that the Licensing Board gave appropriate weight to the two 1984 exercises. *Cf. Union of Concerned Scientists v. NRC*, 735 F.2d 1437 (D.C. Cir. 1984), *cert. denied*, 105 S. Ct. 815 (1985) (results of emergency preparedness exercises are relevant to licensing decisions). *But see infra* pp. 520-22.

In sum, LEA has failed to point to any error warranting reversal of the Licensing Board's findings and conclusions with regard to LEA contention 1.

IV. EMERGENCY PERSONNEL AND VEHICLES

LEA's brief on appeal raises several arguments in connection with (1) the personnel who would be called upon to perform various functions, and (2) certain vehicles that would be needed in the event of a serious emergency at Limerick. We address these claims below.

⁵² We also note that hearsay is generally admissible in NRC proceedings. *Cleveland Electric Illuminating Co. (Perry Nuclear Power Plant, Units 1 and 2)*, ALAB-802, 21 NRC 490, 501 n.67 (1985). *See also Mobile Consortium of CETA v. Dep't of Labor*, 745 F.2d 1416, 1419 n.2 (11th Cir. 1984).

A. Notification of Emergency Workers

In a very brief argument, LEA objects to the Licensing Board's disposition of the principal portion of its contention 26. As pertinent here, LEA contention 26 states:

The Draft County and Municipal RERP's [sic] are deficient in that they do not comply with 10 C.F.R. § 50.47(b)(5) because there is no assurance of prompt notification of emergency workers who must be in place before an evacuation alert can be implemented. . . .

Licensing Board Memorandum and Order of September 24, 1984 (unpublished), at 15. The Board summarized the procedures for notification of emergency personnel and described the automatic telephone-dialing system with prerecorded messages (known as "RECALL") that is to be used to contact designated county and local emergency operations center staff on a 24-hour basis. It also pointed out that this system can be backed up, if necessary, with manual dialing and the use of pagers to contact police, fire, and ambulance personnel. The Board concluded that this notification system for emergency response organizations complies with the requirements of 10 C.F.R. § 50.47(b)(5) and the guidance of NUREG-0654, LBP-85-14, 21 NRC at 1351-54.⁵³

LEA complains that the Licensing Board erred in interpreting contention 26 and failed to distinguish between implementing an evacuation alert and merely sounding sirens. It stresses that a significant number of workers (particularly for traffic control) would be necessary in an emergency and that notification of them should not effect delay in an evacuation of the public. LEA's Brief at 58.

LEA's arguments are generalized and unpersuasive. We see no evidence that the Licensing Board misinterpreted contention 26, as LEA charges. The relevant part of that contention is clear on its face.⁵⁴ It questions whether emergency workers will be promptly notified and, thus, the Licensing Board quite properly focused on that notification system. LEA does not identify any part of the Board's decision (or its preliminary orders concerning contention 26) with which it takes issue. It refers us to certain testimony of Richard T. Brown, Chairman of the Lower Providence Township Board of Supervisors and an AT&T communications

⁵³ Neither section 50.47(b)(5) nor Planning Standard E of NUREG-0654 specifies the means for notifying emergency workers; they simply require that such procedures be established.

⁵⁴ The wording of the pertinent part of contention 26, as admitted by the Board, is virtually identical to the wording of the contention as LEA proposed it. Compare Memorandum and Order of September 24 at 15, with LEA's Respecification of Off-site Emergency Planning Contentions (September 6, 1984), LEA-26 (pages unnumbered).

technician (*see* Tr. 18,132-33), but Mr. Brown's comments are inapposite here. The cited testimony reflects Mr. Brown's general concerns about notification of businesses and the public at large in the event of a site emergency; it does not, however, address the adequacy of the RECALL system specifically designed for notification of emergency workers. *See* Tr. 18,149-52.

Moreover, contrary to the explicit assumption of contention 26, all emergency workers need not "be in place" before implementation of the evacuation alert. As the Licensing Board pointed out, there are no regulatory requirements for this, and the sirens that are part of the public notification system can be quickly activated by the emergency personnel who are already on duty 24 hours a day. LBP-85-14, 21 NRC at 1352. LEA has thus failed to show any inadequacy in the system for notification of emergency personnel, or error in the Board's treatment of contention 26.

B. Municipal Staffing Needs

LEA's contention 2, as pertinent here, alleged that there is no reasonable assurance that all of the principal state and local response organizations have sufficient staff, on a 24-hour basis, to respond to an emergency.⁵⁵ The contention is based on the requirement of 10 C.F.R. § 50.47(b)(1) that "each principal response organization [have] staff to respond and to augment its initial response on a continuous basis." *See also* NUREG-0654 at 31, 33 (Planning Standards A.1.e and A.4).

FEMA witnesses testified that, as of the time of the hearing, there were staffing deficiencies in at least 16 municipal RERPs. These deficiencies were identified during the July 1984 emergency exercise. In order to remedy this inadequacy to FEMA's satisfaction, staffing would have to be supplemented and the names of the designated emergency response personnel would have to be recorded officially in the plans.⁵⁶ Until the 24-hour staffing matter is resolved, FEMA would not be able to make the requisite reasonable assurance finding. The Licensing Board

⁵⁵ The contention states in full:

The unadopted RERP's [sic] fail to provide reasonable assurance that each principal response organization has sufficient staff to respond to and to augment its initial response on a 24-hour continual basis, or that the assigned staff can respond in a prompt manner in case of a radiological emergency at Limerick.

Memorandum and Order of October 26, Attachment. *See* NUREG-0654, Appendix 5, for the identification of principal response organizations.

⁵⁶ LEA's charge that the Licensing Board "ignore[d]" this particular testimony (LEA's Brief at 67) is wholly without merit. *See* LBP-85-14, 21 NRC at 1363.

discussed this testimony, as well as that of PECO's witness (Mr. Bradshaw), which indicated that steady progress was being made in enhancing staffing in a number of municipalities. The Board accordingly found reasonable assurance of adequate municipal staffing, subject to a license condition requiring FEMA verification of the fulfillment of previously unmet staffing needs prior to operation of the Limerick facility above five percent of rated power. LBP-85-14, 21 NRC at 1362-66, 1407-08.

On appeal, LEA relies heavily on the FEMA testimony. Its unfocused arguments, however, amount to a challenge to the Licensing Board's imposition of the license condition to remedy the staffing deficiencies identified by FEMA. Suggesting that this condition is inadequate or inappropriate, LEA contends that further hearing and an opportunity for it to review and comment on the additional information provided to FEMA in fulfillment of the license condition are necessary. LEA's Brief at 56, 64-68.

As in the case of the license condition requiring the identification of additional traffic control points, however, the verification of the staffing levels of the principal emergency response organizations is a proper matter for post-hearing resolution. *See supra* pp. 494-95. Contention 2 raised the straightforward issue of whether the state and local emergency plans provide for sufficient emergency staffs on a 24-hour basis. As a direct result of the FEMA testimony that such staffing was not adequate, the Licensing Board ordered the very relief contemplated by the contention — i.e., verification of adequate 24-hour staffing.⁵⁷ LEA fails to elaborate on what it would gain from an additional hearing. Because determination of a full complement of emergency personnel is precisely the sort of detail properly left for post-hearing verification, we reject LEA's arguments and affirm the Licensing Board's imposition of the license condition.

C. School Buses and Drivers

PEMA requires that any necessary school evacuation be accomplished in "one lift," rather than by multiple bus trips. Each school district

⁵⁷ By its terms, the Licensing Board's order required *FEMA* verification of the adequacy of municipal staffing prior to operation of the Limerick facility above five percent of rated power. *Id.* at 1366, 1407-08. We assume that, because 10 C.F.R. § 50.47(a)(1) requires the *NRC* to make the reasonable assurance finding, the Board actually intended the Director of *NRR* to verify the 24-hour staffing — as it did in the case of the additional traffic control points. Presumably, the Director has done so. For, soon after the Board issued its decision, *FEMA* notified the *NRC* that it (*FEMA*) had determined that municipal staffing was adequate. *See FEMA Memorandum* (May 21, 1985), *supra* note 20, at 2, 3. Subsequently, the Commission issued the full-power operating license for Limerick, implying *NRC* verification that this license condition has been satisfied.

within the EPZ must determine how many buses it would require to effect an evacuation in one lift and how many are readily available. Any deficits are reported to the county and, if the county is unable to supply the additional vehicles, it reports the total school bus shortage to PEMA as an “unmet need.” PEMA is then responsible for satisfying this need with buses from areas beyond the EPZ. Hippert, fol. Tr. 19,498, at 9 (pagination continued).

LEA litigated two contentions relating to the one-lift requirement. Contentions 11 and 15 challenged the adequacy of the number of school buses and drivers to be provided under the Chester and Montgomery County School District RERPs in the event of an emergency at Limerick.⁵⁸ The Licensing Board found no merit to either contention, concluding that there is reasonable assurance of the availability of enough buses and drivers to implement an evacuation of schools in both counties. LBP-85-14, 21 NRC at 1289, 1326. On appeal, LEA challenges the Board’s conclusions. *See* LEA’s Brief at 23-28. We agree with the Board that there is reasonable assurance of enough vehicles to implement a school evacuation, but disagree with its conclusion concerning the adequacy of the drivers’ response.

Although LEA contentions 11 and 15 were litigated and are discussed in the Licensing Board’s partial initial decision as separate issues, they are obviously related. LEA has thus linked — albeit in a sometimes confusing fashion — its complaints about the sufficiency of the number of school buses with its concerns about the number of individuals committed to drive those vehicles. While the latter — i.e., driver availability — is clearly the major focus of LEA’s argument, we turn first to its assertions that there are insufficient buses for use in evacuating students from certain school districts in Montgomery and Chester Counties. *See id.* at 26, 27.

1. The Licensing Board’s decision devotes substantial attention to LEA contention 11. *See* LBP-85-14, 21 NRC at 1269-89. Insofar as Montgomery County is concerned, the record clearly shows that there are adequate resources to meet the county’s conservatively estimated,

⁵⁸ Contention 11 states:

The draft Chester and Montgomery County and School District RERPs are deficient in that there is insufficient information available to reasonably assure that there will be enough buses to evacuate the schools, both public and private, in one lift.

Contention 15 states:

The Chester and Montgomery County RERPs and the School District RERPs are not capable of being implemented because the provisions made to provide bus drivers who are committed to being available during a radiological emergency, or even during preliminary stages of alert are inadequate.

LBP-85-14, 21 NRC at 1269, 1319.

total bus needs, including those of its school districts. Indeed, the county's only assertedly unmet bus needs reported to PEMA are for an extra ten percent reserve. See Applicant Exh. E-3 at Q-1-1, I-2-5 to I-3-14. See also LBP-85-14, 21 NRC at 1279-80.

LEA's sole challenge to this particular evidence is directed to the Board's finding in connection with the Custer Bus Company's provision of buses to the Spring-Ford School District. See LEA's Brief at 26. The Board noted Spring-Ford's need for 30-33 additional buses (beyond its usual complement), as well as testimony indicating that Custer, the district's primary bus provider, would not hesitate to meet this extra need. LBP-85-14, 21 NRC at 1285. The Licensing Board, however, failed to mention the sources of the 30 some additional buses actually designated in the County RERP itself — principally, Carol Lines, Inc. See Applicant Exh. E-3 at I-2-6, I-3-11 to I-3-13. LEA has overlooked this as well. Thus, while Spring-Ford's total bus needs for a single-lift evacuation cannot be met by the 40 buses ordinarily supplied by Custer,⁵⁹ the county plan adequately describes the sources of the additional needed vehicles — sources unchallenged by LEA.

Although the record and the pertinent RERPs are less well-developed with respect to Chester County's school bus needs, there nonetheless appear to be adequate resources available. Chester County requires 217 buses, including approximately 166 school buses. It reports a total unmet need of 132 buses, 60 of which are buses for school evacuation — the subject of LEA contention 11. Chester County/Commonwealth Exh. E-1, Chester County RERP (Draft 10), at Q-1-1, N-3-1 to N-3-2; Tr. 19,980.⁶⁰ Approximately 500 buses are identified in the county RERP for potential use in an emergency. Chester County/Commonwealth Exh. E-1 at I-1-2. At the time of the hearing there were already written agreements for about 100 buses and oral agreements for another

⁵⁹ Applicant Exh. E-60, Spring-Ford School District RERP, at A3-25, states that the district requires 72 buses.

⁶⁰ According to the hearing transcript, Mr. Campbell (Chester County's Director of Emergency Services) testified to the following unmet school bus needs: Owen J. Roberts School District — 5; Phoenixville School District — 17; private/parochial schools — 38. Applicant's counsel quickly added these figures and got 80 (rather than 60) and the Licensing Board repeated the error. Tr. 19,980; LBP-85-14, 21 NRC at 1280. This may be the result of a transcription error, however, because the Chester County RERP (Draft 10) shows an unmet need of 25, not 5, buses for Owen J. Roberts — accounting for the 20 bus difference between 80 and 60. See Chester County/Commonwealth Exh. E-1 at N-3-1. See also Tr. 15,874. But to compound the problem, another witness testified that the unmet bus need for the Owen J. Roberts district is overstated (Tr. 16,941), and other parts of the record confirm it.

Dr. Roy C. Claypool, Superintendent of the Owen J. Roberts School District, testified that the district's enrollment is approximately 3200-3400. Tr. 15,863. Using 72-passenger buses to which he referred (Tr. 15,925) and simple arithmetic, approximately 48 such vehicles would therefore be needed to evacuate 3400 students. Owen J. Roberts has 43 buses available under contract with the Gross Bus Company (Tr. 15,863, 15,926), leaving a shortage of 5 — consistent with Mr. Campbell's testimony as reported at Tr. 19,980. We therefore conclude that Chester County's unmet need for school buses is 60.

18; PEMA subsequently received confirmation of written agreements with two more companies for an unspecified number of buses. See LBP-85-14, 21 NRC at 1280; FEMA Memorandum (May 21, 1985) at 2. Moreover, the Southeastern Pennsylvania Transportation Authority (SEPTA) has expressed a willingness — albeit not yet in a formal agreement — to provide at least 100 vehicles to Chester County in the event of an emergency. LBP-85-14, 21 NRC at 1281-82. The record thus demonstrates several likely sources of numerous vehicles from which Chester County could draw, if necessary, to satisfy its unmet need of 60 school buses.⁶¹ Consequently, we agree with the Licensing Board's ultimate conclusion that there is reasonable assurance of enough buses to evacuate schools in Chester County.⁶²

2. Whether there is reasonable assurance of an adequate complement of persons willing to drive these vehicles in an emergency, however, is quite another matter. The Licensing Board's affirmative answer to that query is based on several factors. See *id.* at 1319-26. None withstands scrutiny.

First, the Licensing Board relies on the "historic record" of response to emergencies. *Id.* at 1320, 1322, 1325. The historic evidence of emergency response cited by the Board (*id.* at 1322), however, is thin and not directly relevant to the particular issue here.⁶³ There is only one brief reference to the satisfactory response of school bus drivers during

⁶¹ Although LEA suggests that letters of agreement should state the specific number of buses to be provided (see LEA's Brief at 28), it does not argue that such formal agreements are a prerequisite to the Board's finding of reasonable assurance of a sufficient number of buses. Compare *Waterford*, 17 NRC at 1105-06.

⁶² Our conclusion is based on our review of the record and decision overall and should not be construed as an affirmation of all of the Licensing Board's discrete findings in this regard. For example, the Board notes that the Phoenixville School District reported an unmet need of 17 buses. LBP-85-14, 21 NRC at 1284. See *supra* note 60. Citing Tr. 15,040-41, the Board found, however, that the Gross Bus Company "has sufficient resources to provide for the needs of the Phoenixville School District." LBP-85-14, 21 NRC at 1284. LEA points to other parts of the record that seem to contradict this finding. LEA's Brief at 27.

The portion of the transcript on which the Board relies shows that Gross provides the usual transportation for the Phoenixville public and some private schools, and that discussions with the company were under way in connection with additional emergency transportation needs. It does not, however, support the Board's strong suggestion that Gross could and would meet Phoenixville's "unmet need" of 17 buses. See Tr. 15,040-41. Compare Tr. 15,102-03. On the other hand, Gross has 118 buses for use in Chester County school districts. Chester County/Commonwealth Exh. E-1 at I-1-2. Presumably, this includes 40 for Phoenixville (*id.* at N-3-1) and 43 for Owen J. Roberts (Tr. 15,863). It can reasonably be inferred that at least some of the remaining 35 buses would be available to satisfy the unmet needs of both Phoenixville (17) and Owen J. Roberts (5). See *supra* note 60. Thus, in essence the Licensing Board's statement is correct but for a reason different from that given.

⁶³ See, e.g., Tr. 16,206 (driver willingness to respond during emergencies, including hazardous weather conditions), 13,647-49 (driver response likely to be the same, irrespective of the size of the EPZ and the number of buses required; generalized references to response to Three Mile Island (TMI) accident and a chemical release in Louisiana), 13,716 (vague reference to PECO consultant's experience at TMI, the Ginna plant in New York, and Wilkes-Barre, Pennsylvania, during a flood), 14,293 (no reason for consultant to believe drivers would not respond).

accidents at the Three Mile Island and Ginna facilities but no specifics are provided. See Tr. 13,723-24.⁶⁴ Fortunately, there have been few such events on which a historical record can be built; thus, any evidence of offsite response to a radiological emergency will necessarily be limited. Accordingly, while we do not discount this limited evidence, we cannot give it the significant weight the Licensing Board seemingly accorded it as a measure of how school bus drivers might respond during an emergency at the Limerick facility.

Accompanying the Board's reliance on the historic record of emergency response is its finding of a general willingness of individuals to perform the functions assigned to them in an emergency. LBP-85-14, 21 NRC at 1320, 1325, 1326. But again, the evidence on which this latter finding is based is limited and not directly relevant to likely bus driver response. The Board explicitly draws on the evidence adduced in connection with other contentions concerning the likely response of bus *providers* and teachers. See *id.* at 1325, 1326 (referring to contention 12 and Board findings 139, 141, 143-45, 237-44). But we can find no basis in the Board's decision or the underlying record for the Board's extrapolation of the response of bus providers and teachers to bus drivers.

With respect to bus providers, the Board found that, when a bus company has committed itself to supplying the necessary vehicles, it is understood to make a corresponding commitment to provide its employees to drive them. *Id.* at 1320-21. That may be, but it begs the question. As LEA argues, the real issue is not the *provider's* commitment or intention, but the willingness of its *drivers* to *volunteer* to participate in the emergency operation. See LEA's Brief at 24-25, 26, 27. The Board correctly notes that driver participation is to be voluntary, not a mandatory condition of continued employment with the bus company. LBP-85-14, 21 NRC at 1321. Thus, provider response is not necessarily a reliable predictor of driver response.⁶⁵ Similarly, no basis has been articulated for the Licensing Board's implicit assumption that the bus drivers who will be called upon in an emergency will respond in the same manner as teachers and other school personnel. The training and usual duties of these respective groups of individuals are so disparate as to counsel against any superficial comparisons. *Cf. Shoreham, supra* note 5, 23

⁶⁴ For example, the circumstances of these school evacuations and whether the one-lift principle pertained are not clear.

⁶⁵ The Board cites the FEMA witnesses' belief that "once a bus company has agreed to provide its bus resources. . . such company has committed itself to ensuring that bus drivers are available to drive the buses *in the absence of indications to the contrary*." FEMA Testimony, fol. Tr. 20,150, at 25 (re: LEA-15) (emphasis added). See LBP-85-14, 21 NRC at 1321. As we discuss at pp. 517-20, *infra*, "indications to the contrary" have been shown on this record.

NRC at 153-54 & n.65. Their response may well be the same, but that has not been shown on this record to be the case.⁶⁶ Indeed, the record shows for two school districts within the EPZ only lukewarm driver response to a request to evacuate school children during a radiological emergency.

A survey conducted by Dr. Roy C. Claypool, Superintendent of the Owen J. Roberts School District (located in Chester County and covering a little less than one-fourth of the EPZ) revealed that 25 of the 43 Gross Bus Company employees who usually drive for the district would do so during an emergency at Limerick.⁶⁷ But because many of these 25 drivers indicated that the safety of their own families would have to be assured first, Dr. Claypool believes that a maximum of 18 drivers is a more realistic estimate of how many will respond. LEA Exh. E-29 at 2; Tr. 15,870. *But see* Tr. 15,919. The Licensing Board, however, found these survey results unreliable because the survey did not include Gross Bus Company drivers other than those who ordinarily drive for Owen J. Roberts. The Board also emphasized that there was no evidence of exactly how many drivers stated they would *not* perform, no indication that drivers were encouraged to respond positively, and no attempt made (presumably by the school district) "to discuss or resolve any concerns that might have affected the responses of the surveyed bus drivers." LBP-85-14, 21 NRC at 1323.

In our view, however, these survey results are entitled to greater weight than the Licensing Board was willing to accord them. In the first place, the survey itself is rather straightforward and neutral in the simple questions it asks the drivers to consider "carefully" and to "answer with sincerity." *See* Applicant Exh. E-107. Even accepting the higher "will drive" response rate of 25 of the 43 drivers (which no party challenges), almost 42 percent of the drivers did not respond positively to the survey and thus cannot be fairly counted on to meet the reasonable assurance standard.⁶⁸ More important, the Board's concern with how many drivers specifically stated they would *not* respond, and with the

⁶⁶ When the Licensing Board admitted LEA contentions 12 (teacher response) and 15 (bus driver response) and denied contention 8 (response of emergency workers in general), it stressed the need for specificity. That is, it expected the parties to "deal not with the response of some everyman in some every situation, but with specific personnel assigned specific tasks." LBP-84-18, 19 NRC at 1055. *See* LEA's Brief at 23-24. It is thus consistent with this Board directive that the likely response of school bus drivers be determined on the basis of evidence relating to *their* response, not that of others, such as teachers.

⁶⁷ Owen J. Roberts has a total need for about 48 72-passenger buses and, obviously, an equal number of drivers. *See supra* note 60.

⁶⁸ It is not clear how many, if any, of the 43 drivers surveyed did not respond at all to the questionnaire. This is irrelevant, however, because in this instance no response or "undecided" is the functional equivalent of a "will not drive" response. Unlike public opinion surveys, which rely on sampling tech-

(Continued)

lack of effort to encourage a positive response, has effectively and improperly shifted the burden of proof on this issue from PECO to LEA. It is applicant's burden to prove reasonable assurance that adequate protective measures can and will be taken in an emergency. See 10 C.F.R. § 50.47(a)(1). In this instance, that means PECO was obliged to produce affirmative evidence of an adequate number of available drivers from some source, once the survey results substantially clouded that matter with doubt. See *Consumers Power Co.* (Midland Plant, Units 1 and 2), ALAB-123, 6 AEC 331, 345 (1973).⁶⁹

The Licensing Board similarly erred in not according adequate weight to the results of a survey of the 40 Custer Bus Company drivers serving the Spring-Ford School District in Montgomery County.⁷⁰ The Board's criticism of that survey parallels that of the Owen J. Roberts survey. See LBP-85-14, 21 NRC at 1324. The Board focuses on the 6 drivers who would decline to drive in a radiological emergency, but fails to note that only 13 of the 40 surveyed (32.5 percent) unequivocally stated they would drive; the other 21 either failed to respond or were uncertain. Tr. 15,523. See *supra* note 68.⁷¹ The Board was also unduly influenced by the fact that the survey did not canvass an unspecified number of other Custer drivers, who the Board assumed "would be available . . . in the event of an actual radiological emergency." LBP-85-14, 21 NRC at 1324. The Montgomery County RERP, however, indicates that Custer has available a total of 50 drivers. Applicant Exh. E-3 at I-2-7. Even assuming that all of the 10 additional drivers are willing to drive during an emergency, there is still reasonable assurance that only 57.5 percent of the Custer drivers would perform their duties.

Thus, insofar as the Spring-Ford and Owen J. Roberts School Districts are concerned, driver surveys raise a legitimate question whether there is reasonable assurance that an adequate number of drivers would re-

niques, the purpose of this bus driver survey was to determine the likely actual response of the very individuals who would be asked to drive in an emergency. Thus, failing to return the questionnaire or answering "undecided" certainly suggests less than satisfaction of the reasonable assurance standard.

⁶⁹ Likewise, it was not LEA's or Dr. Claypool's, but PECO's, burden to demonstrate on the record how many other drivers might be available from Gross.

⁷⁰ Spring-Ford requires a total of approximately 72 buses and drivers, only 40 of which Custer is designated to provide. See *supra* p. 514 and note 59.

⁷¹ The survey was very simple and much like that used in the Owen J. Roberts District. Attached to it, however, was a memorandum from the School Superintendent, Dr. William A. Welliver, explaining the need for an emergency plan and "a reasoned and rational response" in the unlikely event of an accident. It also pointed out that "the safety of all residents is likely to be jeopardized if no concern for others exists during a time of need." The memorandum stressed, however, that the drivers' response would have no bearing on their employment status. See Applicant Exh. E-73.

spond in an emergency.⁷² The Licensing Board did not give adequate weight to the largely negative results of these surveys, and there is little else in the record on which to base a reasonable assurance finding. See *supra* pp. 515-16. Compare *Shoreham*, 23 NRC at 149-54; *Zimmer*, 17 NRC at 772.⁷³

Finally, FEMA witnesses testified in connection with LEA contention 15 that “the necessary procedures to assure the availability of adequate numbers of bus drivers to evacuate all school children within the 10-mile EPZ within [sic] one lift have *not* been developed.” FEMA Testimony, fol. Tr. 20,150, at 24 (re: LEA-15) (emphasis added). The Licensing Board’s attempt to minimize this testimony is unpersuasive. The Board stresses that FEMA’s conclusion is based on its review of plans submitted in December 1983 and that the record addresses facts subsequent to that review, which the Board apparently considers controlling. LBP-85-14, 21 NRC at 1326. The “subsequent facts” presumably are the availability of an adequate number of buses and the other factors that we have already concluded do not carry the day. As for FEMA’s testimony, it was entered into the record in late January 1985 and there is no reason to assume that it did not reflect FEMA’s view at that time. FEMA had the opportunity to update its testimony, and its witnesses were subject to direct and cross-examination at the hearing. That testimony indicates that the “no reasonable assurance” view in FEMA’s prefiled statement still pertained in the final days of the hearing. See, e.g., Tr. 20,210.⁷⁴

⁷² Surveys of drivers for several other bus providers were discussed on the record and in the Board’s decision — North Penn School District (outside the EPZ, but designated to provide 39 buses and drivers to schools in the EPZ in Montgomery County), Methacton School District (in the EPZ in Montgomery County), and SEPTA. See LBP-85-14, 21 NRC at 1323, 1324-25. LEA has raised no arguments on appeal concerning North Penn and Methacton. Nevertheless, we have carefully reviewed the record concerning bus driver response in these two districts. We agree with the Licensing Board that these surveys are unreliable and conclude that, in any event, the record overall shows an adequate number of drivers would likely be available in each district.

LEA does rely on the SEPTA survey and the related testimony of Roger Tauss, president of the union representing SEPTA drivers. See LEA’s Brief at 23. We have no hesitation in concluding, however, that Mr. Tauss’s undocumented, informal oral survey of about 30 of some 4000 drivers is of no probative value. See Tr. 16,781-82.

⁷³ The Board refers to the bus driver training program and notes that, by addressing drivers’ misconceptions about the risks involved and the nature of their duties, the program enhances drivers’ willingness to respond in an emergency. LBP-85-14, 21 NRC at 1319-20. But few drivers have had such training and FEMA had not yet reviewed the program for adequacy at the time of the hearing. *Id.* at 1320. The mere existence of the training program is not enough to outweigh the demonstrated results of the bus driver surveys.

The Board also mentions the forming of “pools of backup drivers.” *Id.* at 1321. The evidence cited to support this finding, however, either refers to a reserve of buses (not drivers), or is wholly lacking in the necessary specifics. See Tr. 14,269-70, 14,297-99; Bradshaw, et al., fol. Tr. 12,764, at 23.

⁷⁴ FEMA’s testimony in this regard (included in the record at about the same time as FEMA’s) is no more positive or definitive. See Hippert, fol. Tr. 19,498, at 23-24 (pagination continued).

We therefore conclude that the Licensing Board's finding of reasonable assurance of a sufficient number of bus drivers willing to respond during an emergency at Limerick is not adequately supported by the record, insofar as the Spring-Ford and Owen J. Roberts School Districts are concerned. Accordingly, we reverse the Board's decision in that respect. This action necessarily vitiates the reasonable assurance finding that serves as a basis for the operating license already issued to the Limerick facility. *See supra* note 20. As we earlier pointed out in this same proceeding, however, 10 C.F.R. § 50.47(c)(1) provides a mechanism for dealing with certain emergency planning deficiencies, without suspending an outstanding license. ALAB-819, 22 NRC at 715-16 & n.48.⁷⁵ In this instance, the planning deficiency is relatively limited and we believe that it is possible for the parties and Licensing Board to address it on remand promptly (i.e., within the next three to four months). This time corresponds to the summer school recess, during which large-scale school evacuation would not be necessary. Considering the totality of circumstances, we therefore find compelling reasons to permit continued plant operation, despite the demonstrated emergency planning deficiency, and remand this matter to the Licensing Board for prompt action in accordance with this decision.⁷⁶

V. EMERGENCY EXERCISES

In an unnumbered contention, LEA claimed that the conduct of emergency drills and exercises was not sufficiently detailed in the various RERPs, and that such exercises would not provide a realistic test of the emergency plan. LEA Off-site Emergency Planning Contentions at 42. LEA, however, voluntarily withdrew this contention at a March 1984 prehearing conference after learning that a FEMA regulation, 44 C.F.R. § 350.10, requires a public meeting after such exercises but before final FEMA evaluation of the emergency plan. LEA determined that this meeting would provide "ample opportunity" to address its concerns

⁷⁵ Section 50.47(c)(1) provides:

Failure to meet the applicable standards set forth in paragraph (b) of this section may result in the Commission[s] declining to issue an operating license; however, the applicant will have an opportunity to demonstrate to the satisfaction of the Commission that deficiencies in the plans are not significant for the plant in question, that adequate interim compensating actions have been or will be taken promptly, or that there are other compelling reasons to permit plant operation.

⁷⁶ We also note that LEA did not raise bus driver availability in its request for a stay of the Licensing Board's decision, suggesting that LEA did not consider that issue to be a strong basis for postponing plant operation. *See* LEA Motion for a Stay (May 16, 1985); Supplement to Limerick Ecology Action's Motion for a Stay (May 20, 1985).

about the adequacy of the drills, obviating litigation of the issue. Tr. 8079-87. *See* LBP-84-18, 19 NRC at 1062.

On appeal, LEA refers to several May 1985 FEMA Memoranda (*see supra* note 20) and essentially complains that FEMA has therein issued its final report on the emergency plan, without holding the public meeting required by 44 C.F.R. § 350.10. LEA claims it is entitled to this meeting or an equivalent opportunity to comment, or, in the alternative, admission and litigation of the contention it earlier withdrew. LEA's Brief at 56-57. We disagree.

Nothing has changed in this regard since the prehearing conference. LEA has misinterpreted the May 1985 FEMA Memoranda. To be sure, the memorandum dated May 21, in particular, refers to various full-participation, supplemental, and remedial exercises conducted during 1984 and 1985 and states that certain deficiencies previously noted have been corrected. It also concludes that "offsite radiological emergency planning and preparedness is now adequate to provide reasonable assurance that protective measures can be implemented to protect the public health and safety in the event of a radiological emergency at the Limerick Generating Station." FEMA Memorandum (May 21, 1985) at 2. But there is no indication that this or the other memoranda are intended to be the final FEMA report (granting approval to all of the state and local offsite emergency plans for Limerick) that must be preceded by the public meeting under 44 C.F.R. § 350.10. Rather, the memoranda are the "interim findings" that FEMA is obliged to provide to the NRC periodically for use during the licensing process. *See* FEMA/NRC MOU, 50 Fed. Reg. at 15,486. Moreover, the formal FEMA review, of which the section 350.10 public meeting is a part, is not triggered until the Commonwealth has reasonable assurance of the plan's adequacy and applies to FEMA for final approval. *See* 44 C.F.R. § 350.7; Commonwealth Brief (August 8, 1985) at 15. The Commonwealth has not yet made such a request, but has committed itself to seeing that FEMA holds the public meeting required by the latter's own regulations. Hippert, fol. Tr. 19,498, at 3-4; App. Tr. 74-75.

We therefore have no cause (and LEA provides none) to doubt that, in due course, FEMA will hold the section 350.10 public meeting. Further, this regulation specifically provides for public input. *See* 44 C.F.R. § 350.10(a)(3).⁷⁷ LEA will thus obtain all that it claims to have sought

⁷⁷ As the NRC staff points out, LEA has nonetheless already had such input indirectly in this proceeding, despite the withdrawal of its contention. FEMA's reports on two 1984 emergency exercises were admitted into evidence (FEMA Exhs. E-4 and E-5), and LEA cross-examined the FEMA witnesses in this regard. NRC Staff Brief (August 16, 1985) at 53. *See, e.g., supra* pp. 505, 506, 509, 511.

when it first proffered, and later withdrew, its contention concerning exercises and drills.⁷⁸

The Licensing Board's third partial initial decision, LBP-85-14, is *reversed* insofar as it finds reasonable assurance of the availability of an adequate number of bus drivers to evacuate students in the Spring-Ford and Owen J. Roberts School Districts; accordingly, this matter is *remanded* for prompt action in accordance with this opinion. Otherwise, LBP-85-14 is *affirmed*, subject to the following *license condition*: the Director of Nuclear Reactor Regulation is to verify the expeditious establishment of additional traffic control measures in the area of Route 100 and the Downingtown interchange of the Pennsylvania Turnpike.

It is so ORDERED.

FOR THE APPEAL BOARD

C. Jean Shoemaker
Secretary to the
Appeal Board

APPENDIX A

Excerpts from the Pennsylvania Emergency Management Services Code, P.L. 1332, No. 323, 35 Pa. Cons. Stat. Ann. § 7101 et seq. (Purdon 1978) [emphasis added].

§ 7501. General authority of political subdivisions

(a) Establishing emergency management organization. — Each political subdivision of this Commonwealth is *directed* and authorized to establish a local emergency management organization in accordance with the plan and program of the Pennsylvania Emergency Management Agency. Each local organization *shall* have responsibility for emergency management, response and recovery within the territorial limits of the political subdivision within which it is organized and, in addition, *shall* conduct such services outside of its jurisdictional limits as may be required under this part.

⁷⁸ LEA's reliance on *Union of Concerned Scientists*, 735 F.2d 1437, is misplaced. In that case, the court overturned a former Commission rule that precluded litigation of the results of an emergency preparedness exercise in a licensing proceeding. The Licensing Board, however, did not exclude LEA's contention on the basis of that rule or any other ground; rather, LEA voluntarily withdrew the contention for the wholly unrelated reasons stated above.

§ 7502. Local coordinator of emergency management

(a) General rule. — Each local organization of emergency management *shall* have a coordinator who shall be responsible for the planning, administration and operation of the local organization subject to the direction and control of the executive officer or governing body.

• • •

(d) Qualifications. — The coordinator *shall* be professionally competent and capable of planning, effecting coordination among operating agencies of government and controlling coordinated operations by local emergency preparedness forces.

§ 7503. Powers and duties of political subdivisions

Each political subdivision *shall*:

(1) Prepare, maintain and keep current a disaster emergency management plan for the prevention and minimization of injury and damage caused by disaster, prompt and effective response to disaster and disaster emergency relief and recovery in consonance with the Pennsylvania Emergency Management Plan.

(2) Establish, equip and staff an emergency operation center, consolidated with warning and communication systems to support government operations in emergencies and provide other essential facilities and equipment for agencies and activities assigned emergency functions.

(3) Provide individual and organizational training programs to insure prompt, efficient and effective disaster emergency services.

(4) Organize, prepare and coordinate all locally available manpower, materials, supplies, equipment, facilities and services necessary for disaster emergency readiness, response and recovery.

(5) Adopt and implement precautionary measures to mitigate the anticipated effects of disaster.

(6) Execute and enforce such rules and orders as the agency shall adopt and promulgate under the authority of this part.

(7) Cooperate and coordinate with any public and private agency or entity in achieving any purpose of this part.

(8) Have available for inspection at its emergency operations center all emergency management plans, rules and orders of the Governor and the agency.

(9) Provide prompt and accurate information regarding local disaster emergencies to appropriate Commonwealth and local officials and agencies and the general public.

§ 7707. Penalties

(a) General rule. — Any person violating any of the plans and programs adopted and promulgated by the Pennsylvania Emergency Management Council shall, upon conviction thereof in a summary proceeding, be sentenced to pay a fine not exceeding \$200 or imprisonment not exceeding 30 days or both, for the first offense, and a fine not exceeding \$500 or imprisonment not exceeding 90 days or both, for each subsequent offense.

(b) Loss of funds. — Those political subdivisions in violation of section 7501 (relating to general authority of political subdivisions), section 7502 (relating to local coordinator of emergency management), section 7503 (relating to powers and duties of political subdivisions) or section 7504 (relating to coordination, assistance and mutual aid) *shall*, at the direction of the council, be subject to loss of Federal personnel and administrative funding for the remainder of the fiscal year in which conviction is established. Reinstatement of Federal personnel and administrative funding shall take place the year following approval of remedial action to the violation.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Administrative Judges:

Thomas S. Moore, Chairman
Dr. Reginald L. Gotchy
Howard A. Wilber

In the Matter of

Docket No. 50-400-OL

**CAROLINA POWER AND LIGHT
COMPANY and
NORTH CAROLINA EASTERN
MUNICIPAL POWER AGENCY
(Shearon Harris Nuclear
Power Plant)**

May 29, 1986

The Appeal Board affirms the first partial initial decision in this operating license proceeding, LBP-85-5, 21 NRC 410 (1985), in which the Licensing Board determined that the final environmental statement for the Shearon Harris plant satisfies the National Environmental Policy Act and the Commission's implementing regulations. The Appeal Board also affirms earlier Licensing Board rulings rejecting certain contentions and denying an intervenor's petition for a waiver of the Commission's rule prohibiting the litigation of need for power and alternative energy source issues in operating license proceedings.

RULES OF PRACTICE: APPELLATE REVIEW

When reviewing factual findings of a licensing board, an appeal board will overturn them only where it is "convinced that the record compels a different result." *Niagara Mohawk Power Corp.* (Nine Mile Point

Nuclear Station, Unit 2), ALAB-264, 1 NRC 347, 357 (1975). *Accord Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), ALAB-781, 20 NRC 819, 834 (1984); *Northern Indiana Public Service Co.* (Bailly Generating Station, Nuclear 1), ALAB-303, 2 NRC 858, 867 (1975).

RULES OF PRACTICE: RESPONSIBILITIES OF PARTIES

All parties appearing before an appeal board, whether represented by counsel or a lay representative, have an affirmative obligation to avoid any false coloring of facts. *See Tennessee Valley Authority* (Hartsville Nuclear Plant, Units 1A, 2A, 1B and 2B), ALAB-409, 5 NRC 1391, 1395-96, *reconsideration denied*, ALAB-418, 6 NRC 1 (1977).

RULES OF PRACTICE: BRIEFS

On appeal, "it is not enough [for a party] simply to declare flatly that a particular Board ruling was in error. Rather, it is incumbent upon the appellant to confront directly the reasons assigned for the challenged ruling and to identify with particularity the infirmities purportedly inherent in those reasons." *Duke Power Co.* (Catawba Nuclear Station, Units 1 and 2), ALAB-813, 22 NRC 59, 84 n.128 (1985).

RULES OF PRACTICE: BRIEFS

"[A] party's failure to submit a brief containing sufficient information and argument to allow the appellate tribunal to make an intelligent disposition of the issues raised . . . is tantamount to their abandonment." *Catawba*, ALAB-355, 4 NRC 397, 413, *reconsideration denied*, ALAB-359, 4 NRC 619 (1976). *See Pennsylvania Power and Light Co.* (Susquehanna Steam Electric Station, Units 1 and 2), ALAB-693, 16 NRC 952, 954-57 (1982); *Public Service Co. of Oklahoma* (Black Fox Station, Units 1 and 2), ALAB-573, 10 NRC 775, 786-87 (1979), *vacated in part and remanded*, CLI-80-8, 11 NRC 433 (1980).

RULES OF PRACTICE: CONTENTIONS (ADMISSIBILITY)

In deciding the admissibility of contentions, the validity of the factual allegations comprising the contentions should not be considered. *See Houston Lighting and Power Co.* (Allens Creek Nuclear Generating Station, Unit 1), ALAB-590, 11 NRC 542, 547-50 (1980); *Duke Power Co.* (Transportation of Spent Fuel from Oconee to McGuire), ALAB-528, 9

NRC 146, 151 (1979); *Virginia Electric and Power Co.* (North Anna Nuclear Power Station, Units 1 and 2), ALAB-522, 9 NRC 54, 56 (1979); *Mississippi Power & Light Co.* (Grand Gulf Nuclear Station, Units 1 and 2), ALAB-130, 6 AEC 423, 426 (1973).

RULES OF PRACTICE: COLLATERAL ESTOPPEL

It is settled that the doctrine of collateral estoppel should be applied in NRC adjudicatory proceedings to preclude a party to the litigation of an issue considered and decided in the construction permit proceeding from relitigating the issue in the operating license proceeding for the same reactor. *Alabama Power Co.* (Joseph M. Farley Nuclear Plant, Units 1 and 2), ALAB-182, 7 AEC 210, 212-16, *remanded on other grounds*, CLI-74-12, 7 AEC 203 (1974). *See also Toledo Edison Co.* (Davis-Besse Nuclear Power Station, Units 1, 2, and 3), ALAB-378, 5 NRC 557, 561 (1977).

RULES OF PRACTICE: COLLATERAL ESTOPPEL

Just as in the judicial context, the purpose of collateral estoppel in administrative proceedings is to prevent continuing controversy over matters finally determined and to save the parties and boards the burden of relitigating old issues.

RULES OF PRACTICE: COLLATERAL ESTOPPEL

An operating license proceeding should not be utilized to rehash issues already ventilated and resolved at the construction permit stage. *Farley*, CLI-74-12, 7 AEC at 203.

RULES OF PRACTICE: COLLATERAL ESTOPPEL

In order for the doctrine of collateral estoppel to apply, the individual or entity against whom the estoppel is asserted must have been a party, or in privity with a party, to the earlier litigation. *Southern California Edison Co.* (San Onofre Nuclear Generating Station, Units 2 and 3), ALAB-673, 15 NRC 688, 695, *aff'd*, CLI-82-11, 15 NRC 1383 (1982); *id.*, ALAB-717, 17 NRC 346, 353-54 (1983). The issue to be precluded also must be the same as that involved in the prior proceeding and the issue must have been actually raised, litigated, and adjudged. Additionally, the issue must have been material and relevant to the disposition of the first action, so that its resolution was necessary to the outcome of

the earlier proceeding. *Houston Lighting and Power Co.* (South Texas Project, Units 1 and 2), LBP-79-27, 10 NRC 563, 566 (1979), *aff'd*, ALAB-575, 11 NRC 14, 15 (1980). Even where these requirements are met, however, the doctrine must be “applied with a sensitive regard for any supported assertion of changed circumstances or the possible existence of some special public interest factor in the particular case.” *Farley*, ALAB-182, 7 AEC at 216.

RULES OF PRACTICE: COLLATERAL ESTOPPEL

“Like a cause of action, ‘an issue may not be . . . split into pieces [to avoid application of the doctrine of collateral estoppel]. If it has been determined in a former action, it is binding notwithstanding the parties litigant may have omitted to urge for or against it matters which, if urged, would have produced an opposite result.’ Any contention that is necessarily inconsistent with a prior adjudication of a material and litigated issue, then, is subsumed in that issue and precluded by the prior judgment’s collateral estoppel effect.” 1B J. Moore, J. Lucas & T. Currier, *Moore’s Federal Practice* ¶ 0.443[2] at 761 (2nd ed. 1984) (footnotes omitted).

RULES OF PRACTICE: CONTENTIONS (ADMISSIBILITY)

A party who did not participate in the construction permit proceeding for a reactor but who wishes to relitigate in the operating license proceeding an issue already fully investigated at the construction permit stage, although not collaterally estopped from doing so, has the burden of providing much greater specificity with his contention than is typically required. *Cf. Philadelphia Electric Co.* (Limerick Generating Station, Units 1 and 2), ALAB-804, 21 NRC 587, 590-91 (1985). *See generally Southern California Edison Co.* (San Onofre Nuclear Generating Station, Units 2 and 3), ALAB-717, 17 NRC 346, 354 n.5 (1983).

RULES OF PRACTICE: CONTENTIONS (ADMISSIBILITY)

It is well settled that in passing upon the admissibility of contentions “it is not the function of a licensing board to reach the merits of any contention.” *Grand Gulf*, 6 AEC at 426. Whether the contention ultimately can be proven on the merits is “not the appropriate inquiry at the contention-admission stage.” *Philadelphia Electric Co.* (Limerick Generating Station, Units 1 and 2), ALAB-819, 22 NRC 681, 694

(1985), *review denied*, CLI-86-5, 23 NRC 125 (1986). See *Allens Creek*, 11 NRC at 546-49.

RULES OF PRACTICE: STANDING TO APPEAL

A party to a proceeding before a licensing board has no standing to press before an appeal board grievances of other parties to the proceeding not represented by that party. *Houston Lighting & Power Co.* (Allens Creek Nuclear Generating Station, Unit No. 1), ALAB-631, 13 NRC 87, 89 (1981). See *Puget Sound Power and Light Co.* (Skagit Nuclear Power Project, Units 1 and 2), ALAB-556, 10 NRC 30, 32-33 (1979). Cf. *Houston Lighting & Power Co.* (South Texas Project, Units 1 and 2), ALAB-799, 21 NRC 360, 382-83 (1985).

RULES OF PRACTICE: BRIEFS

The Commission's Rules of Practice require that "[a]n appellant's brief . . . clearly identify the errors of fact or law that are the subject of the appeal." 10 C.F.R. § 2.762(d)(1). See *Duke Power Co.* (Catawba Nuclear Station, Units 1 and 2), ALAB-825, 22 NRC 785, 792-93 (1985).

APPEARANCES

Wells Eddleman (pro se), Durham, North Carolina (with whom **John Runkle**, Chapel Hill, North Carolina, was on the brief) for the intervenors Wells Eddleman and Conservation Council of North Carolina.

Thomas A. Baxter, Washington, D.C. (with whom **John H. O'Neill, Jr.**, and **Deborah B. Bauser**, Washington, D.C., and **Richard E. Jones**, Raleigh, North Carolina, were on the brief) for the applicants Carolina Power and Light Company, *et al.*

Janice E. Moore (with whom **Charles A. Barth** was on the brief) for the Nuclear Regulatory Commission staff.

DECISION

In this consolidated appeal, intervenors Conservation Council of North Carolina (CCNC) and Wells Eddleman challenge the Licensing Board's partial initial decision on environmental issues in the Shearon Harris operating license proceeding.¹ Primarily, the intervenors claim that the Licensing Board's factual findings on several issues tried in the environmental phase of the proceeding are erroneous and that the Board erred in rejecting a number of the intervenors' proffered contentions. Additionally, they claim the Board improperly denied intervenor Eddleman's petition pursuant to 10 C.F.R. § 2.758 to waive the Commission's rule prohibiting the litigation of need for power and alternative energy source issues in operating license proceedings. For the reasons that follow, we affirm the results reached by the Licensing Board on each of the challenged issues.

I.

A. The intervenors first attack the Licensing Board's findings on joint contention II(e), which claims that the final environmental statement for Shearon Harris underestimates the radiological dose to the population from anticipated routine emissions of the plant. Specifically, the contention asserts that the dose analyses of the NRC staff and the applicants are deficient because they fail to consider the deposition in the lung of radionuclides that have attached to respirable fly ash particles in the ambient atmosphere. The Licensing Board resolved the contention in favor of the staff and the applicants, finding that the dose estimates in the final environmental statement associated with normal plant operation were not significantly underestimated.²

Although the intervenors argue that the Licensing Board should have found that the dose estimates of radionuclides attached to fly ash were underestimated, their brief points to no record evidence to support their bald assertion. Nor does the record contain such evidence. Indeed, at the hearing the intervenors offered no affirmative evidence to support their contention, and all testimony was presented by the expert witnesses for the staff and the applicants. The Licensing Board made its findings based on this expert testimony and those findings are thorough, fully

¹ See LBP-85-5, 21 NRC 410 (1985).

² *Id.* at 415-16, 427.

supported by the record, and address all the significant matters raised by the intervenors during their cross-examination of these expert witnesses.³ As we have previously stated, “we are not free to disregard the fact that the Licensing Boards are the Commission’s primary fact finding tribunals.”⁴ Rather, when we review factual findings like those under challenge, we will overturn them only where “we are convinced that the record compels a different result.”⁵ Here, the record compels only the result reached by the Licensing Board.

The intervenors nevertheless attempt to construct their argument by selectively referencing and quoting the Licensing Board’s findings. They allege that “the Licensing Board agreed that many of the assumptions used in the Applicants’ dose estimates ‘were found deficient upon cross-examination.’”⁶ They then claim that “[a]s a result of the insufficient technical data presented by the Staff and the Applicants the Licensing Board was not able to assess the effects of radionuclides attached to particulates on the population surrounding the Harris facility.”⁷ What this first argument ignores, however, is that the three factors not known with the precision demanded by the intervenors (which they label “deficiencies”) were found by the Licensing Board to “produce a possible uncertainty in the dose estimate of less than 1/10 of 1 mrem/yr.”⁸ In other words, these factors had an inconsequential impact on the estimated doses from normal plant releases.

The intervenors’ second assertion (i.e., the Licensing Board lacked sufficient data to assess the impacts of the fly ash phenomenon) is equal-

³ See *id.* at 423-28.

⁴ *Northern Indiana Public Service Co.* (Bailly Generating Station, Nuclear 1), ALAB-303, 2 NRC 858, 867 (1975).

⁵ *Niagara Mohawk Power Corp.* (Nine Mile Point Nuclear Station, Unit 2), ALAB-264, 1 NRC 347, 357 (1975). *Accord Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), ALAB-781, 20 NRC 819, 834 (1984); *Bailly*, 2 NRC at 867.

⁶ Brief of Intervenors (April 9, 1985) at 10. In their brief, the intervenors place a single set of quotation marks around the phrase “were found deficient upon cross-examination” in the above-quoted sentence, thus conveying the meaning that the Licensing Board found that the applicants’ assumptions underlying their dose estimates were deficient. The phrase appearing in quotation marks, however, was a quotation by the Licensing Board of the intervenors’ proposed findings: “The Joint Intervenors’ Proposed Finding 8 asserts that the assumptions used in the Applicants’ dose estimates ‘were found deficient upon cross-examination.’” LBP-85-5, 21 NRC at 427. Contrary to the intervenors’ statement, the Board did not “find” the applicants’ assumptions “deficient.” The intervenors’ misquotation and misrepresentation of the Licensing Board’s findings is blatant and totally unacceptable. See *Tennessee Valley Authority* (Hartsville Nuclear Plant, Units 1A, 2A, 1B and 2B), ALAB-409, 5 NRC 1391, 1395-96, *reconsideration denied*, ALAB-418, 6 NRC 1 (1977). All parties appearing before us, whether represented by counsel or a lay representative, have an affirmative obligation to avoid any false coloring of the facts. In a consolidated appeal such as this one involving two intervenors — one represented by counsel and one appearing pro se — both representatives have the responsibility of ensuring that no such misrepresentations appear in the joint brief.

⁷ Brief of Intervenors at 10-11.

⁸ LBP-85-5, 21 NRC at 428.

ly footless. The intervenors do not identify any facts to support their claim and there are none in the record. Rather, the expert witnesses for the applicants and the staff presented analyses establishing that the methods used in the applicants' environmental report and the staff's final environmental statement for calculating predicted doses from normal plant operation already conservatively accounted for the effects of the fly ash phenomenon postulated by joint contention II(e).⁹ The Licensing Board's findings on this contention, therefore, are affirmed.

B. The intervenors next protest the Licensing Board's findings on joint contention II(c). As originally admitted, that contention asserted that the final environmental statement underestimates the radiological dose effects from normal radiation releases at Shearon Harris because such effects have been considered "over an arbitrarily short period of time compared to the length of time the radionuclides actually will be causing health and genetic damage."¹⁰ Subsequent to its admission, the Licensing Board limited the scope of the issues it would permit to be litigated under the contention¹¹ and, on appeal, the intervenors have not challenged this ruling. Specifically, the Board barred, as wholly speculative, questions concerning the effects of routine releases over millions of years into the future. It left for adjudication, however, such issues as whether the final environmental statement should (1) describe the risks from routine radiological releases in terms of the 40-year plant life instead of annualized risks; (2) take into account the cumulative exposure to people who live near the plant for 40 years; and (3) include the time period subsequent to the operation of the plant in exposure analyses.

At the hearing on their contention, the intervenors again presented no affirmative evidence and all evidence was presented by the expert witnesses of the staff and the applicants.¹² Based on this expert testimony, the Licensing Board found that the annualized risk assessment presented in the final environmental statement requires only a simple calculation (i.e., multiplying by 40) to provide the total dose over the life of the plant. Therefore it found the annualized results contained in the environmental statement adequate for describing the risks associated with the facility.¹³ It also found that the total exposure of people living near the plant for the life of the plant was insignificant. Similarly, it determined that the incremental exposure of people living near the plant (as

⁹ Mauro and Schaffer, Tr. fol. 1605; Branagan, Tr. fol. 1865.

¹⁰ LBP-85-5, 21 NRC at 419.

¹¹ See LBP-84-7, 19 NRC 432, 457-58 (1984); LBP-85-5, 21 NRC at 414, 419.

¹² Mauro and Marschke, Tr. fol. 1971; Branagan, Tr. fol. 2058.

¹³ LBP-85-5, 21 NRC at 414-15, 420-23.

well as for the population of the country as a whole) for 100 years after the plant ceased operating was insignificant.¹⁴ Further, the Board made findings on a number of additional matters, such as the insignificance of the risk to fetuses (from conception to birth) on the sum of the risks over all age groups, and the insignificance of effects from plant operation on fetal losses, genetic effects and birth defects.¹⁵ The Board thus concluded that the final environmental statement was adequate without further discussion of these impacts.¹⁶

On appeal, the intervenors assert that the Licensing Board erred in finding that the final environmental statement did not significantly underestimate the health risks from normal plant operation. Their “argument” consists, however, merely of a statement that the Licensing Board “points out a series of deficiencies in the Staff’s analysis yet concludes that . . . the Staff met their burden under NEPA [the National Environmental Policy Act of 1969¹⁷],” followed by a listing of five purported “deficiencies.”¹⁸

The intervenors’ claims are not new. Before us, they have done nothing more than list matters advanced before that were rejected by the Licensing Board, without directing our attention to any supporting record evidence for their position. Nor do the intervenors address the facts and reasoning underlying the Licensing Board’s rejection of their claims. This will not do. “[I]t is not enough simply to declare flatly that a particular Board ruling was in error. Rather, it is incumbent upon the appellant to confront directly the reasons assigned for the challenged ruling and to identify with particularity the infirmities purportedly inherent in those reasons.”¹⁹ Moreover, “a party’s failure to submit a brief containing sufficient information and argument to allow the appellate

¹⁴ *Id.* at 421-22.

¹⁵ *Id.* at 422.

¹⁶ *Id.* at 423, 445.

¹⁷ 42 U.S.C. § 4321.

¹⁸ Brief of Intervenors at 11-12.

¹⁹ *Duke Power Co.* (Catawba Nuclear Station, Units 1 and 2), ALAB-813, 22 NRC 59, 84 n.128 (1985).

The intervenors also challenge the Licensing Board’s findings on Eddleman contention 8(F)(1), which asserts that the final environmental statement underestimates the health effects of coal particulates emitted from the fossil fuel plants producing electrical power to support the uranium fuel cycle for Shearon Harris. The Licensing Board found that the contention was without merit. Specifically, it determined that the staff correctly concluded in the final environmental statement that there is “a miniscule incremental environmental impact from the coal particles” at issue and that further treatment of the issue was unnecessary. LBP-85-5, 21 NRC at 437-38. On appeal, the intervenors once again only rehearse assertions that were rejected by the Licensing Board without addressing the facts and reasoning that led the Board to reject their claims below. The Licensing Board treated fully the assertions that the intervenors repeat before us and our examination of the record convinces us that the Board’s findings are correct and amply supported by the evidence. *See id.* at 428-39. Accordingly, the Licensing Board’s findings on Eddleman contention 8(F)(1) are affirmed.

tribunal to make an intelligent disposition of the issues raised . . . is tantamount to their abandonment."²⁰

Here, the Board's findings fully discuss each issue and thoroughly and accurately assemble the record evidence. In light of the intervenors' totally inadequate briefing of their purported claims, no useful purpose would be served by repeating all of those particulars here. Suffice it to say that the Board's findings are supported by the record and our examination of the evidence does not convince us that the record compels a different result.²¹

II.

On appeal, the intervenors also challenge the Licensing Board's rejection of a number of their proffered environmental contentions. The rejected contentions fall into four categories dealing with the applicants' radiological monitoring program, the possible ocean dumping of low level radioactive waste from the plant, the transportation of spent fuel from other nuclear plants operated by one of the applicants to Shearon Harris for interim storage, and the applicants' costs of operating the facility. Unfortunately, many of the intervenors' purported arguments are so sketchy as to be, at best, of only marginal utility in explaining their position. We have, nevertheless, considered each of the intervenors' skeletal assertions and find that the Licensing Board reached the correct result in rejecting the contested contentions.

A.1. The intervenors first argue that the Licensing Board erred in rejecting CCNC's contentions 16, 17, and 18, which claim that the applicants' radiological monitoring program is deficient with respect to three specific water sampling locations listed in the applicants' environmental report. The three contentions all propose modifications that CCNC asserts will enable earlier corrective measures in the event abnormal offsite radiation levels are discovered. In rejecting them, the Licensing Board concluded that "they inaccurately ascribe to the sample points in question a function which those points are not intended to perform."²² The Board found that the challenged sampling sites were intended "to confirm certain environmental data," while the "monitoring function of ensuring the safety of people near the sample points and other places

²⁰ *Catawba*, ALAB-355, 4 NRC 397, 413, *reconsideration denied*, ALAB-359, 4 NRC 619 (1976). See *Pennsylvania Power and Light Co.* (Susquehanna Steam Electric Station, Units 1 and 2), ALAB-693, 16 NRC 952, 954-57 (1982); *Public Service Co. of Oklahoma* (Black Fox Station, Units 1 and 2), ALAB-573, 10 NRC 775, 786-87 (1979), *vacated in part and remanded*, CLI-80-8, 11 NRC 433 (1980).

²¹ See *supra* note 5.

²² LBP-82-119A, 16 NRC 2069, 2082 (1982).

will be performed by the effluent radiological monitoring and sampling system,"²³ a separate system that CCNC's contentions did not address. The Licensing Board then rejected the contentions "because they do not accurately address the Applicants' proposal."²⁴

The intervenors claim that the Licensing Board erroneously "went to the merits of the contentions" in rejecting them, instead of only considering whether the contentions stated an adequate basis as required by 10 C.F.R. § 2.714(b).²⁵ According to the intervenors, the Licensing Board ignored the teaching of our *Allens Creek* decision that, in deciding the admissibility of contentions, the validity of factual allegations should not be considered and a licensing board should determine only whether the contentions meet the basis and specificity requirements of the Rules of Practice.²⁶ The applicants and the staff support the Licensing Board's ruling, but on slightly different grounds. The applicants argue that the Licensing Board actually rejected the contentions because they lacked an adequate basis. The staff, on the other hand, claims that the contentions were properly rejected for inaccurately addressing the applicants' proposal and opines that the Licensing Board did not consider the merits of the contentions inasmuch as it expressed no opinion on the correctness of their substance.

The intervenors generally are correct that, in deciding the admissibility of contentions, the validity of the factual allegations comprising the contentions should not be considered.²⁷ They are wide of the mark, however, in suggesting that the Licensing Board impermissibly crossed that line here. All three of the contentions propose improvements in the applicants' radiological monitoring system at specific sampling locations for the stated purpose of better protecting the safety of the people in the vicinity of the plant through the earlier detection of radioactive releases. But as the Licensing Board indicated, the challenged monitoring system is not intended as an early warning system for people residing around the plant. That function is served by the applicants' *effluent* monitoring system. Rather, as the Licensing Board earlier found in resolving the same issue raised by CCNC in the construction permit proceeding, the

²³ *Id.*

²⁴ *Id.*

²⁵ Brief of Intervenors at 21.

²⁶ *Houston Lighting and Power Co.* (Allens Creek Nuclear Generating Station, Unit 1), ALAB-590, 11 NRC 542 (1980).

²⁷ *See id.* at 547-50; *Duke Power Co.* (Transportation of Spent Fuel from Oconee to McGuire), ALAB-528, 9 NRC 146, 151 (1979); *Virginia Electric and Power Co.* (North Anna Nuclear Power Station, Units 1 and 2), ALAB-522, 9 NRC 54, 56 (1979); *Mississippi Power & Light Co.* (Grand Gulf Nuclear Station, Units 1 and 2), ALAB-130, 6 AEC 423, 426 (1973).

purpose of the radiological monitoring system is to confirm the applicants' environmental models of population exposure from plant releases.²⁸ Had this distinction between the applicants' radiological monitoring system and effluent monitoring system not already been established in the construction permit proceeding, the intervenors' claim might be more persuasive. Because the purpose and function of the applicants' radiological monitoring system was factually determined in that earlier proceeding, however, the Licensing Board did not impermissibly "go to the merits" of these contentions in rejecting them. Further, in stating that the contentions failed to address adequately the applicants' proposal, the Licensing Board made a determination that was tantamount to a conclusion that the contentions lacked an adequate basis — a correct ground for rejecting them here.

In any event, the contentions are barred by the doctrine of collateral estoppel and we uphold the Licensing Board's rejection of CCNC contentions 16, 17, and 18 on this alternative ground.²⁹ It is settled that the doctrine of collateral estoppel should be applied in NRC adjudicatory proceedings to preclude a party to the litigation of an issue considered and decided in the construction permit proceeding from relitigating the issue in the operating license proceeding for the same reactor.³⁰ Just as in the judicial context, the purpose of collateral estoppel in administrative proceedings is to prevent continuing controversy over matters finally determined and to save the parties and boards the burden of relitigating old issues. Therefore, as the Commission has stated, "an operating license proceeding should not be utilized to rehash issues already ventilated and resolved at the construction permit stage."³¹

Our cases indicate that, in order for the doctrine to apply, the individual or entity against whom the estoppel is asserted must have been a party, or in privity with a party, to the earlier litigation.³² The issue to be precluded also must be the same as that involved in the prior proceeding and the issue must have been actually raised, litigated, and adjudged.

²⁸ LBP-78-4, 7 NRC 92, 122-27 (1978).

²⁹ Although the applicants initially opposed these contentions on the basis that, inter alia, the issue of the adequacy of the applicants' radiological monitoring program was litigated and decided against CCNC in the construction permit proceeding, the Licensing Board did not reject the contentions on collateral estoppel grounds. See Applicants' Response to Supplement to Petition to Intervene by Conservation Council of North Carolina at 6-7 (June 15, 1982). This being the case, we ordered the parties to brief the question whether CCNC was collaterally estopped from litigating these contentions in the operating license proceeding.

³⁰ *Alabama Power Co.* (Joseph M. Farley Nuclear Plant, Units 1 and 2), ALAB-182, 7 AEC 210, 212-16, remanded on other grounds, CLI-74-12, 7 AEC 203 (1974). See also *Toledo Edison Co.* (Davis-Besse Nuclear Power Station, Units 1, 2, and 3), ALAB-378, 5 NRC 557, 561 (1977).

³¹ *Farley*, CLI-74-12, 7 AEC at 203.

³² *Southern California Edison Co.* (San Onofre Nuclear Generating Station, Units 2 and 3), ALAB-673, 15 NRC 688, 695, *aff'd*, CLI-82-11, 15 NRC 1383 (1982); *id.*, ALAB-717, 17 NRC 346, 353-54 (1983).

Additionally, the issue must have been material and relevant to the disposition of the first action, so that its resolution was necessary to the outcome of the earlier proceeding.³³ Even when these requirements are met, however, the doctrine must be “applied with a sensitive regard for any supported assertion of changed circumstances or the possible existence of some special public interest factor in the particular case.”³⁴

In the circumstances presented, the doctrine is fully applicable and the intervenors have presented no supportable grounds to prevent its application. In the construction permit proceeding, intervenor CCNC was admitted as a party and sought to litigate its contention C.1(a), challenging the adequacy of the applicants’ radiological monitoring program.³⁵ Although broader in overall scope than the instant CCNC contentions, part of contention C.1(a) claimed that the applicants’ program was deficient because “there are too few monitoring sites” and “the frequency of monitoring at these sites is too small.”³⁶ Here, the same issues are raised: CCNC contention 16 challenges the frequency of sampling at sample point 26; contention 17 questions the number of wells sampled and frequency of sampling at point 39; and contention 18 protests the frequency of sampling at point 40.³⁷ In the construction permit proceeding CCNC presented no direct testimony on its contention, but testimony was presented by the applicants and staff and CCNC had the opportunity to cross-examine those witnesses.³⁸ Based on that testimony, the Licensing Board found that the applicants’ “radiological surveillance program is adequate from the standpoint of the number of sampling locations and the frequency of sampling.”³⁹ This finding, in response to

³³ *Houston Lighting and Power Co.* (South Texas Project, Units 1 and 2), LBP-79-27, 10 NRC 563, 566 (1979), *aff’d*, ALAB-575, 11 NRC 14, 15 (1980).

³⁴ *Farley*, ALAB-182, 7 AEC at 216.

³⁵ LBP-78-4, 7 NRC at 94-95.

³⁶ *Id.* at 122.

³⁷ The intervenors assert that the CCNC is not collaterally estopped from litigating these contentions in the operating license proceeding because “the specific issues raised in contentions 16, 17, and 18 were not raised at the construction permit stage by the Conservation Council.” Supplemental Brief of Intervenors (February 24, 1986) at 2. Although the issues presented in CCNC’s contentions here are narrower than those raised in the construction permit proceeding, they clearly are encompassed by the broader contention. As stated in Moore’s Federal Practice in discussing the identity of issues between present and prior actions,

[t]he analogy to the rule against splitting a single cause of action is striking. Like a cause of action, “an issue may not be . . . split into pieces. If it has been determined in a former action, it is binding notwithstanding the parties litigant may have omitted to urge for or against it matters which, if urged, would have produced an opposite result.” Any contention that is necessarily inconsistent with a prior adjudication of a material and litigated issue, then, is subsumed in that issue and precluded by the prior judgment’s collateral estoppel effect.

1B J. Moore, J. Lucas & T. Currier, *Moore’s Federal Practice* ¶ 0.443[2] at 761 (2nd ed. 1984) (footnotes omitted).

³⁸ See Docket Nos. 50-400, 50-401, 50-402, 50-403, Tr. fol. 1020; Tr. fol. 1142.

³⁹ LBP-78-4, 7 NRC at 123-24.

specific portions of CCNC's contention C.1(a), was essential to the Board's further finding that the applicants' "radiological monitoring and surveillance program is adequate to assess fully the radiological consequences of the proposed plant."⁴⁰ In turn, the Board's finding on contention C.1(a) formed a necessary and material part of its initial decision and constituted a valid judgment on the merits authorizing a construction permit — a decision we subsequently affirmed.⁴¹ Thus, all of the elements required for the application of the doctrine are present. Further, CCNC has made no showing of significantly changed circumstances or public interest factors that warrant relitigation of these contentions in the operating license proceeding. Accordingly, CCNC contentions 16, 17, and 18 are barred by the doctrine of collateral estoppel.

2. The intervenors also appeal the Licensing Board's rejection of a portion of Eddleman contention 2. That contention claims the need for additional radiological monitoring equipment for the plant that has both high and low range detection capability and that can analyze, not only the rate of emissions, but the precise radionuclides and their quantities.⁴² Although the Licensing Board indicated in rejecting the contention that it met the specificity requirements of the Commission's Rules of Practice, the Board found that the contention was redundant of one already admitted (joint contention VI). The admitted contention alleged that the monitoring system was inadequate because it was incapable of promptly detecting the specific types and quantities of radionuclides being released on and off the site.

Before us, the intervenors argue that Eddleman contention 2 was erroneously rejected because it was *more* specific than joint contention VI and thus it also should have been admitted. This argument is frivolous. The intervenors do not dispute that the matters raised in the proffered Eddleman contention are within the parameters of joint contention VI and that those specific subjects could have been litigated as part of the more general issue set forth in the latter contention. This being the case, the intervenors have not demonstrated (and cannot demonstrate) any prejudice from the rejection of the redundant contention. According-

⁴⁰ *Id.* at 124.

⁴¹ ALAB-490, 8 NRC 234 (1978).

⁴² The contention further recites that the applicants should provide cities within 30 miles of the facility with pressurized-ionization monitors for use in emergencies. The Licensing Board found that this portion of the contention dealt with emergency planning and deferred ruling on it until the Board considered all such contentions. See LBP-82-119A, 16 NRC at 2090. In their brief, the intervenors do not contest this ruling.

ly, they are not entitled to any appellate relief on the rejection of Eddleman contention 2.⁴³

3. Finally, the intervenors claim that the Licensing Board erred in rejecting Eddleman contention 82. That contention also challenges the adequacy of the applicants' radiological monitoring program. Specifically, it asserts that the preoperational program has insufficient sampling locations and numbers of samples to establish a statistically valid portrait of background radiation levels and concentrations and that the program's procedures are insufficient. The Licensing Board found that the contention fails to "indicate how the alleged inadequacies would adversely affect public health and safety or the environment" and concluded it was "without basis."⁴⁴ On appeal, the intervenors state, without more, that the contention should have been admitted because "on its face it questions the adequacy and sufficiency" of the applicants' program, and "[i]t is readily apparent that if a program that is designed to provide a baseline for radioactive emissions is deficient then any monitoring program utilized while the plant is in operation will not provide accurate measurement above background."⁴⁵

Like CCNC contentions 16, 17, and 18, the subject of Eddleman 82 challenges aspects of the applicants' monitoring program that generally were litigated and found adequate by the Licensing Board in the construction permit proceeding.⁴⁶ Although Mr. Eddleman was not a party to the construction permit proceeding, and therefore is not collaterally estopped from raising these same issues in the operating license proceeding,⁴⁷ our cases suggest that he nevertheless has the burden of providing much greater specificity than typically required of a contention where he seeks to relitigate an issue already fully investigated in the construction permit proceeding.⁴⁸ Such a requirement is necessary as a bulwark

⁴³ The intervenors' brief appears to make a second argument concerning the Licensing Board's rejection of Eddleman contention 2. Like their first argument, this one lacks merit. They state (at 21), without elaboration, that "although the Licensing Board is authorized to consolidate parties and contentions under 10 C.F.R. 2.715a on motion or on its own initiative, on motion the parties may respond and present their positions on how the consolidation will adversely prejudice their rights." The intervenors then state that "[i]n fairness, if the Licensing Board consolidates contentions on its own initiative, a similar opportunity for response need be afforded." Contrary to the implicit assumption of the intervenors' argument, however, the Licensing Board *rejected* Eddleman contention 2 outright as redundant of joint contention VI, so it did not consolidate the two contentions at all. In any event, even if we assume the two contentions were somehow consolidated, the intervenors have demonstrated no prejudice to their rights. Moreover, if the intervenors are complaining about joint contention VI as a consolidated contention, they cannot now be heard to object because they authored and proposed it as a joint one.

⁴⁴ LBP-82-119A, 16 NRC at 2104.

⁴⁵ Brief of Intervenors at 22.

⁴⁶ See LBP-78-4, 7 NRC at 122-27.

⁴⁷ See *San Onofre*, ALAB-673, 15 NRC at 695.

⁴⁸ Cf. *Philadelphia Electric Co.* (Limerick Generating Station, Units 1 and 2), ALAB-804, 21 NRC 587, 590-91 (1985). See generally *Southern California Edison Co.* (San Onofre Nuclear Generating Station, Units 2 and 3), ALAB-717, 17 NRC 346, 354 n.5 (1983).

against turning the operating license proceeding into a wasteful carbon copy of the construction permit proceeding. Here, as the Licensing Board recognized, the contention fails to particularize how the perceived inadequacies in the applicants' program would adversely affect the environment or the public health and safety. Moreover, the contention does not spell out, as it must, how circumstances have changed since the construction permit proceeding or how the Licensing Board in the earlier case erred in finding the applicants' program adequate. The Board, therefore, was correct in rejecting the contention. Instead of indicating, however, that the contention was "without basis," the Board should have concluded that the contention lacked specificity, so that its conclusion would be consistent with the Board's reasoning.

B. Next, the intervenors appeal the rejection of Eddleman contention 12. That contention asserts that the applicants' environmental report and the staff's environmental statement fail to consider the effects of ocean dumping of low level radioactive waste from the Shearon Harris facility. It further claims that such consideration is necessary because North Carolina has no land burial facilities for low level waste and is not a member of a waste disposal compact with other states; thus ocean dumping may be the only alternative for disposing of the applicants' low level waste beginning in 1986.⁴⁹ The Licensing Board found that "[t]here is no indication that ocean dumping is contemplated, or that it is a probable consequence" and rejected the contention for failing to advance any basis.⁵⁰

The intervenors argue that, in rejecting it, the Licensing Board once again erroneously went to the merits of the contention by relying on the factual representations of the applicants' counsel that ocean dumping was not contemplated. The applicants and the staff largely ignore the intervenors' argument, but both seemingly lend credence to it by reciting in their briefs that they informed the Licensing Board that the applicants did not contemplate ocean dumping for low level waste. The staff then claims that the contention lacked any basis because it failed to indicate that the applicants planned such dumping. The applicants carry the argument one step further. They assert that the contention calls for the consideration of an unplanned and highly improbable activity that need not

⁴⁹ Although the contention does not set out the significance of the year 1986, that was the date contained in the Low-Level Radioactive Waste Policy Act of 1980, 42 U.S.C. § 2021d, at the time Eddleman contention 12 was filed. That Act authorized, inter alia, the then two states with operating low level disposal facilities to form compacts with other states and, after January 1, 1986, to exclude waste from noncompact-member states.

⁵⁰ LBP-82-119A, 16 NRC at 2092.

be considered at all because NEPA does not require the exploration of remote and speculative possibilities.

The intervenors are correct that the Licensing Board erroneously considered the merits of Eddleman contention 12 in concluding that the contention lacked an adequate basis. As proffered, the contention set out the logical foundation for why the environmental effects of ocean dumping of low level wastes from the applicants' facility needed to be considered in the final environmental statement. At the time the contention was filed, it accurately recited the factors beyond the applicants' direct control that reasonably pointed to the likelihood that in 1986 land burial of low level waste would not be available in North Carolina where the applicants' plant is located. It also asserted those factors as the rationale for requiring ocean dumping to be considered as a necessary alternative. The contention, therefore, met the requirement of the Rules of Practice that the "bases for each contention [must be] set forth with reasonable specificity."⁵¹

It is well settled that in passing upon the admissibility of contentions "it is not the function of a licensing board to reach the merits of any contention."⁵² Whether the contention ultimately can be proven on the merits is "not the appropriate inquiry at the contention-admission stage."⁵³ Here, the factual assertions of the applicants and the staff that the applicants did not contemplate ocean dumping should not have been considered by the Board — much less been given controlling weight — in determining whether the contention stated an adequate basis. Yet that is precisely what the Licensing Board did in concluding that "Mr. Eddleman has advanced no bases for considering ocean dumping."⁵⁴ In reality, the applicants' plans for land burial of its low level waste lay at the very heart of the contention, i.e., *despite* the applicants' intentions, significant, new and previously unconsidered factors beyond the applicants' control ineluctably pointed toward the unavailability of land disposal facilities for Shearon Harris waste. Nor, as the applicants claim, was the likelihood of ocean dumping so remote and speculative as to place its consideration beyond the matters that need be considered for an operating license under NEPA and the Commission's environmental regulations. Rather, at the time the contention was filed, such well-known circumstances as the rapidly dwindling capacity of the country's

⁵¹ 10 C.F.R. § 2.714(b). See *Grand Gulf*, 6 AEC at 426.

⁵² *Grand Gulf*, 6 AEC at 426.

⁵³ *Philadelphia Electric Co.* (Limerick Generating Station, Units 1 and 2), ALAB-819, 22 NRC 681, 694 (1985), *review denied*, CLI-86-5, 23 NRC 125 (1986). See *Allens Creek*, 11 NRC at 546-49.

⁵⁴ LBP-82-119A, 16 NRC at 2092.

only operating low level disposal facilities and the continuing failure of other states to open new facilities made the likelihood of the need for other waste solutions reasonably foreseeable. The contention, therefore, should have been admitted. Subsequent developments, however, have rendered the Licensing Board's error harmless.

The Licensing Board also admitted a safety contention parallel to Eddleman environmental contention 12 that subsequently (during the safety issue phase of the proceeding) was decided in applicants' favor by summary disposition. That contention (Eddleman contention 67) claimed that, for the same general reasons set forth in the environmental contention, there was an absence of an assured land disposal site for low level waste.⁵⁵ In granting the applicants' motion for summary disposition, the Licensing Board determined, in effect, that there were no disputed issues of material fact and that there was reasonable assurance that adequate long term land disposal capacity for low level waste generated by the applicants' facility would be available when needed.⁵⁶ The intervenors have not appealed the grant of summary disposition of this contention. Therefore, the factual predicate (i.e., future land burial facilities will be unavailable) supporting the main proposition of Eddleman contention 12 (i.e., ocean dumping must be considered) already has been resolved on the merits against the intervenors. Consequently, the Licensing Board error in initially rejecting Eddleman contention 12 is now harmless error that does not require a reversal and remand.⁵⁷

C. As part of their application for an operating license, the applicants also seek authority to receive and store at Shearon Harris spent fuel from one applicant's Robinson and Brunswick nuclear plants. Various intervenors filed contentions challenging the applicants' proposal but the Licensing Board ultimately rejected them. On appeal, the intervenors complain that the Board erred in rejecting those contentions "concerning the environmental impacts of the transportation of spent fuel from the Applicants' other nuclear reactors to the Harris facility for interim storage."⁵⁸

⁵⁵ *Id.* at 2102.

⁵⁶ Memorandum and Order (July 24, 1984) at 4-8

⁵⁷ We also note that Congress approved the Southeast Interstate Low-Level Radioactive Waste Management Compact in the Low-Level Radioactive Waste Policy Amendments Act of 1985, Pub. L. No. 99-240, § 223, 99 Stat. 1842, 1871 (1986). That compact includes North Carolina as well as South Carolina — a state where an operating low level waste disposal facility is located.

⁵⁸ Brief of Intervenors at 34. Although the intervenors purport to appeal the rejection of a number of spent fuel transshipment contentions, their brief makes no attempt to identify clearly which rejected contentions they appeal. It first recounts that the "Licensing Board originally accepted two contentions (CCNC 4 and CHANGE 9) and deferred several other contentions (among them, Eddleman 25, 64D,

(Continued)

In rejecting the intervenors' contentions, the Licensing Board relied upon *Catawba*, where another licensing board rejected similar spent fuel transportation contentions in parallel circumstances.⁵⁹ In *Catawba*, the applicants, like those here, sought authority in their operating license application to receive and store, at Catawba, spent fuel generated at two other facilities owned by one of the applicants. That Board found that the Commission already had determined generically the environmental impacts of transporting spent fuel from a reactor in Table S-4, "Environmental Impact of Transportation of Fuel and Waste to and from One Light-Water-Cooled Nuclear Power Reactor," 10 C.F.R. § 51.20(g)

64E, and 126)" and then cites the Board's Memorandum and Order of September 22, 1982. *Id.* Next, the brief recites that in passing upon the applicants' motion to reconsider, the Board rejected the previously admitted contentions "and at the same time rejected Mr. Eddleman's contentions (including two late-filed contentions)," citing the Board's Memorandum and Order of August 24, 1983. *Id.* The brief makes no other attempt to identify the spent fuel transportation contentions.

But intervenor Chapel Hill Anti-Nuclear Group Effort (CHANGE) has not filed a notice of appeal and is not represented by the appellant intervenors. CHANGE was represented before the Licensing Board by Daniel Read, but neither Mr. Read nor anyone else on behalf of CHANGE filed a notice of appeal from the Licensing Board's partial initial decision on environmental issues. Moreover, even though a number of CHANGE's other contentions were consolidated and proffered as joint contentions by a number of intervenors (including appellants) acting together, CHANGE contention 9 was not consolidated with any other contentions. See LBP-82-119A, 16 NRC at 2075-78, 2082-83. Accordingly, the intervenors have no standing to press before us a possible grievance of another party to the proceeding who is not represented by the intervenors. *Houston Lighting & Power Co.* (Allens Creek Nuclear Generating Station, Unit No. 1), ALAB-631, 13 NRC 87, 89 (1981). See *Puget Sound Power and Light Co.* (Skagit Nuclear Power Project, Units 1 and 2), ALAB-556, 10 NRC 30, 32-33 (1979). Cf. *Houston Lighting & Power Co.* (South Texas Project, Units 1 and 2), ALAB-799, 21 NRC 360, 382-83 (1985).

The intervenors are correct that the Licensing Board initially admitted CCNC contention 4 and deferred ruling on Eddleman contentions 25, 64D, 64E, and 126, but Eddleman contention 126 concerns "CLASS IX accidents," not the transshipment of spent fuel to Shearon Harris. See LBP-82-119A, 16 NRC at 2094, 2100, 2108. Eddleman contention 126X does allege, however, the need to analyze the environmental effects of transporting spent fuel to Shearon Harris, but that contention is not mentioned in intervenors' brief. The other contentions identified by number in intervenors' brief do concern the environmental effects of transporting spent fuel to the applicants' facility. But the intervenors' statement that the Board, in its August 24, 1983 order, rejected Mr. Eddleman's spent fuel transportation contentions (including two late-filed ones) cannot be reconciled with the record. In its August 24, 1983 order, the Board rejected only one late-filed contention on this subject, Eddleman contention 25B, and it conditionally rejected Eddleman contention 25. See Memorandum and Order (August 24, 1983) at 6-7. The latter contention was not finally rejected until much later in a ruling the intervenors' brief does not even mention. See Memorandum and Order (July 27, 1984) at 2-3.

Obviously, the intervenors' identification of the rejected contentions they wish to appeal is totally inadequate and fails to comply with 10 C.F.R. § 2.762(d)(1). That provision requires that "[a]n appellant's brief . . . clearly identify the errors of fact or law that are the subject of the appeal." See *Duke Power Co.* (Catawba Nuclear Station, Units 1 and 2), ALAB-825, 22 NRC 785, 792-93 (1985). Moreover, the intervenors' purported "argument" consists of several disconnected generalities, such as "the Licensing Board must review all environmental impacts, not just those that somehow upset the cost-benefit analysis." Brief of Intervenors at 35. Not only are their generalities inapposite in the circumstances presented (see, e.g., 10 C.F.R. § 51.95(a)), but the intervenors once again have failed adequately to brief the issues they purport to raise. See *Duke Power Co.* (Catawba Nuclear Station, Units 1 and 2), ALAB-813, 22 NRC 59, 84 n.128 (1985); *Susquehanna*, 16 NRC at 954-56. Accordingly, in addition to the grounds set forth in the text, the Licensing Board's rejection of the intervenors' various spent fuel transportation contentions is also affirmed because the intervenors have inadequately briefed the issues and have no standing to appeal the rejection of certain of those contentions.

⁵⁹ Memorandum and Order (August 24, 1983) at 2-6, citing *Duke Power Co.* (Catawba Nuclear Station, Units 1 and 2), LBP-83-8B, 17 NRC 291, 293-95 (1983).

(1983).⁶⁰ The Board then determined that these environmental costs had been previously taken into account and balanced against the benefits of the facilities in the cost-benefit analyses for the plants generating the spent fuel, so that such costs should not be counted a second time in considering the Catawba applicants' proposal. Finally, the Board decided that, because the Catawba applicants' proposal was limited to receiving each year spent fuel shipments within the parameters of Table S-4, the intervenors' contentions must be rejected as an impermissible attack on the Commission's regulations. And it found this was true, regardless of whether the spent fuel was shipped directly to a final repository or shipped by way of another reactor before ultimately resuming the journey to a final repository. We subsequently affirmed the Licensing Board's license authorization for Catawba and concurred in the Board's reasoning rejecting the intervenors' spent fuel transportation contentions.⁶¹

Although the intervenors assert that the Licensing Board erred in rejecting their spent fuel transportation contentions, their brief fails to explain the infirmities in the Board's reasoning — a rationale we upheld. Thus, as we determined in almost identical circumstances in ALAB-825, the intervenors' contentions present an impermissible challenge to the Commission's Table S-4.⁶² The Licensing Board, therefore, was correct in rejecting the spent fuel transportation contentions.

D. Finally, the intervenors protest the Licensing Board's rejection of Eddleman contentions 15 and 22(a) and (b). The former claims that the applicants' environmental report fails to include the economic costs of waste disposal in its cost-benefit analysis, while the latter challenges the applicants' fuel cost estimates and operating payroll costs.⁶³ Although the Licensing Board initially admitted these two contentions,⁶⁴ it subsequently reconsidered its decision and found them barred by the Commission's regulations that prohibit, in operating license proceedings, conten-

⁶⁰ Table S-4 is now found in 10 C.F.R. § 51.52 (1985).

⁶¹ *Catawba*, ALAB-825, 22 NRC at 792-94.

⁶² See 10 C.F.R. § 2.758(a).

⁶³ As filed, these contentions contained numerous additional parts that the Licensing Board rejected but, on appeal, the intervenors have not challenged any of these rulings. See LBP-82-119A, 16 NRC at 2092-93.

Additionally, the intervenors purport to appeal the Licensing Board's rejection of CHANGE contention 79(c). That contention alleges that the cost estimates set forth in the cost-benefit analysis of the applicants' environmental report are incorrect because the applicants failed to include regulatory costs to the federal and state governments. See CHANGE Supplement to Petition for Leave to Intervene at 23 (May 14, 1982). But, once again, intervenor CHANGE has not filed a notice of appeal and is not represented by the appellant intervenors. Nor was CHANGE contention 79(c) a joint contention (see LBP-82-119A, 16 NRC at 2075-78) so that contention cannot be appealed by CCNC and Mr. Eddleman. See *supra* note 58.

⁶⁴ LBP-82-119A, 16 NRC at 2092-93.

tions "concerning need for power or alternative energy sources."⁶⁵ Specifically, the Licensing Board found that the "comparative cost savings contentions of the stripe now before us" cannot be considered "without immediately and directly considering need for power and alternative energy source costs, the very issues proscribed by the Commission's recent rule."⁶⁶

The intervenors complain that the Licensing Board advanced no reason why the regulations forbid the litigation of the economic costs of the agency's proposed action. In their view, such costs are dependent solely on whether the applicants' plant operates and not on possible alternative energy sources that might displace the facility or the need for the plant. The intervenors' argument overlooks the obvious. In an operating license proceeding, these component costs standing alone are meaningless. As the Licensing Board recognized, the sole purpose of waste disposal costs, fuel cost estimates, and payroll costs is to help in the determination of (1) whether the cost of the facility outweighs its benefit, and (2) how that cost compares with alternative energy sources. Yet these are the very matters the Commission sought to prohibit in operating license proceedings because questions about need for power and alternative energy sources are resolved in the construction permit proceeding. As the Commission stated in enacting the regulatory prohibition,

the purpose of these amendments is to avoid unnecessary consideration of issues that are not likely to tilt the cost-benefit balance by effectively eliminating need for power and alternative energy source issues from consideration at the operating license stage. In accordance with the Commission's NEPA responsibilities, the need for power and alternative energy sources are resolved in the construction permit proceeding. . . . [W]hile there is no diminution of the importance of these issues at the construction permit stage, the situation is such that at the time of the operating license proceeding, the plant would be needed to either meet increased energy needs or replace older less economical generating capacity and that no viable alternatives to the completed nuclear plant are likely to exist which could tip the NEPA cost-benefit balance against issuance of the operating license. Past experience has shown this to be the case. In addition, this conclusion is unlikely to change even if

⁶⁵ 10 C.F.R. § 51.53(c) (1983). This subsection was added to the Commission's regulations in 1982 and states: "Presiding officers shall not admit contentions proffered by any party concerning need for power or alternative energy sources for the proposed plant in operating license proceedings." Two companion provisions, added to the regulations at the same time, authorize applicants and the staff to exclude need for power and alternative energy source information from, respectively, the applicants' environmental report and the staff's environmental impact statement. See 10 C.F.R. §§ 51.21, 51.23(c)(1983). In 1984, the Commission revised Part 51 of its regulations and the substantive prohibition of former section 51.53(c) now is found in 10 C.F.R. § 51.106(e), while the provisions of former sections 51.21 and 51.23(c) are found in 10 C.F.R. §§ 51.53(a) and 51.95(a), respectively.

⁶⁶ LBP-83-27A, 17 NRC 971, 974-75 (1983).

an alternative is shown to be marginally environmentally superior in comparison to operation of a nuclear facility because of the economic advantage which operation of nuclear power plants has over available fossil generating plants.⁶⁷

Thus, to permit the litigation of comparative cost contentions, as the intervenors urge, would be contrary to the specific Commission findings underlying this regulatory prohibition and would allow by indirection what the regulations directly prohibit. As the Licensing Board correctly determined in rejecting them, “[a]llowance of these contentions would emasculate the rule.”⁶⁸

III.

After the Licensing Board rejected his need for power and alternative energy source contentions on the ground that they were barred by the Commission’s regulations, Mr. Eddleman filed a petition pursuant to 10 C.F.R. § 2.758 to waive this regulatory proscription. Section 2.758 provides that Commission regulations shall not be subject to attack in adjudicatory proceedings except upon a prima facie showing, supported by affidavits, “that special circumstances with respect to the subject matter of the particular proceeding are such that application of the rule or regulation (or provision thereof) would not serve the purposes for which the rule or regulation was adopted.”⁶⁹ In a nutshell, the Eddleman petition purports to demonstrate an environmentally and economically superior alternative to the operation of Shearon Harris through a combination of loadshifting, energy storage, solar energy and conservation measures.

The Licensing Board concluded that Mr. Eddleman failed to establish that the application of the regulation would not serve the purpose for which the rule was adopted, and it therefore denied the petition.⁷⁰ The Board found that the Eddleman petition, in comparing the proposed alternative to the operation of Shearon Harris, only considered meeting increased demand or peak loads. Next, it determined that the petition did not address the use of Shearon Harris to displace existing fossil fuel baseload generation by establishing that the proposed alternative was superior to all of the applicants’ fossil fuel baseload capacity. This being the case, the Board concluded that

⁶⁷ 47 Fed. Reg. 12,940 (1982).

⁶⁸ LBP-83-27A, 17 NRC at 975.

⁶⁹ 10 C.F.R. § 2.758(b).

⁷⁰ The Licensing Board initially denied the petition without explanation. See LBP-84-29B, 20 NRC 389, 424 (1984). Subsequently, the Board set forth the reason for the denial in its first partial initial decision. See LBP-85-5, 21 NRC at 440-44.

Mr. Eddleman has not shown "special circumstances . . . such that application of the [need for power] rule would not serve the purpose for which it was adopted." 10 C.F.R. § 2.758. That new nuclear units, with their cost and environmental advantages, would be run as baseload units, possibly replacing old coal units, was a basic premise of the rule. Given that premise, the "purpose" of the rule (within the meaning of § 2.758) was to avoid pointless litigation about need for power projections and minor environmental effects where there was no realistic prospect of tilting the NEPA cost/benefit balance. That purpose is served by application of the rule in this case.⁷¹

On appeal, the intervenors claim the Eddleman petition was wrongly denied. Although their argument is anything but a model of clarity, the intervenors appear to assert that the Licensing Board misread the petition by finding that it failed to address the use of Shearon Harris to replace existing fossil fuel generation on the applicants' system. Similarly, they assert that the Board erred in concluding the petition must establish that the conservation-based alternative is superior to all the applicants' existing fossil fuel power generation. The intervenors' arguments are without merit.

As the Board found, the Commission promulgated the rule prohibiting consideration of need for power and alternative energy issues at the operating license stage in order to avoid unnecessary litigation. In contrast to the situation at the construction permit stage where these issues are considered before construction of the plant is authorized, the Commission generically concluded that, once the plant is completed, the economics of nuclear power are such that no viable alternatives are likely to tip the NEPA cost-benefit balance against issuance of an operating license. This determination was based upon the Commission's licensing experience that showed that an electric utility uses a completed nuclear plant either to meet increased energy demand or, alternatively, to replace older less economical generating capacity if there is no increase in demand.⁷² Therefore, to demonstrate that the purpose of the Commission's rule against needless litigation at the operating license stage is not served by its application in this case, the intervenors, at a minimum, must establish both that the Shearon Harris plant is not needed to meet increased energy demand and that it need not be used to displace an equivalent amount of older, less economical capacity. The latter condition can be satisfied only by showing that, after applying the conservation-based alternative, there no longer remains an amount of

⁷¹ *Id.* at 444.

⁷² *See supra* pp. 545-46. 47 Fed. Reg. at 12,940, 12,941.

fossil fuel baseload generation equal to that of the capacity of Shearon Harris that is less efficient than the nuclear plant.

The Eddleman petition failed to make this required showing. Although the petition purports to demonstrate that projected load increases can be met using the proposed conservation-based alternative so the nuclear plant is not needed, it totally fails to establish that the alternative is large enough to replace the required amount of the applicants' fossil fuel baseload generation. Thus, even assuming the validity of the proposed alternative for meeting peak demand, the petition must still demonstrate that Shearon Harris will not be used to displace existing less efficient fossil fuel baseload generation. Contrary to the intervenors' appellate assertions, it is not sufficient merely to show that the proposed alternative will displace an amount of fossil fuel generated baseload equivalent to that produced by Shearon Harris. Rather, the petition must establish that all of the applicants' fossil fuel baseload generation that is less efficient than Shearon Harris has been accounted for by the conservation-based alternative — a showing Mr. Eddleman did not even attempt. Moreover, the petition may not, on the one hand, count the use of the proposed conservation-based alternative for the purpose of meeting future load demands to show the nuclear plant is not needed and then, on the other hand, recount the same quantity of energy alternative to displace a portion of the applicants' existing fossil fuel baseload generation. Such legerdemain cannot be used to establish the superiority of the proposed alternative. Accordingly, the Licensing Board correctly denied the Eddleman waiver petition.

IV.

For the foregoing reasons, the Licensing Board's determination that the final environmental statement for the Shearon Harris Plant satisfies the agency's responsibilities under the National Environmental Policy Act and the Commission's implementing regulations is *affirmed*. The Board's rejection of CCNC contentions 4, 16, 17, and 18, and Eddleman contentions 2, 12, 15, 22(a) and (b), 25, 25B, 64(d) and (e), and 126X is also *affirmed*. Further, the Board's denial of the Eddleman petition for a waiver of the Commission's rules pursuant to 10 C.F.R. § 2.758 is *af-*

firmed. Finally, our sua sponte review of the Licensing Board's decision reveals no errors requiring correction.

It is so ORDERED.

FOR THE APPEAL BOARD

C. Jean Shoemaker
Secretary to the
Appeal Board

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

**James L. Kelley, Chairman
Glenn O. Bright
Elizabeth B. Johnson**

In the Matter of

**Docket No. 50-322-OL-4
(ASLBP No. 77-347-01D-OL)
(Low Power)**

**LONG ISLAND LIGHTING
COMPANY
(Shoreham Nuclear Power
Station, Unit 1)**

May 5, 1986

ORDER DISMISSING PROCEEDING AS MOOT

On March 18, 1986, counsel for LILCO filed a motion to dismiss this proceeding as moot. The motion noted the fact that (1) the TDI diesels had been approved by another Licensing Board for low- and full-power operation, (2) low-power testing had been completed, and (3) the Licensing Board decision had been approved by the Appeal Board. ALAB-824, 22 NRC 776 (1985). Thus, the licensing event for which this proceeding had been convened — low-power testing — had been completed using different equipment. The motion accordingly stated that "LILCO moves that this Board dismiss this proceeding as moot, without prejudice to LILCO's ability to apply under future circumstances to use the EMD diesels and/or the 20 megawatt turbine as emergency

backup power sources in accordance with the Commission's regulations."

On March 27, 1986, the NRC Staff stated its lack of objection to the LILCO motion, citing the same grounds. No other party responded to the motion.

The Board understands the basic circumstances surrounding this motion to be as stated by LILCO. LILCO's unopposed motion to dismiss the proceeding as moot, without prejudice, is granted.

**FOR THE ATOMIC SAFETY AND
LICENSING BOARD**

James L. Kelley, Chairman

Bethesda, Maryland

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

Sheldon J. Wolfe, Chairman
Frederick J. Shon
Dr. Oscar H. Paris

In the Matter of

Docket Nos. 50-289-OLA-1
50-289-OLA-2
(Steam Generator
Plugging Criteria)

GENERAL PUBLIC UTILITIES
NUCLEAR CORPORATION
(Three Mile Island Nuclear
Station, Unit 1)

May 19, 1986

The Licensing Board issues a memorandum and order which memorializes a prehearing conference and rules on an intervenor's motion for a time extension and on scheduling matters.

RULES OF PRACTICE: RESPONSIBILITY OF PARTIES

It is a basic principle that "a person who invokes the right to participate in an NRC proceeding also voluntarily accepts the obligations attendant upon such participation." *Duke Power Co.* (Catawba Nuclear Station, Units 1 and 2), CLI-83-19, 17 NRC 1041, 1048 (1983). Moreover, "the fact that a party may have personal or other obligations or possess fewer resources than others to devote to the proceeding does not relieve that party of its hearing obligations." *Statement of Policy on Conduct of Licensing Proceedings*, CLI-81-8, 13 NRC 452, 454 (1981); *Philadelphia*

Electric Co. (Limerick Generating Station, Units 1 and 2), ALAB-819, 22 NRC 681, 730 (1985); *Wisconsin Electric Power Co.* (Point Beach Nuclear Plant, Unit 1), ALAB-696, 16 NRC 1245, 1261 n.29 (1982). Finally, “[i]t is well-settled that a participant in an NRC proceeding should anticipate having to manipulate its resources, however limited, to meet its obligations.” *Wisconsin Electric Power Co.* (Point Beach Nuclear Plant, Unit 1), ALAB-719, 17 NRC 387, 394 (1983).

RULES OF PRACTICE: RESPONSIBILITY OF PARTIES

Neither the Licensee nor the Staff can be permitted to leave the presiding body and the other parties to the proceeding in the dark about any information which is relevant and material to the adjudication. *Duke Power Co.* (William B. McGuire Nuclear Station, Units 1 and 2), ALAB-143, 6 AEC 623, 625 (1973); *Georgia Power Co.* (Alvin W. Vogtle Nuclear Plant, Units 1 and 2), ALAB-291, 2 NRC 404, 408 (1975); *Duke Power Co.* (Catawba Nuclear Station, Units 1 and 2), ALAB-355, 4 NRC 397, 406 n.26 (1976); *Tennessee Valley Authority* (Browns Ferry Nuclear Plant, Units 1, 2, and 3), ALAB-677, 15 NRC 1387, 1394 (1982); *Metropolitan Edison Co.* (Three Mile Island Nuclear Station, Unit 1), ALAB-774, 19 NRC 1350, 1357-58 (1984). Even if there is a reasonable doubt with regard to the Board notification obligation, the information should be disclosed for the Board to decide its true worth. *Three Mile Island, supra*, at 1358; *McGuire, supra*, 6 AEC at 625 n.15.

LICENSING BOARDS: DISCRETION IN MANAGING PROCEEDINGS

In proceeding to hear those matters which are ripe for hearing, the Board complies with the Commission’s direction that the hearing process should move along at an expeditious pace, consistent with the demands of fairness. *Statement of Policy on Conduct of Licensing Proceedings*, CLI-81-8, 13 NRC 452 (1981).

LICENSING BOARDS: DISCRETION IN MANAGING PROCEEDINGS

The Board’s adoption of the procedural mechanism utilized in *Commonwealth Edison Co.* (Zion Station, Units 1 and 2), LBP-73-35, 6 AEC 861, 865 (1973), *aff’d*, ALAB-226, 8 AEC 381, 400 (1974) does not conflict with the decision in *Union of Concerned Scientists v. NRC*, 735 F.2d 1437 (1984).

MEMORANDUM AND ORDER
(Memorializing Prehearing Conference, and Rulings on TMIA's
Time Extension and on Scheduling Matters)

Memorandum

I. BACKGROUND OF EVENTS LEADING TO CONFERENCE
OF MAY 7, 1986

These two cases have been consolidated at least through the discovery period.¹ Further, the Board had directed that discovery would begin on March 28 and should be completed by May 12, 1986, and that, if no party advised by May 19 that a motion for summary disposition was to be filed, the Board would proceed to set the date, time, and place for the hearing. Order of April 2, 1986, memorializing the March 27, 1986 special prehearing conference (unpublished).

On April 11, 1986, the Intervenor, Three Mile Island Alert (TMIA), filed a motion requesting a 6-month extension of time from May 12 to November 12, 1986, within which to complete discovery. TMIA stated therein, in the alternative, that it withdraws as an intervening party if its motion were to be denied. TMIA's then-representative, Ms. Doroshow, advised that she could no longer represent TMIA in light of new employment, that the Intervenor lacked resources to employ a new representative, and that the volunteer representative available, a Ms. Louise Bradford, could not participate in this case for at least 6 months because of her participation in another NRC hearing. TMIA argued that the Licensee would not be prejudiced by the extension of time to November 12 for the completion of discovery because, in case OLA-1, the proposed plugging criteria will not take effect until after the Licensee's planned refueling outage,² and because, in case OLA-2, the NRC Staff had proposed a "no significant hazards consideration," which if finally deter-

¹ In case OLA-1, at issue is the Licensee's application to amend the steam generator tube technical specifications. This proposed amendment, Technical Specification Change Request (TSCR) 148, would maintain the 40% throughwall limit on the secondary side of tubes but would replace the 40% limit on the primary side of tubes with a sliding scale which goes from 40% to 70% throughwall depending upon the size of the defect. In case OLA-2, at issue is Licensee's application to amend the steam generator tube specifications. That proposed amendment, TSCR 153, would in substance change the repair criteria to allow the Licensee not to repair tubes, under certain circumstances, if a tube has a defect up to 50% throughwall penetration.

² Originally the time for the refueling outage had been scheduled for December but Licensee advises that the schedule has been set forward to November 1986.

mined by the Commission, would be immediately effective until the refueling outage.³

In its Response of April 17, 1986, the Licensee opposed TMIA's motion. The Staff's Response of April 30 opposed a 6-month extension of time in case OLA-1. However, the Staff noted that its Safety Evaluation Report (SER) would not be issued until July 31, 1986. Since the SER would contain certain assumptions as to what the Licensee's test results would show during the November refueling outage, the Staff suggested that the Board grant a 3-month extension of time to August 12 within which to complete discovery. In case OLA-2, the Staff did not oppose the requested 6-month extension because, as of April 18, 1986, the amendment became effective until the refueling outage in November 1986, and thus the extension would not delay the effectiveness of the change. The Commonwealth of Pennsylvania's Response of May 6 supported TMIA's motion.

Upon receipt of the Staff's Response of April 30, the Board became very concerned because certain information therein had not been disclosed to it at any time prior to or during the March 27, 1986 special pre-hearing conference when the Board, without knowledge of and the benefit of that information, proceeded to set an expedited schedule for discovery and summary disposition procedures. For the first time, as of April 30, 1986, we were informed (1) about the status of the SER — i.e., that it would be issued on July 31, 1986; (2) that, by letter dated February 19, 1986, the Licensee had agreed to the Staff's request that, at the next refueling outage (then scheduled for December 1986), the Licensee would remove and test a number of steam generator tubes to verify that the defect morphology related to corrosion was the same as that identified in tubes previously removed and that eddy current testing techniques were accurate; and (3) that the Staff's evaluation of this test data would not be available in a supplement to the SER (SSER) before the end of January 1987.

³ On April 18, 1986, the Commission made a final determination that TSCR 153 involved no significant hazards consideration, and, prior to the hearing, made the amendment immediately effective. 51 Fed. Reg. 16411.

II. DISCUSSION RE: THE CONFERENCE OF MAY 7, 1986⁴

The Board held a conference on May 7, 1986, in order to hear additional discussion which would enable it to rule upon TMIA's motion for a time extension and, more particularly, to hear discussion upon the three matters set forth in the Staff's Response of April 30.

We first questioned Licensee's counsel as to why Licensee's letter of February 19, 1986, addressed to the Office of Nuclear Reactor Regulation had not been brought to the Board's attention prior to or during the March 27, 1986 special prehearing conference. Licensee's counsel stated that he may or may not have known about the letter, but did not recall. After the Board had been furnished with a copy of the letter by Staff's counsel at the May 7 conference, Licensee's counsel advised that he had seen the letter before but did not remember when he had seen it. He stated that for two reasons he had had no impression that this information was necessary for the granting of TSCR 148. First he stated that it had always been Licensee's position that such testing would not be necessary because Licensee has already confirmed that corrosion has not reinitiated and that eddy current testing is accurate, and that supporting documentation had been submitted with its application to the NRC. Second, he stated he had been under no such impression in light of the fact that, on March 27, the Board had set a very expedited schedule which would have brought about a determination or at least a hearing months before the Licensee's schedule for pulling tubes. He advised that prior to and during the special prehearing conference, while he had been aware that a SER would be issued by the Staff, he had not known the projected issuance date, that he had been unaware that the Staff would require the pulling (and testing) of the tubes as a prerequisite to the granting of the 70% throughwall amendment, and that he had not known that the Staff would issue a supplement to the SER based upon an analysis of the pulled tubes (Tr. 145-52, 179).

We then questioned Staff's counsel, who stated that, prior to the special prehearing conference, she had not seen Licensee's letter of February 19, but had been aware that the Staff had requested and the Licensee had agreed to pull and test three tubes and that the Staff's final position upon the issuance of the 70% throughwall amendment would have to await its confirmatory analysis of Licensee's test results, which would be set forth in the SSER. She also indicated that the Staff had believed that,

⁴ Attendees were: Mary Wagner, Esq., counsel for the NRC Staff; Bruce Churchill, Esq., counsel for the Licensee; Thomas Au, Esq., counsel for the Commonwealth of Pennsylvania; and Ms. Louise Bradford, representative for TMIA.

after the issuance of the SER based upon certain assumptions in which Staff has a high level of confidence, the case could be heard and decided in advance of receiving Licensee's confirmatory test data, and thus that a significant amount of time would be saved. She suggested that the Board's decision could be issued subject to the condition that the Staff's evaluation of the Licensee's test results would confirm the assumptions in the SER. Staff's counsel added that the July 31 issuance date of the SER had been determined only at about the time the Staff's Response of April 30 was being prepared. She further stated that, prior to and during the special prehearing conference, even though there was uncertainty as to when the SER might be issued and even though there was a possibility that it might not even be issued until January 1987, the Staff had thought it could prepare and submit testimony in advance of the issuance of the SER. She opined that the February 19 letter and that information about the issuance of an SSER did not meet the standards requiring a Board notification since they were not relevant and material to an issue in the case⁵ (Tr. 152-66).

III. DISCUSSION OF TMIA'S MOTION FOR TIME EXTENSION

We agree with the following legal principles presented in the Licensee's April 17 Response. It is a basic principle that "a person who invokes the right to participate in an NRC proceeding also voluntarily accepts the obligations attendant upon such participation." *Duke Power Co.* (Catawba Nuclear Station, Units 1 and 2), CLI-83-19, 17 NRC 1041, 1048 (1983). Moreover, "the fact that a party may have personal or other obligations or possess fewer resources than others to devote to the proceeding does not relieve that party of its hearing obligations." *Statement of Policy on Conduct of Licensing Proceedings*, CLI-81-8, 13 NRC 452, 454 (1981); *Philadelphia Electric Co.* (Limerick Generating Station, Units 1 and 2), ALAB-819, 22 NRC 681, 730 (1985); *Wisconsin Electric Power Co.* (Point Beach Nuclear Plant, Unit 1), ALAB-696, 16

⁵The Board noted that, with respect to TSCR 153, while it had received copies of the Commission's final determination of no significant hazards consideration as well as copies of the Staff's SER, it had not received copies of TMIA's comments of March 27, 1986, upon the Staff's proposed no significant hazards consideration. TMIA's comments were only summarized in the SER. Staff's counsel advised that her understanding was that such original comments are not generally forwarded to licensing boards. Further, Staff counsel handed to the Board copies of a letter dated May 2, 1986, wherein the NRR requested that the Licensee should include certain tests in its testing of the three pulled tubes. Staff counsel advised that that letter would probably not have been furnished to the Board as a Board notification (Tr. 166-67).

NRC 1245, 1261 n.29 (1982). Finally, “[i]t is well-settled that a participant in an NRC proceeding should anticipate having to manipulate its resources, however limited, to meet its obligations.” *Wisconsin Electric Power Co.* (Point Beach Nuclear Plant, Unit 1), ALAB-719, 17 NRC 387, 394 (1983).

However, we disagree with Licensee’s argument that the Board should adhere to its original cutoff date of May 12 for discovery lest Licensee be “extremely prejudiced.” We are not persuaded by this argument in light of Licensee’s failure to notify the Board, prior to or during the March 27, 1986 special prehearing conference, that, as of February 19, the Licensee had agreed to remove and test certain steam generator tubes at the next refueling outage. Licensee’s counsel should not have had the “impression” that this information was not necessary for the granting of TSCR 148 (Tr. 149). There can be no doubt that this confirmatory testing to be conducted as currently scheduled to begin in November 1986, which would be long after the completion of discovery and of the hearing and subsequent to the issuance of an initial decision, was relevant and material to the very issues being controverted in this proceeding.

We accept Staff counsel’s representations that she had not seen the February 19 letter prior to the special prehearing conference and that it was not until on or about April 30 that the Staff determined that the SER would be issued on July 31. However, since she had been aware that the Licensee had been requested and had agreed to perform confirmatory testing, she should have notified the Board in a timely manner regardless of the fact that the Staff viewed the issuance of the SER as being the single most important event which has to take place before the hearing could begin. Such timely notification was necessitated because Staff counsel conceded that (1) after the issuance of the SER but subject to the restrictions in the Rules of Practice, TMIA might be entitled to proceed with some discovery after seeing the assumptions in the SER for the first time on or about July 31, 1986; (2) if meeting the standards for the late filing of contentions, TMIA might be entitled to propose new contentions based upon that which is reflected in the SER; and (3) if the supplement to the SER to be issued in January 1987 varies from assumptions in the SER but nevertheless supports the 70% throughwall amendment, TMIA would be entitled to discovery, subject to restrictions in the Rules of Practice, and would be entitled to propose additional contentions provided the criteria for late filing are met (Tr. 157-60). Moreover, the Staff should have timely informed the Board at least as to the general status of the SER and, more particularly, should have told us that the SER would reflect certain assumptions as to what Licensee’s

testing data would show during the refueling outage. While the Staff had a "high level of confidence" in its assumptions which would be verified by the Licensee's tests conducted during the refueling outage and confirmed by the Staff's evaluation in late January 1987, it conceded that "anything is possible" and "it is conceivable that our position might change if the results don't bear us out . . ." (Tr. 153, 191).⁶

In light of the foregoing discussion, we rescind the schedule established at the March 27, 1986 special prehearing conference because neither the Licensee nor the Staff can be permitted to leave the presiding body and the other parties to the proceeding in the dark about any information which is relevant and material to the adjudication. *Duke Power Co.* (William B. McGuire Nuclear Station, Units 1 and 2), ALAB-143, 6 AEC 623, 625 (1973); *Georgia Power Co.* (Alvin W. Vogtle Nuclear Plant, Units 1 and 2), ALAB-291, 2 NRC 404, 408 (1975); *Duke Power Co.* (Catawba Nuclear Station, Units 1 and 2), ALAB-355, 4 NRC 397, 406 n.26 (1976); *Tennessee Valley Authority* (Browns Ferry Nuclear Plant, Units 1, 2, and 3), ALAB-677, 15 NRC 1387, 1394 (1982); *Metropolitan Edison Co.* (Three Mile Island Nuclear Station, Unit 1), ALAB-774, 19 NRC 1350, 1357-58 (1984). Even if there is a reasonable doubt with regard to the Board notification obligation, the information should be disclosed for the Board to decide its true worth. *Three Mile Island, supra*, at 1358; *McGuire, supra*, 6 AEC at 625 n.15. In the instant case, Staff's Response of April 30 at page 4 explicitly stated that the data to be evaluated in the SSER "will also bear directly on TMIA's Contentions 1, 2 and 5. . . ."

We are not disposed, however, to grant entirely TMIA's motion for a 6-month extension of time to November 12, 1986, within which to complete discovery. TMIA's representative, Ms. Bradford, has advised that her participation in the other case would terminate at the end of July 1986 (Tr. 139). Allowing a 15-day period of grace to enable Ms. Bradford to review the record, the new schedule, as set forth in the Order, *infra*, among other things, directs that discovery shall begin on August 15 and shall be completed by no later than September 29, 1986.

Further, as indicated in ¶ five of our Order, *infra*, we are utilizing a Zion-type procedural mechanism.⁷ The hearing on all matters ripe for

⁶ During the special prehearing conference, passing references by TMIA's representative and by Staff's counsel indicating that further testing would be required by the Staff to confirm that tube corrosion had been arrested did not alert the Board to the importance of this event, especially since timing was not specified. In any event, passing references made during the course of oral argument are no substitute for written Board notifications.

⁷ *Commonwealth Edison Co.* (Zion Station, Units 1 and 2), LBP-73-35, 6 AEC 861, 865 (1973), *aff'd*, ALAB-226, 8 AEC 381, 400 (1974).

hearing will commence on December 15 and will be completed on December 19, 1986. After the record is closed on December 19, within 10 days after service of the Staff's Supplement to the SER, TMIA may file a notice requesting an additional hearing (without having to meet the usual standards for reopening a record) limited to matters, within the scope of the admitted contentions, which arose subsequent to the closing of the record. TMIA is to be given timely access to all information directly relating to and within the scope of its admitted contentions which the Licensee has developed in the testing of certain pulled tubes scheduled to begin in November 1986 and which the Staff has developed in evaluating the Licensee's test data, which evaluation is scheduled to be accomplished by January 31, 1987.

During the course of the May 7 prehearing conference, we requested that, on May 14, the parties should simultaneously file briefs discussing whether the Board's utilization of the *Zion*-type procedural mechanism would conflict with a decision by the United States Court of Appeals, District of Columbia Circuit, and discussing whether, pursuant to Commission case law, the Board could properly issue its decision in advance of the Licensee's confirmatory testing and the Staff's analysis thereof (Tr. 212-16).⁸ In *Union of Concerned Scientists (UCS)*, the Court of Appeals vacated a Commission rule, 10 C.F.R. § 50.47(a)(2).⁹ The rule provided that emergency preparedness exercises . . . are part of the operational inspection process and are not required for any initial decision. The Court vacated the rule because the adoption thereof was beyond the NRC's statutory authority in that Congress had not granted the Commission discretion to remove so material an issue as the results of offsite emergency preparedness exercises from hearings required by § 189(a)(1) of the Atomic Energy Act, 42 U.S.C. § 2239(a)(1) (1976). In support of taking the exercises out of licensing board's hearings and making them instead part of the NRC Staff's preoperational testing, the Commission, among other things, argued that an interested party could seek to reopen a concluded hearing if the actual conduct of the exercise identified fundamental defects in the emergency preparedness plans. The Court noted, however, that (1) the Commission had nowhere obligated itself to reopen proceedings pursuant to 10 C.F.R. § 2.206; (2) in the past, the Commission has said that a hearing could be reconvened where a showing that its standards for reopening have been met; and

⁸ The Commonwealth of Pennsylvania filed its brief on May 13, and the Licensee and the Staff filed on May 14. TMIA did not submit a brief.

⁹ *Union of Concerned Scientists v. NRC*, 735 F.2d 1437 (1984), cert. denied sub nom. *Alabama Power and Light Co. v. Union of Concerned Scientists*, ___ U.S. ___, 83 L. Ed. 2d 808 (1985).

that (3) the Commission's practice generally has been not to reopen a hearing absent new information that would clearly mandate a change in result (*UCS, supra*, 735 F.2d at 1444 n.11).

We conclude that our *Zion*-type ruling does not run afoul of the *UCS* decision. Moreover, we deem the Licensee's confirmatory tests and the Staff's analyses thereof to present material rather than minor issues in this case. At this time, without any evidence having been presented to us, in good conscience we could not leave these matters for posthearing resolution by the Staff. Indeed the Commission, insofar as TSCR 148 is concerned, did not determine that there was no significant hazards consideration and instead issued a Notice of Opportunity for a Prior Hearing. 51 Fed. Reg. 459 (Jan. 6, 1986)

In proceeding to hear those matters which are ripe for hearing, we are complying with the Commission's direction that the hearing process should move along at an expeditious pace, consistent with the demands of fairness. *Statement of Policy on Conduct of Licensing Proceedings*, CLI-81-8, 13 NRC 452 (1981). We have not placed any roadblocks by imposing the usual standards for reopening that must be met. TMIA, as well as any other party, has been afforded an ample opportunity after the close of the record to request an additional hearing limited to matters, within the scope of the admitted contentions, which arose subsequent to the closing of the record. TMIA will be given timely access to all pertinent information developed by the Licensee and the Staff after the close of the hearing with respect to the accuracy of eddy current testing and to continuing or new corrosion of the steam generator tubes.

Finally, we are aware that our schedule will delay the Licensee's implementation during the next refueling outage of the 70% throughwall amendment. Our decision, upon a record which may be reopened, will not be issued by January 15, 1987, which is the date upon which Licensee states it would need a decision in order to implement TSCR 148 during the currently scheduled outage period of November 3, 1986, to March 13, 1987. However, Licensee's counsel also recognizes that the Staff's SSER will not be issued until the end of January 1987 and thus, if possible, the Licensee would have to get its testing results to the Staff at an earlier time (Tr. 200-03).¹⁰ Thus, while there is only a possibility that the Licensee could accelerate its testing and the submission of the results to the Staff, there is no possibility that the Board could issue its decision

¹⁰ We note that, as Licensee's counsel apparently concedes, even if no hearing at all were held in this case, the Staff's reluctance to permit TSCR 148 to become effective before completion of both the Licensee's confirmatory tests and the Staff's analyses would make it difficult to assure that the change could be implemented in time to benefit Licensee during the scheduled refueling outage.

before January 15, 1987. We must balance the consequences of delay to the Licensee against our obligations to protect public health and safety. Obviously, we conclude that public health and safety are paramount considerations.

Order

1. Discovery in this consolidated proceeding shall begin on August 15 and shall be completed by September 29, 1986. (Licensee's First Set of Interrogatories and Request for Production of Documents served on April 3 shall be deemed to have been served and received by TMIA on August 15, 1986.) The time for a party's written response to a request for production of documents, etc., under 10 C.F.R. § 2.741 is reduced from 30 days to 20 days. The parties shall make every effort informally to engage in and expedite the discovery process.

2. Any § 2.749 motion for summary disposition shall be served by express mail or by hand-delivery on October 15, 1986. The time for answers supporting or opposing the motion, with or without affidavits, is reduced from 20 to 15 days and such answers shall be served by express mail or by hand-delivery on October 31, 1986.

3. In a conference call on November 10, 1986, without discussing its reasons, the Board will advise the parties whether the motions for summary disposition have been denied, granted, or partially granted. If a motion is partially granted, the Board will advise which portion of a contention remains as a triable issue. As soon as is possible after November 10, the Board will issue a formal order discussing the reasons for its rulings.

4. On November 28, 1986, any written direct testimony of a party shall be served by express mail or by hand-delivery. As a separate enclosure, parties shall (1) list proposed exhibits, (2) advise whether any other party opposes the admission into evidence of any proposed exhibit and the reasons for such opposition, and (3) state that a copy of any proposed exhibit, not already in the possession of the other parties, has been furnished.

5. The hearing will begin on December 15 at a time and place to be specified in a subsequent Order and will be completed on December 19, 1986. The Board's Order closing the record on December 19, 1986, will afford Intervenor TMIA, as well as other parties, an opportunity to request an additional hearing limited to matters, within the scope of the admitted contentions, which arose since the close of the record on December 19 — i.e., limited, within the scope of the contentions, to a consideration of Licensee's pulling and testing of certain steam generator

tubes scheduled to begin in November 1986 and to a consideration of the Staff's evaluation of Licensee's test data which will be available before the end of January 1987 in a supplement to the SER. TMIA will be given timely access to all such pertinent information so developed by the Licensee and the Staff after the close of the hearing with respect to the accuracy of the eddy current testing and to continued or new corrosion. Within 10 days after service of the Staff's SSER, TMIA may file a notice requesting such a limited, additional hearing, without meeting the usual standards for reopening a record.

6. The parties are directed to file, and the Commonwealth of Pennsylvania may file, proposed findings of fact, conclusions of law or briefs. The failure of any party to file may be deemed a default. The Licensee shall so file within 30 days after the record is closed on December 19, 1986. TMIA shall so file, and the Commonwealth of Pennsylvania may file, within 40 days after the record is closed. The Staff shall so file within 50 days after the record is closed. Licensee may file a reply within 5 days after the filing of proposed findings and conclusions of law and briefs by other parties.

7. If TMIA finds unacceptable the partial denial of its motion requesting a 6-month extension of time, within 5 days after service of this Memorandum and Order, it shall formally notify the Board, and, pursuant to the alternative set forth in that motion, the Board will accept TMIA's notice of withdrawal and dismiss TMIA as an intervening party in this consolidated case.

THE ATOMIC SAFETY AND
LICENSING BOARD

Sheldon J. Wolfe, Chairman
ADMINISTRATIVE JUDGE

Frederick J. Shon
ADMINISTRATIVE JUDGE

Dr. Oscar H. Paris
ADMINISTRATIVE JUDGE

Dated at Bethesda, Maryland,
this 19th day of May 1986.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

**Ivan W. Smith, Chairman
Gustave A. Linenberger, Jr.
Dr. Oscar H. Paris**

In the Matter of

**Docket Nos. 50-546-OL
50-547-OL
(ASLBP No. 83-487-02-OL)**

**PUBLIC SERVICE COMPANY
OF INDIANA, INC.
WABASH VALLEY POWER
ASSOCIATION, INC.
(Marble Hill Nuclear Generating
Station, Units 1 and 2)**

May 30, 1986

MEMORANDUM AND ORDER DIRECTING BRIEFS

BACKGROUND

We have before us the April 4, 1985 motion by the Public Service Company of Indiana, Inc., and Wabash Power Association, Inc., to "terminate this operating license proceeding" for the Marble Hill Nuclear Generating Station. The same motion purports to inform the Licensing Board that Construction Permits Nos. CPPR-170 and 171 for Marble Hill Units 1 and 2 had been "surrendered" by letter of March 1, 1985, to the Director of Nuclear Reactor Regulation. A copy of a Marble Hill site stabilization plan was appended to the motion.

The NRC Staff responded to the motion on April 24, 1985, by requesting that the Board defer ruling on the motion until the Staff has an opportunity to review and to approve a site restoration plan. Although, as noted, Applicants' motion, by its terms, seeks only to terminate the operating license proceeding, the Staff assumed that Applicants intend to invoke the jurisdiction of this Board to withdraw the application for the Marble Hill construction permits. None of the intervenors commented on the motion.

On March 28, 1986, the Staff filed a very succinct supplemental answer supporting the motion to terminate.

The pleadings before us are inadequate in two important areas. The Board directs the parties to supplement their pleadings with additional information outlined below.

JURISDICTION

The strong inference to be drawn from the motion to terminate the operating license proceeding is that the Applicants regard that proceeding to be moot, having surrendered the construction permits to the Director of Nuclear Reactor Regulation (NRR). The Staff, however, citing *Duke Power Co.* (Perkins Nuclear Station, Units 1, 2, and 3), ALAB-668, 15 NRC 450 (1982), assumes that the motion is directed to the construction permits and that the Licensing Board has jurisdiction over the matter. Staff Response, n.1. The Board does not share the Staff's assumption. The Applicant in *Perkins* filed joint motions before the Licensing and Appeal Boards specifically for leave to withdraw its application for construction permits. The Appeal Board deferred to the Licensing Board to pass upon the motion in the first instance. *Id.* at 451.

We believe that the Marble Hill Applicants intend only to invoke the jurisdiction of the Licensing Board for the sole and ministerial purpose of terminating the operating license proceeding. The pleading is styled simply a "motion to terminate proceeding." There is no reference whatever to 10 C.F.R. § 2.107, the traditional authority under which the holder of a construction permit would "request a withdrawal of an application." However, in view of the Staff's position and in view of the fact that the Applicants submitted their site stabilization plan to us as well as to the Director of NRR, we believe that a clarification is in order.

Therefore we direct the Applicants to supplement their motion explaining exactly what they seek from the respective components of the Nuclear Regulatory Commission and to support their supplement by citations to the controlling law. We direct the NRC Staff to report on the

status of the construction permits "surrendered" to the Director of NRR and to state its position on the Board's jurisdiction after the Staff has examined the Applicants' supplement.¹

THE BOARD'S RESPONSIBILITY

Pending further advice from the parties, the Board assumes that the Director of NRR has exclusive jurisdiction over the construction permits. If, however, it turns out that a request for the withdrawal of the construction permits comes before this Board pursuant to 10 C.F.R. § 2.107, we inform the parties that the record now before us would be inadequate.

The Marble Hill site, consisting of about 960 acres, sits on a bluff overlooking the Ohio River. According to the partial initial decision authorizing limited work activities at the site, the construction associated with Marble Hill was to have preempted about 500 acres of farmland, most of which was prime land.² Today, according to the Staff's Environmental Review, the site "could be characterized as being typical of any abandoned large industrial facility." Attachment to Staff's Supplemental Answer.

When the Staff in 1985 initially responded to the motion to terminate the proceeding, it informed the Board that it intended to examine the Applicants' *restoration* plan for the site. The Staff then cited § 2.107(a) and noted that "an application may be withdrawn subject to the imposition of appropriate conditions, including terms and conditions dealing with site restoration." Staff Response at 3 n.6. In support of its view, the Staff called to the Board's attention *Toledo Edison Co.* (Davis-Besse Nuclear Power Station, Units 2 and 3), ALAB-652, 14 NRC 627 (1981). There the Appeal Board approved the action of a Licensing Board requiring the applicant to take certain noncontroversial measures to restore the Davis-Besse site as nearly as possible to the pre-LWA state, and to enhance the site's qualities as a wildlife habitat.

Also in 1985 the Staff informed the Board that the Applicants' plan to undertake remedial action in connection with its surrender of the con-

¹ Specifically the question is not whether this Board, constituted as an operating license board, has jurisdiction over a construction permit matter. See *Perkins, supra*. The question is whether the Applicants, having tendered the construction permits to the Director of NRR, have invoked the Director's jurisdiction to the exclusion of the Licensing Board's jurisdiction.

² *Public Service Co. of Indiana* (Marble Hill Nuclear Generating Station, Units 1 and 2), LBP-77-52, 6 NRC 294, 317 (1977).

struction permits is similar to the situations in *Bailly*³ and *Black Fox*.⁴ Staff Response at 3-4 nn.7 & 8. In *Bailly* the Licensing Board imposed conditions requiring substantial but uncontroversial site restoration. 15 NRC at 768. In *Black Fox* the Licensing Board went so far as to require the dismantling of site improvements not included in a plan for future use of the Black Fox site. Again, the Black Fox restoration plan was uncontroverted. 17 NRC at 412.

In sharp contrast to its position in 1985, the Staff, in its recent supplemental answer, supports the motion to terminate the proceeding based upon a site *stabilization* plan leaving the Marble Hill site essentially unrestored. The Staff now informs us enigmatically that "there will be no significant detrimental environmental impact on or off site resulting from termination of the proceeding." Affidavit of Dr. Robert B. Samworth at 2.

For their part, the Applicants note that no decision has been made for the future use of the site. The stabilization plan explains that there are no provisions for removal of permanent buildings and restoration of paved and graveled areas. Attachment to Motion.

Clearly if the matter comes before us under § 2.107(a), we will be required to exercise some judgment as to the terms for withdrawal of the construction permit application. But the papers before us provide no guidance.⁵ Accordingly, the parties may, if either should so elect, provide such guidance in their forthcoming pleadings.

IT IS THEREFORE ORDERED that, within 30 days of the service of this order, the Applicants supplement their motion to terminate this pro-

³ *Northern Indiana Public Service Co.* (Bailly Generating Station, Nuclear-1), LBP-82-29, 15 NRC 762 (1982).

⁴ *Public Service Co. of Oklahoma* (Black Fox Station, Units 1 and 2), LBP-83-10, 17 NRC 410 (1983).

⁵ Our discussion of *Davis-Besse*, *Bailly*, and *Black Fox*, *supra*, should not suggest that the Board is predisposed to a view that would require restoring the Marble Hill site to its pre-LWA state. Two members of this Board constituted the quorum in *United States Department of Energy* (Clinch River Breeder Reactor Plant), LBP-85-7, 21 NRC 507 (1985). There the Licensing Board approved a site redress plan which was, in essence, a site stabilization plan preserving the Clinch River site for some undetermined future industrial use.

ceeding. The NRC Staff may respond to Applicants' supplement within 15 days following the service of Applicants' supplement.

**FOR THE ATOMIC SAFETY AND
LICENSING BOARD**

**Ivan W. Smith, Chairman
ADMINISTRATIVE LAW JUDGE**

**Bethesda, Maryland
May 30, 1986**

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

OFFICE OF NUCLEAR REACTOR REGULATION

Harold R. Denton, Director

In the Matter of

Docket No. 50-352
(10 C.F.R. § 2.206)

PHILADELPHIA ELECTRIC COMPANY
(Limerick Generating Station,
Unit 1)

May 13, 1986

A request for a stay of a May 13, 1986 amendment to the Limerick Unit 1 Operating License which was filed by R.L. Anthony and the Friends of the Earth is denied under 10 C.F.R. § 2.206 because it failed to raise substantial health or safety issues warranting suspension of the license amendment which permits a limited extension of time for certain equipment surveillances.

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

INTRODUCTION

On December 18, 1985, the Philadelphia Electric Company (Licensee), in a letter to the NRC, requested an amendment to its Limerick Unit 1 operating license. The Licensee requested permission, on a one-time-only basis, to temporarily extend the surveillance requirements of certain valves which under the Technical Specifications must be inspected nominally every 18 months; this surveillance can only be performed when the plant is shut down. The change would extend the 18-month surveillance interval by 14 weeks beyond the maximum 25% extension allowed by the Technical Specifications. This amendment would permit

the Licensee to delay performing the testing until a maintenance and surveillance outage which is scheduled to begin on or before May 26, 1986.

The NRC Staff, after a review of the Licensee's request, determined that the condition of the valves in question would not change significantly during the short extension period. The Staff found that issuance of the amendment would not involve a significant hazards consideration and issued the amendment on February 6, 1986.

On January 30, 1986, Mr. R.L. Anthony/Friends of the Earth in the Delaware Valley (Collectively "FOE") filed a petition to intervene in connection with the Licensee's request for an amendment and, on February 5, 1986, supplemented that request with an amended petition. The NRC Staff has opposed FOE's petition in a pleading filed on February 25, 1986, before the Atomic Safety and Licensing Board (ASLB) convened to hear the matter. The ASLB, after conducting a prehearing conference on March 27, 1986, dismissed FOE's petition in a Memorandum and Order dated April 4, 1986 (LBP-86-9, 23 NRC 273).

On February 12, 1986, FOE, after receiving notice of the issuance of License Amendment No. 1, filed with the Commission a one-page request for a stay of the effectiveness of the amendment, and, in that pleading, incorporated by reference its two previous petitions to intervene. On February 15, 1986, FOE filed yet another pleading with the Commission containing eleven "contentions." At the end of this pleading, FOE renewed its request for a stay.

On March 5, 1986, the Secretary of the Commission informed FOE by letter that its stay request of February 12, 1986, had been referred to the NRC Staff for consideration pursuant to 10 C.F.R. § 2.206. In addition, the Secretary's letter noted that, to the extent that FOE's February 15, 1986 filing requested a stay, the NRC Staff was to consider it in its response pursuant to § 2.206. My decision in this matter follows.

DISCUSSION

Pursuant to § 2.206, any person may file a request to institute a proceeding pursuant to 10 C.F.R. § 2.202 to modify, suspend, or revoke a license, or for such other action as may be proper. The FOE request for a stay in the context of a license amendment proceeding following the effective date of the amendment is, in the context of § 2.206, a request for an order immediately suspending the effectiveness of the amendment and an order to show cause why the amendment should not be revoked. To warrant such an order, substantial health or safety issues must be

raised. *Consolidated Edison Co. of New York* (Indian Point, Units 1, 2, and 3), CLI-75-8, 2 NRC 173, 176 (1975); *Washington Public Power Supply System* (WPPSS Nuclear Project No. 2), DD-84-7, 19 NRC 899, 923 (1984). Clearly this is not the case here.

The matter at hand involved a modest extension of a surveillance interval for certain valves. The matter has been specifically evaluated by the NRC Staff in its Safety Evaluation Supporting Amendment No. 1 to License No. NPF-39 of February 6, 1986, a copy of which is enclosed (not published), supporting issuance of the amendment. There the Staff concluded:

The safety related aspects of extending this surveillance interval on a one time basis for about three months are insignificant for the following reasons. (1) Flow through the valves or from the lines in which they are located will be limited by the small line size and the provision of flow restricting orifices to further reduce potential flow rates. (2) Any leakage from these lines outside of primary containment would be contained in the secondary containment and processed by the standby gas treatment system. The analysis of such an event has already been performed and is included in the Final Safety Analysis Report in Section 15.6.2. As indicated in the FSAR there would likely be a variety of indicators to the operator of a failed instrument line thus alerting plant staff to the need to isolate the line by use of other manual valves in the line. The staff has previously reached the conclusion in section 15.6 of the SER that the Limerick instrument line design is acceptable. (3) The licensee has examined the records of the initial flow testing performed on these valves and found that all valves were tested successfully. The licensee further states that, based on available data, the valves are believed to be highly reliable in performing their function of checking flow. The staff concludes that the condition of the valves is not expected to change significantly during the short extension period.

Based on the above, the NRC staff concludes that extension of the interval for the surveillance testing by 14 weeks on a one-time only basis is acceptable because the increased surveillance interval does not significantly increase the possibility that an undetected failure will occur in the instrumentation line excess flow check valves covered by this Technical Specification. Safety Evaluation, Support Amendment No. 1, Facility Operating License No. NPF-39, Philadelphia Electric Company, (Limerick Generating Station, Unit No. 1), at 2, (February 6, 1986.)

FOE presents no sound arguments calling the Staff's view into question. While FOE does make reference in its January 30, 1986 filing to the "Independent Design Review of the Limerick Generating Station, Unit No. 1, Core Spray System" (IDVP) performed by Torrey Pines Technology, the Torrey Pines findings have no bearing on the license amendment at hand. In this regard, as mentioned by FOE, the IDVP focused on the effects on instrumentation lines of jet impingement from a postulated core spray line break. No effort is made by FOE to establish a nexus with the subject matter of License Amendment No. 1. The Staff

notes that the subject of License Amendment No. 1 deals with surveillance tests which would be conducted periodically to determine whether the excess-flow check valves will respond functionally to check the flow of fluid in the instrumentation lines upon being subjected to excessive differential pressure across the valve. The scheduling of such tests, whether performed more or less frequently, would have no effect on whether the instrumentation lines or the systems associated with such instrumentation lines were adequately designed to withstand the effects of ruptured pipes. This latter issue was the subject of the Staff's review of the IDVP and was found to be resolved as stated in Supplement No. 4 to the Limerick Safety Evaluation Report, at Section 17 (May 1985).

FOE also makes reference in its February 15, 1986 filing to several reports recently issued by the NRC Staff on Probabilistic Risk Assessment (PRA) insights. FOE references these reports as they relate to interfacing systems loss-of-coolant accidents (LOCAs) attributable to the check valves in the residual heat removal (RHR) or low-pressure coolant injection (LPCI) lines. FOE fails to note, however, that the two plants that it has referred to are pressurized water reactors, not boiling water reactors like Limerick, and fails to provide any connection between the significance of the issue of interfacing system LOCAs for those plants and the Limerick plant. More importantly, FOE fails to note that the valves which are the subject of Amendment No. 1 to the Limerick license are excess-flow check valves which are in instrumentation lines which are designed to accommodate the primary system pressure and which terminate in the secondary containment. Accordingly, these lines are closed systems within the secondary containment and the excess flow check valves do not provide an interface between the high-pressure reactor primary system and any low-pressure secondary systems as do the valves of concern in the referenced PRA insights reports.

CONCLUSION

In the absence of any substantial health or safety issues associated with the issuance of License Amendment No. 1, I decline to institute proceedings pursuant to § 2.202. Accordingly, I decline to grant FOE its requested relief pursuant to § 2.206. As provided by 10 C.F.R.

§ 2.206(c), a copy of this Decision will be filed with the Secretary for the Commission's review.

Darrell G. Eisenhut, Acting
Director
Office of Nuclear Reactor
Regulation

Dated at Bethesda, Maryland,
this 13th day of May 1986.

[The enclosure has been omitted from this publication but can be found in the NRC Public Document Room, 1717 H Street, NW, Washington, DC 20555.]

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

COMMISSIONERS:

Nunzio J. Palladino, Chairman
Thomas M. Roberts
James K. Asselstine
Frederick M. Bernthal
Lando W. Zech, Jr.

In the Matter of

Docket No. 50-322-OL-3

**LONG ISLAND LIGHTING
COMPANY**
**(Shoreham Nuclear Power Station,
Unit 1)**

June 6, 1986

The Commission (1) directs the appointment of a licensing board for immediate initiation of a hearing on the emergency plan exercise results; (2) offers guidance on the timing of summary disposition motions; and (3) offers guidance on the standard for admissibility of contentions concerning emergency exercise results.

The Commission continues the Appeal Board's stay of the remand in ALAB-832 (23 NRC 135 (1986)), instructing the Licensing Board not to initiate proceedings on the remand issues until the Commission completes its review of ALAB-832.

The Commission is in the process of reviewing the "realism" and "immateriality" issues of ALAB-818 (22 NRC 651 (1985)) and expects to issue shortly a decision on those issues.

RULES OF PRACTICE: SUMMARY DISPOSITION

Commission rules provide that summary disposition motions may be filed "within such time as may be fixed by the presiding officer." 10 C.F.R. § 2.749(a). The rules further provide that if essential facts are

not available for response to the motion, the Board may deny it or make such other order as is appropriate. 10 C.F.R. § 2.749(c).

RULES OF PRACTICE: SUMMARY DISPOSITION

Intervenors are not necessarily entitled to discovery to oppose summary disposition of their contentions. First they must show that discovery is necessary and is likely to produce evidence supporting the existence of a genuine issue of material fact.

EMERGENCY PLANNING: PREDICTIVE FINDINGS

Under Commission regulations and practice, Staff review of exercise results is consistent with the predictive nature of emergency planning, and is restricted to determining whether the exercise revealed any deficiencies which preclude a finding of reasonable assurance that protective measures can and will be taken, i.e., fundamental flaws in the plan. Since only fundamental flaws are material licensing issues, hearings on the exercise results may be restricted to those issues.

EMERGENCY PLANNING: PREDICTIVE FINDINGS

The Commission's rule change in response to the court's decision in *Union of Concerned Scientists v. NRC*, 735 F.2d 1437 (D.C. Cir. 1984), *cert. denied*, 105 S. Ct. 815 (1985), emphasizes the predictive nature of emergency planning findings. See 47 Fed. Reg. 30,232 (July 13, 1982); 50 Fed. Reg. 19,323 (May 8, 1985).

RULES OF PRACTICE: CONTENTIONS (ADMISSIBILITY)

Imposition of an admissibility requirement that intervenors' contentions must *demonstrate* fundamental flaws in the emergency plan has the potential to require premature evidentiary decisions. What is required is that intervenors' contentions satisfy the specificity and other requirements of 10 C.F.R. § 2.714 by (1) pleading that the exercise demonstrated fundamental flaws in applicant's plan, and (2) providing bases for the contentions which, if shown to be true, would demonstrate fundamental flaws in the plan.

MEMORANDUM AND ORDER

Now pending before us in the Shoreham emergency planning adjudication are three related matters: (1) petitions for review of ALAB-832 (23 NRC 135), a March 26, 1986 Appeal Board decision reversing and remanding on a number of issues, but directing the Licensing Board to delay remand proceedings; (2) motions from LILCO and Intervenors concerning litigation of emergency planning exercise results; and (3) petitions for review of ALAB-818 (22 NRC 651 (1985)).

In sum, we direct continued deferral of the ALAB-832 remand, and immediate initiation of the exercise hearing to consider evidence which Intervenors might wish to offer to show that there is a fundamental flaw in the LILCO emergency plan. Further, the Commission is now reviewing ALAB-818, and expects to issue shortly a decision on the realism and immateriality issues.

I. ALAB-832

The Appeal Board in ALAB-832 reversed and remanded to the Licensing Board on a number of issues, but directed the Licensing Board to hold the remand in abeyance until the Commission provided instructions. No party has requested initiation of the remand pending Commission review of ALAB-832, and thus we direct the Licensing Board to continue to defer the remand proceedings until further order of the Commission. Pending petitions for review of ALAB-832 will be addressed by the Commission in the near future. If the Commission decides that further hearings are required on any of the issues considered in ALAB-832, the Commission will so direct the Licensing Board.

II. MOTIONS CONCERNING LITIGATION OF EMERGENCY PLANNING EXERCISE RESULTS

In a motion dated March 7, 1986, Suffolk County, New York State, and the Town of Southampton (the Governments or Intervenors) asked the Commission to advise the parties to this proceeding of their procedural responsibilities concerning further hearings on emergency planning issues. Intervenors ask the Commission to make clear (1) that there should be no proceedings on the results of the February 13, 1986 Shoreham emergency exercise until after FEMA issues its evaluation of the exercise; (2) that the filing of contentions on the exercise should await

the issuance of FEMA's report; and (3) that because the Shoreham Licensing and Appeal Boards have upheld the Governments' position by denying LILCO's application for an operating license on the ground that LILCO's emergency plan is fatally defective, the burden is upon LILCO, and not the Governments, to initiate further proceedings.

In a pleading of March 13, 1986, LILCO opposed the first two arguments by Intervenors, and further submitted its own motion requesting the Commission to immediately appoint a licensing board to conduct proceedings on the exercise, preferably the Board which previously heard Shoreham emergency planning issues. Further, LILCO asks the Commission to instruct the Board:

- to admit only contentions which could not have been litigated at some earlier time, and which, as pleaded, do not demonstrate that the Shoreham plan is fundamentally flawed;¹
- to conduct an expedited proceeding;
- to schedule an immediate Prehearing Conference whose purpose will be to determine schedules for the filing of all contentions other than those which must await the issuance of the FEMA report, and to determine schedules for discovery requests;
- to permit the filing of a second round of contentions which could not have been filed prior to issuance of the FEMA report, along with a corresponding second round of discovery;
- to bar discovery against FEMA personnel prior to the issuance of FEMA's exercise report so as to expedite the preparation of FEMA's report on the exercise.

On March 24, 1986, the NRC Staff responded both to the Governments' motion and to LILCO's motion, in substance opposing the former and supporting the latter. The Governments also submitted their response to LILCO's motion on March 24. While not objecting to the appointment of a licensing board, the Governments largely object to the other proposals on the ground that they are departures from the Commission's rules. We now address the proposals and the objections to them.

Since the motions and responses were filed, FEMA has issued its report, thus mooted some of the requests. We thus address only the remaining questions.

¹ In support of this standard, LILCO cites both the D.C. Circuit's decision in *Union of Concerned Scientists v. NRC*, 735 F.2d 1437 (D.C. Cir. 1984), cert. denied, 105 S. Ct. 815 (1985), and a licensing board decision in *Carolina Power & Light Co.* (Shearon Harris Nuclear Power Plant), LBP-85-49, 22 NRC 899 (1985).

(1) The proposal to use “threshold pleading” and summary disposition prior to discovery to exclude contentions which do not demonstrate, as pleaded, a fundamental defect in the emergency plan

The Governments assert that this suggestion is defective on three counts: first, that the Commission’s contention pleading regulations require adequate specificity and basis, and the use of the fundamental flaw criterion is a departure from the regulations that can be implemented only by rulemaking; second, that by this proposal LILCO is allegedly attempting to require merits decisions at the contention pleading stage, contrary to settled Commission precedent; and third, that the use of summary disposition prior to discovery is legally unsupported, based on an erroneous Licensing Board reading of *UCS v. NRC*, *supra* note 1.

We disagree with the proposition that restriction of any emergency planning exercise hearings requested by Intervenors to “fundamental flaws” requires rulemaking or is otherwise inappropriate. In the preamble to the rule reviewed by the *UCS* court, and in our rule change responding to the court’s decision, we emphasized the predictive nature of emergency planning findings. *See* 47 Fed. Reg. 30,232 (July 13, 1982); 50 Fed. Reg. 19,323 (May 8, 1985). The court never questioned this concept. The court also observed that there was nothing to prevent the Commission from excluding from exercise litigation any issue which was not material to licensing decisions. *See* 735 F.2d at 1447-48. Under our regulations and practice, Staff review of exercise results is consistent with the predictive nature of emergency planning, and is restricted to determining if the exercise revealed any deficiencies which preclude a finding of reasonable assurance that protective measures can and will be taken, i.e., fundamental flaws in the plan. Since only fundamental flaws are material licensing issues, the hearing may be restricted to those issues.

However, we agree with Intervenors’ second point, that the wording of LILCO’s proposal to exclude contentions which do not *demonstrate* fundamental flaws in the emergency plan, has the potential to require premature evidentiary decisions. We remedy that possible defect by directing the Board to admit only those Intervenor contentions which satisfy the specificity and other requirements of 10 C.F.R. § 2.714 by (1) pleading that the exercise demonstrated fundamental flaws in LILCO’s plan, and (2) by providing bases for the contentions which, if shown to be true, would demonstrate a fundamental flaw in the plan.

Intervenors’ third point is that summary disposition prior to discovery is legally defective. Our rules provide that summary disposition motions

may be filed "within such time as may be fixed by the presiding officer." 10 § C.F.R. 2.749(a). The rules further provide that if essential facts are not available for response to the motion, the Board may deny it or make such other order as is appropriate. 10 C.F.R. § 2.749(c). Thus, Intervenor are not necessarily entitled to discovery to oppose summary disposition of their contentions. First, they must convince the Board that discovery is necessary and likely to produce evidence supporting the existence of a genuine issue of material fact. These rules should be adequate for this proceeding.

(2) Other LILCO Proposals

LILCO also proposes that the exercise proceeding be conducted by the Board which previously heard Shoreham emergency planning issues. We direct the Chairman of the Atomic Safety and Licensing Board Panel to reappoint the members of the earlier Board if they are available. Further, the Board is to expedite the hearing to the maximum extent consistent with fairness to the parties, and to issue its decision upon the completion of the proceeding.²

III. REVIEW OF ALAB-818

As noted above, we previously deferred review of ALAB-818. We now plan to proceed initially with review of the so-called "realism" and "immateriality" issues in ALAB-818. We will take up the legal authority and preemption issues at some future date. The parties have already submitted extensive papers on the "realism" and "immateriality" issues addressed in ALAB-818, and we see no need for further written briefs.

IV. INTERVENORS' MOTION OF JUNE 3, 1986

The June 3, 1986 Suffolk County, State of New York, and Town of Southampton Supplement to Motion for NRC to Establish Post-Exercise Procedures is denied. The motion asks NRC to find that FEMA's review of the February 13 exercise violated FEMA's procedural rules requiring a public meeting. The Commission defers to FEMA's interpretation of its own procedural rules. We perceive no harm to Intervenor

²The Board and the parties should keep in mind that the Commission's forthcoming decision on ALAB-818 may obviate the need for a hearing on the exercise results, or it might mandate more extensive evidentiary hearings.

from this denial of their motion, as the issues raised by the exercise will be aired in the adjudication we initiate today.

Commissioner Asselstine approved in part and disapproved in part. His separate views are attached.

It is so ORDERED.

For the Commission

SAMUEL J. CHILK
Secretary of the Commission

Dated at Washington, D.C.,
this 6th day of June 1986.

SEPARATE VIEWS OF COMMISSIONER ASSELSTINE

I agree with that portion of this Order which directs the initiation of a hearing on the results of the exercise of the emergency plan for Shoreham. I also agree with the decision to continue to defer review of the issues in ALAB-832. However, I do not agree with the procedural guidance provided to the Licensing Board in this order. I see no reason to set any pleading requirements beyond those already existing in the Commission's regulations.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Administrative Judges:

Alan S. Rosenthal, Chairman
Gary J. Edles
Howard A. Wilber

In the Matter of

Docket Nos. 50-443-OL
50-444-OL
(Offsite Emergency
Planning)

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

June 25, 1986

The Appeal Board dismisses as interlocutory a state attorney general's appeal from a Licensing Board ruling that rejected at the threshold the attorney general's sole pending contention, on the ground that the denial of the contention did not deprive him of the right to continue to participate in the proceeding inasmuch as the state that he represents was earlier granted the status of an interested state under 10 C.F.R. 2.715(c).

RULES OF PRACTICE: APPELLATE REVIEW

If the petition for leave to intervene of a private litigant (necessarily filed under 10 C.F.R. 2.714) is denied in its entirety for want of an acceptable contention, the petitioner has the right to take an immediate appeal under 10 C.F.R. 2.714a. By the same token, if all of the accepted

contentions of an admitted private intervenor are disposed of adversely to that intervenor during the course of the proceeding (e.g., by summary disposition under 10 C.F.R. 2.749), an immediate appeal may be taken under the general appellate provisions found in 10 C.F.R. 2.762. *Houston Lighting & Power Co.* (Allens Creek Nuclear Generating Station, Unit No. 1), ALAB-629, 13 NRC 75, 77 n.2 (1981).

RULES OF PRACTICE: APPELLATE REVIEW (INTERVENTION DENIALS)

In carving out an exception to the general proscription against appeals from interlocutory orders found in 10 C.F.R. 2.730(f), section 2.714a implicitly recognizes that the effect of the denial in its entirety of a private litigant's intervention petition perforce is to foreclose any participation in the proceeding on the part of the petitioner. See *Philadelphia Electric Co.* (Limerick Generating Station, Units 1 and 2), ALAB-828, 23 NRC 13, 18 n.6 (1986). Thus, as to that petitioner, the denial is in essence a final order.

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

Section 2.715(c) of the Rules of Practice permits the representative of an interested state to participate in a licensing proceeding without the necessity of submitting (and having accepted) a single contention. By the express terms of the section, that participation may include the introduction of evidence, the interrogation of witnesses, the filing of proposed findings, and the seeking of appellate review by an appeal board and the Commission itself.

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

Although an "interested State" need not take a position with respect to issues raised by other parties, section 2.715(c) provides that its representative may be required "to indicate with reasonable specificity, in advance of the hearing, the subject matters on which he desires to participate."

RULES OF PRACTICE: INTERLOCUTORY REVIEW

Only those orders which are directly concerned with the grant or denial of status as an intervenor are excepted by 10 C.F.R. 2.714a from the general prohibition against interlocutory review. A party may not invoke that section to obtain interlocutory review of an order which does no more than exclude from consideration in the proceeding certain of the issues which the party has sought to raise. *Gulf States Utilities Co.* (River Bend Station, Units 1 and 2), ALAB-329, 3 NRC 607, 610 (1976).

RULES OF PRACTICE: DIRECTED CERTIFICATION

Appeal boards employ their directed certification authority only where a licensing board ruling either threatens the party adversely affected by it with immediate and serious irreparable impact that, as a practical matter, could not be alleviated by a later appeal, or affects the basic structure of the proceeding in a pervasive or unusual manner. *Public Service Co. of Indiana* (Marble Hill Nuclear Generating Station, Units 1 and 2), ALAB-405, 5 NRC 1190, 1192 (1977).

RULES OF PRACTICE: DIRECTED CERTIFICATION

Neither of the *Marble Hill* tests for directed certification ordinarily is satisfied where a licensing board simply admits or rejects particular issues for consideration in a case. *Project Management Corp.* (Clinch River Breeder Reactor Plant), ALAB-330, 3 NRC 613, 615, *rev'd on other grounds*, CLI-76-13, 4 NRC 67 (1976).

EMERGENCY PLANS: CONTENT (PROTECTIVE MEASURES)

Section 50.47(b)(10) of the Commission's regulations requires that a range of protective actions including sheltering and evacuation be developed for the public — the overall objective being the avoidance of as much radiation exposure as possible. *See Cincinnati Gas & Electric Co.* (Wm. H. Zimmer Nuclear Power Station, Unit No. 1), ALAB-727, 17 NRC 760, 765 (1983).

EMERGENCY PLANS: CONTENT (SUFFICIENCY)

The emergency response plans for nuclear power plants must meet the specific standards of 10 C.F.R. 50.47(b) — or an applicant must

demonstrate pursuant to 10 C.F.R. 50.47(c) that compliance with section 50.47(b) is not necessary — in order for the Commission to be able to make the ultimate finding required by section 50.47(a)(1).

APPEARANCES

Carol S. Sneider, Boston, Massachusetts, for Attorney General Francis X. Bellotti of the Commonwealth of Massachusetts.

Thomas G. Dignan, Jr., Boston, Massachusetts (with whom **R.K. Gad, III**, Boston, Massachusetts, was on the brief), for the applicants, Public Service Company of New Hampshire, *et al.*

Edwin J. Reis (with whom **Oreste Russ Pirfo** was on the brief), for the Nuclear Regulatory Commission staff.

MEMORANDUM AND ORDER

Before us is an appeal taken by Francis X. Bellotti, Attorney General of Massachusetts, in the offsite emergency planning phase of this operating license proceeding involving the Seabrook nuclear facility. The appeal challenges so much of the Licensing Board's unpublished April 29, 1986 memorandum and order as rejected at the threshold the Attorney General's sole pending contention.¹

Our jurisdiction to entertain the appeal is invoked under 10 C.F.R. 2.714a. We agree with the applicants and the NRC staff, however, that that section does not come into play in the particular circumstances of the case and, further, that the appeal is premature. Accordingly, we dismiss the appeal.

A. If the petition for leave to intervene of a private litigant (necessarily filed under 10 C.F.R. 2.714) is denied in its entirety for

¹ That contention states:

The draft radiological emergency response plans for the Towns of Seabrook, Hampton, North Hampton, and Rye do not provide reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency at the Seabrook Station, as required by 10 C.F.R. § 50.47(a)(1), because in the event of a severe accident on a summer weekend some or all of the beach area transient populations within those communities cannot under many plausible meteorological conditions be protected by means of evacuation even from early death and because there are not adequate plans or provisions for sheltering the beach area transients within those communities.

want of an acceptable contention, the petitioner indisputably has the right to take an immediate appeal under 10 C.F.R. 2.714a.² By the same token, if all of the accepted contentions of an admitted private intervenor are disposed of adversely to that intervenor during the course of the proceeding (e.g., by summary disposition under 10 C.F.R. 2.749), an immediate appeal may be taken under the general appellate provisions found in 10 C.F.R. 2.762.³

In both instances, the same fundamental considerations underlie the result. In carving out an exception to the general proscription against appeals from interlocutory orders found in 10 C.F.R. 2.730(f), section 2.714a implicitly recognizes that the effect of the denial in its entirety of a private litigant's intervention petition perforce is to foreclose any participation in the proceeding on the part of the petitioner.⁴ Thus, as to that petitioner, the denial is in essence a final order. Likewise, in holding in *Allens Creek* that the summary disposition in the applicants' favor of an intervenor's sole contention was immediately appealable, we explained:

Had other contentions of [the intervenor] been admitted to the proceeding, the proscription against appeals from interlocutory orders (10 CFR 2.730(f)) would have come into play. In other words, he would have had to await the rendition of the Licensing Board's initial decision before complaining to us of the summary disposition of contention VI. Because, however, that contention provided the sole footing for his being allowed intervention the consequence of the summary disposition of it was [the intervenor's] dismissal from the proceeding. . . . This being so, there is the requisite degree of finality to permit an appeal at this juncture. See *Toledo Edison Co. (Davis-Besse Nuclear Power Station)*, ALAB-300, 2 NRC 752, 758 (1975).⁵

But the Attorney General is not a private litigant. And, as he readily conceded at oral argument,⁶ it is equally plain that the Licensing Board's denial of his sole contention has not deprived him of the right to continue to participate in this proceeding. This is because, several years ago, the Commonwealth of Massachusetts was granted the status of an "interested State" under 10 C.F.R. 2.715(c).⁷ Such status permits the repre-

² Subsection (b) of section 2.714a provides that:

An order wholly denying a petition for leave to intervene and/or request for a hearing is appealable by the petitioner on the question whether the petition and/or hearing request should have been granted in whole or in part.

³ *Houston Lighting & Power Co. (Allens Creek Nuclear Generating Station, Unit No. 1)*, ALAB-629, 13 NRC 75, 77 n.2 (1981).

⁴ See *Philadelphia Electric Co. (Limerick Generating Station, Units 1 and 2)*, ALAB-828, 23 NRC 13, 18 n.6 (1986).

⁵ 13 NRC at 77 n.2.

⁶ App. Tr. 5, 8-9.

⁷ See *LBP-82-76*, 16 NRC 1029, 1078-79 (1982).

sentative of an interested State (here the Attorney General)⁸ to participate in a licensing proceeding without the necessity of submitting (and having accepted) a single contention.⁹ By the express terms of the section, that participation may include the introduction of evidence, the interrogation of witnesses, the filing of proposed findings, and the seeking of appellate review by an appeal board and the Commission itself.

The record below discloses that the Attorney General has taken full advantage of the Commonwealth's "interested State" status. To cite but a single example, on July 15, 1983 he filed with us in his own name a petition for directed certification of the Licensing Board's order granting partial summary disposition in the applicants' favor on two contentions of the intervenor New England Coalition on Nuclear Pollution (Coalition) dealing with evacuation time estimates. In this submission, the Attorney General explained that he had "been admitted to this license proceeding as a representative of an interested state" and, prior to the Licensing Board's action on the Coalition's contentions, had indicated on the record a desire to present testimony on those contentions "given their relevance to the concerns which he is seeking to raise in the off-site emergency planning area."¹⁰

In these circumstances, the appeal is barred by our decision a decade ago in *River Bend*.¹¹ In that case, the State of Louisiana, which had been granted "interested State" status under section 2.715(c), sought to obtain appellate review under 10 C.F.R. 2.714a of a Licensing Board's ruling that the identification of the issues that it sought to raise had not been set forth with adequate specificity.¹² Without intimating any views respecting the correctness of the challenged ruling, we dismissed the appeal. Our rationale was this:

⁸ At oral argument, the Attorney General acknowledged that, for present purposes, he and the Commonwealth are to be deemed a single entity. App. Tr. 5.

⁹ The section extends the same right to the representatives of counties, municipalities, and agencies of governmental bodies.

¹⁰ Petition of Attorney General Francis X. Bellotti for Directed Certification of ASLB Decision on Applicants' Twenty-First Motion for Summary Disposition (July 15, 1983) at 3. The Attorney General's directed certification petition was denied in ALAB-737, 18 NRC 168 (1983). The basis of the denial was that the petition did not meet the standards for the grant of directed certification set forth in *Public Service Co. of Indiana* (Marble Hill Nuclear Generating Station, Units 1 and 2), ALAB-405, 5 NRC 1190, 1192 (1977). There was, of course, no suggestion that the Attorney General's status as the representative of an "interested State" was insufficient to permit his endeavor to obtain interlocutory review of a Licensing Board order on the contentions of another litigant.

¹¹ *Gulf States Utilities Co.* (River Bend Station, Units 1 and 2), ALAB-329, 3 NRC 607 (1976).

¹² Although an "interested State" need not take a position with respect to issues raised by other parties, section 2.715(c) provides that its representative may be required "to indicate with reasonable specificity, in advance of the hearing, the subject matters on which he desires to participate."

As we have frequently held, Section 2.714a excepts from the general prohibition against interlocutory appeals only those orders which are directly concerned with the grant or denial of status as an intervenor. See, e.g., *Louisiana Power & Light Co.* (Waterford Steam Electric Station, Unit 3), ALAB-168, 6 AEC 1155 (1973); *Potomac Electric Power Co.* (Douglas Point Nuclear Generating Station, Units 1 and 2), ALAB-176, 7 AEC 151 (1974); *Philadelphia Electric Co.* (Fulton Generating Station, Units 1 and 2), ALAB-206, 7 AEC 841 (1974); *Boston Edison Co.* (Pilgrim Nuclear Generating Station, Unit 2), ALAB-269, [1 NRC 411 (1975)]. As a consequence, one who has been permitted to intervene may not invoke that Section to obtain interlocutory review of an order which does no more than to exclude from consideration in the proceeding certain of the issues which he has sought to raise. *Ibid.*

These holdings apply here. We have seen that the State was granted intervention — albeit (in accordance with its wishes) as an “interested State” participating under Section 2.715(c) rather than as a party under Section 2.714(a). The ruling of the Licensing Board under present attack did nothing to affect the State’s status in the proceeding. To the contrary, the State was left entirely free to participate to the fullest extent not only on the remanded environmental (*i.e.*, fuel utilization efficiency) issue which it had previously and successfully raised but, as well, on each and every health and safety issue which the Licensing Board determined to be properly before it for consideration and decision. The sole practical consequence of the ruling was that the scope of the health and safety hearing would not be further broadened to encompass the additional issues which the State sought to inject into it.

In the totality of these circumstances, the situation before us differs in no material respect from that in any of the earlier cases in which intervenors attempted under the aegis of Section 2.714a to have us examine on an interlocutory basis Licensing Board rulings addressed to what issues would or would not be entertained by the Board. The complaint of those intervenors was precisely the same as that of the State in the proceeding at bar: namely that, although allowed to intervene, they were not allowed to introduce some of the issues which they thought warranted Licensing Board consideration. Our uniform response to them was that, even if meritorious, their complaint was premature; *i.e.*, its assertion to us must await the rendition of an initial decision. The identical response is called for in this instance.¹³

The Attorney General’s endeavor at oral argument to distinguish *River Bend* is unavailing. Contrary to his insistence,¹⁴ it is of no moment that, assertedly unlike Louisiana in that proceeding, the Attorney General is here pursuing a relatively narrow interest. As the foregoing discussion in *River Bend* reflects, of present significance instead is simply the fact that, despite the rejection of his sole pending contention, the Attorney General’s right to participate fully in this proceeding remains wholly unaffected. The extent to which he will continue to exercise that right is, of course, for him to decide. But his voluntary choice in that regard can hardly serve to control whether he is entitled to challenge at this juncture a manifestly interlocutory order.

¹³ 3 NRC at 610-11 (footnotes omitted).

¹⁴ App. Tr. 9-10.

B. The question remains whether, as the Attorney General urges in the alternative, there is sufficient warrant for treating his appellate papers as a petition for directed certification, seeking our review of the Licensing Board's ruling as a matter of discretion rather than of right.¹⁵ Although we entertain some doubt that the Licensing Board correctly rejected the Attorney General's contention on the ground "that it does not state a violation of a regulatory basis,"¹⁶ it does not appear that the strict standards for the grant of discretionary interlocutory review are met here.

We employ our directed certification authority only where a licensing board ruling either threatens the party adversely affected by it with immediate and serious irreparable impact that, as a practical matter, could not be alleviated by a later appeal, or affects the basic structure of the proceeding in a pervasive or unusual manner.¹⁷ Neither test ordinarily is satisfied where a licensing board simply admits or rejects particular issues for consideration in a case.¹⁸ Moreover, in the instant case, it may well turn out that there will be no actual prejudice to the Attorney General stemming from the rejection of his contention. The contention asserts that adequate protective measures cannot and will not be taken as required by 10 C.F.R. 50.47(a) because the two principal protective steps — evacuation and sheltering — will not sufficiently safeguard the beach populations under certain conditions.¹⁹ This concern has been or will be explored.

The applicants' time estimates for evacuation of the beach populations were considered during the hearings held in August 1983 in connection with the Coalition's Contentions III.12 and III.13.²⁰ The Attorney General participated in those hearings and filed proposed findings of fact and conclusions of law with the Licensing Board.²¹ No partial initial deci-

¹⁵ See Response of Attorney General Francis X. Bellotti to Appeal Board Order Dated May 22, 1986 (May 30, 1986) at 7-8. See also App. Tr. 6.

¹⁶ April 29, 1986 Memorandum and Order, at 45.

¹⁷ See *Marble Hill*, supra note 10.

¹⁸ *Project Management Corp.* (Clinch River Breeder Reactor Plant), ALAB-330, 3 NRC 613, 615, rev'd on other grounds, CLI-76-13, 4 NRC 67 (1976).

¹⁹ See supra note 1.

²⁰ The text of the contentions is set out in LBP-83-32A, 17 NRC 1170, 1180 (1983).

²¹ See Attorney General Bellotti's Proposed Findings of Fact and Conclusions of Law re NECNP Contentions III.12 and 13 (October 26, 1983). See also App. Tr. 6-7. The Licensing Board granted partial summary disposition in the applicants' favor on portions of the two contentions. LBP-83-32A, 17 NRC at 1174-81. The Board rejected the argument that the estimates were inaccurate because they were not based on the actual evacuation routes yet to be chosen in the emergency plans. The Board noted, in this regard, that the applicants would revise the estimates once the evacuation routes were chosen. *Id.* at 1180. In ALAB-737, 18 NRC at 172-74, we denied petitions for directed certification of the Board's decision filed by the Attorney General and the Coalition. In our view, the Board's decision did not foreclose litigation of contentions directed toward the evacuation estimates or necessarily prevent the filing of additional contentions at a later date. See supra note 10.

sion has yet been issued in connection with that phase of the case. The Licensing Board, however, currently has under consideration whether to reopen the proceeding to examine newly prepared evacuation time estimates.²² The Board has also admitted for litigation three contentions dealing with the adequacy of sheltering as a protective measure for the public, including the beach populations.²³ Thus, absent a withdrawal or settlement of the pending contentions, the Attorney General will have an opportunity to present the concerns raised by his contention within the context of other contentions, and argue that the requirements of 10 C.F.R. 50.47(a) have not been met.

In this connection, section 50.47(b)(10) requires that a "range of protective actions have been developed for . . . the public."²⁴ In our *Zimmer* opinion we explained that

emergency planning must provide for a variety of protective measures including sheltering [and] evacuation . . . — the overall objective being the avoidance of as much radiation exposure as possible.²⁵

As we read the Licensing Board's decision, it plans to consider whether the range of protective responses developed in the emergency plans — including both evacuation and sheltering — is sufficient to provide reasonable assurance that adequate protective measures can and will be taken for the summer beach populations. This appears to be essentially the issue set out by the Attorney General's contention, although we appreciate that there is some disagreement among the parties over what steps are sufficient to satisfy the Commission's emergency planning regulations and what evidence the Board intends to admit.²⁶ In the event

²² Since the 1983 hearings, a new evacuation time estimate (the so-called KLD Report) has been prepared and is now part of the New Hampshire plan. App. Tr. 28-29, 34-35. The Licensing Board has not decided whether the new estimates will be the subject of litigation and has called for briefs on the issue. See Tr. 2327-30. The applicants argue that the Commission's regulations require only that applicants provide an evacuation time estimate so no further litigation is needed. See Applicants' Brief with Respect to (1) The Mass AG Contention and (2) The So-Called "Multiple ETEs" Issue (April 11, 1986) at 6-8. If the new evacuation time estimates are examined, the Attorney General could presumably participate fully.

²³ See April 29, 1986 Memorandum and Order at 8, 58-59, 93.

²⁴ The emergency response plans for nuclear power plants must meet the specific standards of 10 C.F.R. 50.47(b) — or an applicant must demonstrate pursuant to 10 C.F.R. 50.47(c) that compliance with section 50.47(b) is not necessary — in order for the Commission to be able to make the ultimate finding required by section 50.47(a)(1).

²⁵ *Cincinnati Gas & Electric Co.* (Wm. H. Zimmer Nuclear Power Station, Unit No. 1), ALAB-727, 17 NRC 760, 765 (1983).

²⁶ The Attorney General, for example, asserts that the Board intends to determine only whether the applicants can and will take *some*, rather than *adequate*, protective measures. See Brief in Support of Attorney General Francis X. Bellotti's Appeal of Licensing Board Order of April 29, 1986 (May 15, 1986) at 7-13. The applicants claim that the emergency planning requirements are, to some extent, affected by

(Continued)

that the Attorney General is dissatisfied with the Board's ultimate disposition of the emergency planning issues, he can then appeal. That appeal can encompass any interlocutory orders having a bearing upon that disposition.²⁷

The appeal is *dismissed*.
It is so ORDERED.

FOR THE APPEAL BOARD

C. Jean Shoemaker
Secretary to the
Appeal Board

the Commission's site selection decision made during the course of the earlier construction permit proceeding. See Brief of Applicants on Appeal from the Memorandum and Order of the Licensing Board Issued April 29, 1986 (May 30, 1986) at 15-17. And, at the urging of the applicants and the staff, the Board has indicated that it will not consider any particular quantitative level of dose protection and will not explore the dose consequences of specific accident sequences.

²⁷ Nothing in our discussion of the issues under consideration by the Licensing Board should be construed as a determination on our part of the merits of issues to be decided.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

Charles Bechhoefer, Chairman
Dr. James C. Lamb
Frederick J. Shon

In the Matter of

Docket Nos. STN 50-498-OL
STN 50-499-OL
(ASLBP No. 79-421-07-OL)HOUSTON LIGHTING AND
POWER COMPANY, *et al.*
(South Texas Project,
Units 1 and 2)

June 13, 1986

The Licensing Board issues its second Partial Initial Decision in an operating license proceeding, resolving issues concerning the character and competence of the lead Applicant (HL&P) which were raised by the Commission in CLI-80-32, 12 NRC 281 (1980) and not previously resolved by the Board's first Partial Initial Decision, LBP-84-13, 19 NRC 659 (1984). The Board grants summary disposition of several issues (or portions thereof) and also denies two motions to reopen the record. The Board determines that HL&P properly fulfilled the reporting requirements of 10 C.F.R. § 50.55(e) with respect to the Quadrex Report, except for one additional finding therein, which should have been submitted as "potentially reportable." In addition, the Board rules that, notwithstanding a few instances of less-than-complete disclosure to the Licensing Board, and subject to several conditions or caveats, the Applicants currently possess adequate managerial character and competence to be permitted to complete construction of, and to operate, the South

Texas Project. The Board denies summary disposition of a portion of a contention questioning the design of the facility to withstand hurricane-generated missiles and will require further development of the record on that contention.

REGULATIONS: REPORTS OF DEFICIENCIES

Reportability under 10 C.F.R. § 50.55(e) is determined by a three-part test, all parts of which must be satisfied: a deficiency must be found, it must have the potential to affect safety adversely if left uncorrected, and it must fall into one of the four categories specified in 10 C.F.R. § 50.55(e)(1)(i) through (iv).

REGULATIONS: REPORTS OF DEFICIENCIES

The requirements of 10 C.F.R. § 50.55(e)(1)(iii) and (iv) apply only to construction deficiencies. To be reportable, design deficiencies must fall within 10 C.F.R. § 50.55(e)(1)(i) or (ii).

REGULATIONS: REPORTS OF DEFICIENCIES

Failure to submit a “potentially reportable” item, as identified by Staff guidance, is not a violation, since the “potentially reportable” category stems from Staff guidance rather than regulation. But failure to submit as a potentially reportable item an item that later proves to have been reportable constitutes a violation of NRC requirements that may lead to the imposition of penalties.

REGULATIONS: REPORTS OF DEFICIENCIES

Under 10 C.F.R. § 50.55(e), neither inexperience nor slow accomplishment by a design engineer is *per se* reportable.

OPERATING LICENSE(S): MANAGERIAL CHARACTER AND COMPETENCE

A failure of an applicant to submit a requisite report to the NRC pursuant to 10 C.F.R. § 50.55(e) does not, by itself, reflect a deficiency in character or competence. Additionally, to reflect such a deficiency, such failure would have to be a deliberate breach of a clearly defined duty, a pattern of conduct to that effect, or an indication of bad faith.

RULES OF PRACTICE: RESPONSIBILITIES OF PARTIES

The *McGuire* doctrine stems from a long line of Appeal Board decisions, extending as far back as 1973, which obligate applicants and licensees to keep licensing or appeal boards informed of newly developing information that is “relevant and material” to issues pending before such boards. The doctrine has been enunciated only through adjudicatory decisions and has not been promulgated into a rule or regulation.

RULES OF PRACTICE: MOTION FOR RECONSIDERATION

It is not improper for a party, in its proposed findings of fact and conclusions of law, to seek reconsideration of an earlier ruling of a licensing board, on the basis of new factual information developed during the course of hearings and not available when a motion for reconsideration would normally have been required to have been submitted.

OPERATING LICENSE(S): MANAGERIAL CHARACTER AND COMPETENCE

A failure of an applicant to inform a licensing board of information pursuant to the *McGuire* doctrine does not, by itself, reflect a deficiency in character or competence. Additionally, it would have to be demonstrated that the failure to notify the Board was itself motivated by or reflective of a character deficiency. The additional showing would be that the failure was a deliberate breach of a clearly defined duty, a pattern of conduct to that effect, or any indications of bad faith (“a design to mislead or deceive another”).

OPERATING LICENSE(S): MANAGERIAL CHARACTER AND COMPETENCE

The timely submission of information to the NRC Staff (although not to a licensing board) counters a claim that a licensee intentionally acted to conceal from such Board information that should have been furnished earlier. *Metropolitan Edison Co.* (Three Mile Island Nuclear Station, Unit 1), ALAB-774, 19 NRC 1350 (1984).

RULES OF PRACTICE: SUMMARY DISPOSITION

Summary disposition of an issue may be granted if the filings demonstrate that there is no genuine issue as to any material fact and the moving party is entitled to a decision as a matter of law. The burden of

proof is on an applicant/movant to demonstrate the absence of a genuine issue. The record is viewed in the light most favorable to the opponent of such a motion. To preclude summary disposition, the opponent must set forth specific facts; naked assertions or general denials are insufficient.

RULES OF PRACTICE: SUMMARY DISPOSITION

Failure to respond to a motion for summary disposition does not mean that the motion must be granted. A Board must still find no genuine issue of material fact and that the movant is entitled to prevail as a matter of law. Where significant health and safety issues are involved, a Board should only grant an Applicant's motion for summary disposition if it is convinced from the material filed that the public health and safety will be satisfactorily protected.

ATOMIC ENERGY ACT: LICENSING STANDARDS

Perfection in plant construction and the facility construction quality assurance program is not a precondition for a license under either the Atomic Energy Act or the Commission's regulations. What is required is reasonable assurance that the plant, as built, can and will be operated without endangering the public health and safety.

RULES OF PRACTICE: SUMMARY DISPOSITION

Summary disposition procedures may be utilized with respect to all or any part of the matters involved in a proceeding. A licensing board may grant partial summary disposition of an issue, where such result is warranted.

RULES OF PRACTICE: SUMMARY DISPOSITION

The purpose of the summary disposition procedures is not to deny a litigant the right to a full hearing on legitimately disputed issues of material fact but, rather, to ensure that evidentiary hearing time is not unnecessarily devoted to issues as to which there is no genuine issue of material fact.

ATOMIC ENERGY ACT: LICENSING STANDARDS

Under NRC rules, the structures, systems, and components of nuclear power plants important to safety are to be designed to withstand the effects of natural phenomena, including hurricanes and tornadoes. They must also be appropriately protected against dynamic effects, including the effects of missiles. 10 C.F.R. Part 50, Appendix A, § I, General Design Criteria 2 and 4.

ATOMIC ENERGY ACT: LICENSING STANDARDS

Under a currently effective Commission Policy Statement (Safety Goal Development Program, 48 Fed. Reg. 10,772 (Mar. 14, 1983)), safety goals and preliminary numerical design objectives may not replace NRC regulations as a licensing basis. Safety inferences from probabilistic risk analyses also may not be used to reach bottom-line safety conclusions.

ATOMIC ENERGY ACT: LICENSING STANDARDS

Under certain circumstances, a failure to conform to regulatory requirements may be regarded as *de minimis* and accepted on that basis.

NRC: POLICY STATEMENT ON ENGINEERING EXPERTISE ON SHIFT

Current NRC requirements regarding shift technical advisors are set forth in a Policy Statement on Engineering Expertise on Shift, 50 Fed. Reg. 45,621 (Oct. 28, 1985). Since the Commission utilized notice-and-comment procedures comparable to those required for rulemaking in adopting the Policy Statement, the Statement must be accorded considerable regulatory weight.

RULES OF PRACTICE: REOPENING OF PROCEEDINGS

Three criteria govern a motion to reopen a record filed before a decision has been rendered: (1) the motion must be timely filed; (2) it must address a significant safety (or environmental) issue; and (3) it must demonstrate that the information sought to be added to the record might potentially alter the result which would be reached in its absence.

RULES OF PRACTICE: REOPENING OF PROCEEDINGS

A licensing board cannot authorize discovery to permit a party to develop information to be used to ascertain whether the record should be reopened.

TECHNICAL ISSUES DISCUSSED

Quality assurance
Reportable occurrences
Hurricanes and tornadoes
Externally generated missiles
Probabilistic risk assessment
Shift technical advisor program
Soils.

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APPENDICES (not published)

Appendix A: List of Phase II Witnesses and Prefiled Testimony

Appendix B: List of Phase II Exhibits

Appendix C: Transcript Corrections

PARTIAL INITIAL DECISION
(Operating License, Phases II and, in Part, III)

Opinion

I. INTRODUCTION

This is our second Partial Initial Decision (PID-II) in this proceeding, which involves the application for operating licenses for the South Texas Project, Units 1 and 2 (STP), by Houston Lighting & Power Company (HL&P), the City of San Antonio, Central Power and Light Company, and the City of Austin, Texas (hereinafter referred to collectively as the Applicant's). Our earlier decision (PID-I) was issued on March 14, 1984. LBP-84-13, 19 NRC 659 (1984),¹ *aff'd in part*, ALAB-799, 21 NRC 360 (1985), *review declined by Commission*, letter dated July 30, 1985.

This proceeding previously was divided into three phases. The first included various issues emanating from the Commission's ruling in CLI-80-32, 12 NRC 281 (1980) that bear on the character and competence of HL&P, the lead Applicant, as well as numerous contentions of the two Intervenor who were then participating — Citizens Concerned About Nuclear Power, Inc. (CCANP) and Citizens for Equitable Utilities, Inc. (CEU). (CEU withdrew from the proceeding prior to the conclusion of the Phase I hearings.) We dealt with those issues in PID-I. As a result of information that was revealed during the course of the Phase I hearings — particularly (1) the issuance of the Quadrex Report, a consultant's study that was extremely critical of the design-engineering efforts of HL&P's contractor, Brown & Root, Inc. (B&R), and (2) the subsequent replacement of B&R by new contractors — we were not able to complete the record on the character and competence issues. We thus deferred to Phase II several aspects of those issues that were not resolved in PID-I. In Phase II, we also considered a contention dealing

¹ We here note a typographical error in the printed version of LBP-84-13. At the bottom of the text on p. 681 of 19 NRC, the following words were omitted: "conclusions as to HL&P's competence and character. For reasons de-." The slip opinion did not contain this error. See slip op. at 31.

with the design and construction of the STP to withstand hurricanes. These issues are dealt with in this Decision. Phase III was to have included several remaining issues or contentions. Two of those, which will not require further hearings, are also dealt with in this Decision. (See further description of issues in Part I.A of this Opinion.)

For the reasons set forth below, we are resolving all but one of the issues currently ripe for decision in favor of the Applicants (subject in certain instances to caveats or conditions). We are further concluding (similarly subject to caveats or conditions) that the Applicants currently possess adequate managerial character and competence to be permitted to complete construction of and to operate the STP. However, we are requiring further development of the record with respect to one aspect of the hurricane design issue. Beyond that, one additional element of the hurricane issue (construction of the STP to withstand hurricanes) remains for possible further adjudication.

A. Procedural Posture of the Case (Findings 426-445)

The early procedural history of this proceeding is set forth in PID-I and need not generally be repeated here. Suffice it to say that, in our Phase I decision, we considered, *inter alia*, several issues bearing upon the character and competence of HL&P, the lead Applicant, to complete construction of and to operate the STP.

These issues were among the six (designated Issues A through F) that were formulated as a result of the Commission's ruling in CLI-80-32, *supra*. That ruling, which followed the issuance on April 30, 1980, by the NRC Staff of a Show-Cause Order based on alleged quality assurance (QA) deficiencies, expanded the scope of a number of Intervenor-sponsored QA contentions already at issue in this proceeding. In PID-I, we issued rulings on various aspects of CLI-80-32 Issues A through E, together with the QA contentions sponsored by the Intervenors. The remaining CLI-80-32 issue (Issue F), which questions the adequacy of HL&P's QA program for operations, was deferred to Phase III (Fourth Prehearing Conference Order, dated December 16, 1981 (unpublished), at 6). (We are granting summary disposition of Issue F later in this Decision (*infra* pp. 664-65).)

Of the CLI-80-32 issues which we considered in PID-I, we issued a final ruling only on Issue E, which questioned the adequacy of certain in-place structures and components. We found that, as of the close of the Phase I record, there was reasonable assurance that the structures in place at the STP were in conformity with applicable regulatory requirements (PID-I, *supra*, 19 NRC at 702).

Issues A, B, C, and D question specified facets of HL&P's character and/or competence to complete construction of, and thereafter to operate, the STP. Our PID-I rulings on each of them were subject to further consideration or updating later in the proceeding.

Issue C — concerning HL&P's planned organization for operation and its competence and commitment to operate the STP safely — was resolved favorably to HL&P, but only on the basis of preliminary information then available. Our ruling was subject to updating in Phase III (when actual operational programs and personnel would have been selected by HL&P). However, on the basis of uncontroverted affidavits provided by the Applicants and Staff, we are ruling finally on this issue in Part III of this Opinion (*see infra* pp. 659-64).

Our resolution of the other CLI-80-32 issues (A, B, and D) was in each case subject to modification as a result of questions to be considered in Phase II. Specifically:

1. Issue A questioned whether HL&P's record of compliance with NRC requirements was so inadequate that HL&P should be regarded as lacking the necessary competence or character to be granted operating licenses. This issue explicitly excluded any consideration of the effectiveness of corrective actions adopted by HL&P as a result of QA deficiencies that had been discovered earlier.

We concluded that, without taking into account corrective actions resulting from the April 30, 1980 Show-Cause Order, HL&P's character was adequate but that its competence was questionable in certain respects. Whether HL&P's competence had been sufficiently improved was considered under Issues B and D. The favorable ruling on the adequacy of HL&P's character was subject to modification as a result of the Phase II consideration of the Quadrex Report. That report did not become available to the Board and parties until late September 1981, after much of the hearings in Phase I had been completed, although the Staff had been apprised of its content in the Spring of 1981, shortly after its issuance. Fourth Prehearing Conference Order, *supra*, at 4-5; PID-I, *supra*, 19 NRC at 691; Findings 473, 619, 638, *infra*.

As described in detail in Part II.A of this Opinion, as well as in LBP-85-6, 21 NRC 447 (1985), and in our Fifth Prehearing Conference Order, dated November 16, 1984, at 5-9 (unpublished), our Phase II consideration of the Quadrex Report was limited to the effect on HL&P's character of its handling of that report — particularly its notification of the NRC (including this Board) of the report. Two contentions were involved, designated as

CCANP Contentions 9 and 10. In litigating these questions, we reexplored the truthfulness of certain of HL&P's Phase I testimony concerning the adequacy of B&R's design engineering efforts. LBP-85-6, *supra*, 21 NRC at 459-60. We also considered certain questions raised by CCANP's April 17, 1985 Motion to Reopen Phase I Record, concerning the timeliness of HL&P's notification of this Board of the replacement of B&R. *See* Memorandum and Order (Explanation of Ruling on CCANP Motion to Reopen Phase I Record), LBP-85-19, 21 NRC 1707 (1985).

2. Issue B questioned whether HL&P has taken sufficient remedial steps to correct earlier deficiencies and provide assurance that it now has the managerial competence and character to operate the STP safely. Given our findings and conclusions on Issue A, our consideration of the adequacy of corrective actions under Issue B focussed on HL&P's competence. We reached preliminary conclusions that HL&P had corrected the competence deficiencies which we had found to have existed. But we found that we could not reach definitive conclusions on this subject, since the record did not reflect construction activities carried out by HL&P using its new contractors. Accordingly, we directed that that aspect of Issue B be considered in Phase II. Thus, our resolution of Issue B in PID-I was subject to further consideration in Phase II of the competence of HL&P and its contractors.

Similarly, Issue D — dealing with the adequacy of the construction QA program, including its implementation — was decided only insofar as it raised programmatic questions. We found that the QA organizations and practices for the STP met regulatory requirements. Although we also preliminarily found reasonable assurance that the program would be properly implemented, this preliminary finding was made subject to the Phase II report on competence that we were directing on Issue B. Our consideration of these competence questions appears in Part II.B of this Opinion.

3. PID-I also ruled on Intervenor Contentions 1 (including its multiple subparts) and 2. These rulings were not subject to supplementation in later phases of the proceeding. Contention 3 (concerning overpressurization) was scheduled to be considered in Phase III. But CCANP subsequently moved to withdraw this contention, and we dismissed it. In doing so, we reviewed the Staff's resolution of the unresolved generic safety issue that had given rise to the contention. LBP-86-5, 23 NRC 89 (1986). Contention 4 (concerning hurricanes) was considered in Phase II.

Our granting of summary disposition on most aspects of this contention, which we announced in our Sixth Prehearing Conference Order, dated May 17, 1985, at 4-6 (unpublished), is dealt with in Part II.C of this Opinion. Several portions of this contention remain to be resolved later in Phase III. Except for Contentions 9 and 10, which are considered in this PID, the remaining Intervenor contentions accepted to date (numbers 5-8) have been dismissed. See LBP-82-91, 16 NRC 1364 (1982), *aff'd*, ALAB-799, *supra*, 21 NRC at 381-84; LBP-85-8, 21 NRC 516 (1985).

We provided the parties with ample opportunities for pretrial discovery on Phase II issues (Finding 437). CCANP did not take advantage of those opportunities. Therefore, as the Phase II hearings approached, we denied several requests by CCANP for additional discovery. The Board itself, however, determined that certain categories of documents were potentially relevant to the Phase II issues to be litigated, and we directed the Applicants to furnish the Board and parties with copies of such documents. We commend the Applicants for their willing and (insofar as we can ascertain) thorough compliance with our document requests. The availability of those documents enhanced the ability of all parties (and the Board) to develop the Phase II record adequately.

In preparing for the Phase II hearings, we held two prehearing conferences — in Houston, Texas, in October 1984, and in Bethesda, Maryland, on April 30–May 1, 1985. The Phase II evidentiary hearings were held in Bay City, Texas, and Houston, Texas. They occupied 21 hearing days in July and August 1985. Oral limited appearance statements were received at both hearing locations. The Phase II record was initially closed on August 14, 1985, except for the receipt of an affidavit. (That affidavit, of Mr. Charles G. Thrash, was filed on September 6, 1985, and is part of the Phase II record.)

Subsequent to the close of the Phase II record in August 1985, CCANP filed five separate motions to reopen the record. With respect to the first of these motions, we reopened the record to admit a single exhibit offered by CCANP (CCANP Exh. 148) but denied the remainder of the motion. We granted (in part) CCANP's second motion and held two additional hearing days (December 5-6, 1985) in Houston, Texas. CCANP moved to withdraw the third motion, and we permitted it to do so. Following the reopened hearings, the Phase II record was closed on December 6, 1985, except for the receipt of an additional affidavit. That affidavit, of Mr. Loren Stanley, was filed on December 17, 1985, and is part of the Phase II record. CCANP thereafter filed its fourth and fifth motions on January 17, 1986, and February 28, 1986, respectively. In Part IV of this Opinion, we are denying both of these motions.

To prepare for Phase III of this proceeding, we held a prehearing conference in Bethesda, Maryland, on March 21, 1986. On the basis of the rulings at that conference, together with the Applicants' March 12, 1986 motion for summary disposition of Issue F and a letter dated March 26, 1986, from CCANP, we are able to dispose of two of the remaining Phase III issues in this Decision (Issues C and F). We are doing so in Part III of this Opinion.

Proposed findings of fact and conclusions of law covering the basic Phase II record (together with CCANP Exh. 148) were filed by the Applicants, CCANP, and the NRC Staff.² Supplemental proposed findings and conclusions on the reopened Phase II hearings were filed by the same parties.³

B. Summary of Decision

Issue A, insofar as it questioned the character of HL&P, was left open by PID-I to the extent that it involved HL&P's handling of the Quadrex Report. Contentions 9 and 10 define those aspects of HL&P's handling of the Quadrex Report that were accepted for adjudication. In Part II.A of this Opinion, we consider these contentions.

Under Contention 9, we conclude that HL&P should have reported one additional Quadrex Report finding pursuant to 10 C.F.R. § 50.55(e) as a "potentially reportable" item, but that its failure to have done so does not reflect adversely on its character in any way. Under Contention 10, we reiterate our earlier conclusion that HL&P should have provided the Quadrex Report to the Licensing Board earlier than it did. We also find that, by not doing so or mentioning that report on several specific occasions, HL&P provided less-than-complete information to the Board and demonstrated less-than-desirable candor. Nonetheless, although we

² Applicants' Proposed Findings of Fact and Conclusions of Law, Phase II, dated September 30, 1985 (Appl. FOF-II); Intervenor's [CCANP] Phase II Proposed Findings of Fact and Conclusions of Law in the Form of a Partial Initial Decision, dated November 5, 1985 (CCANP FOF-II); NRC Staff's Proposed Findings of Fact and Conclusions of Law, dated November 19, 1985 (Staff FOF-II); Applicants' Reply to Proposed Findings of Fact and Conclusions of Law Submitted by the Other Parties, Phase II, dated November 27, 1985 (Appl. Reply FOF-II). References to particular proposed findings will be designated "PF."

³ Applicants' Proposed Findings of Fact for Reopened Phase II Hearing, dated December 13, 1985 (Appl. Supp. FOF-II); CCANP Proposed Findings of Fact and Conclusions of Law in the Form of a Partial Initial Decision for Reopened Phase II Hearings, dated December 12, 1985 (CCANP Supp. FOF-II); NRC Staff's Supplemental Proposed Findings of Fact and Conclusions of Law on the Reopened Phase II Hearing Record with Regard to Contention 10, dated December 13, 1985 (Staff Supp. FOF-II). We had authorized the simultaneous filing of the supplemental proposed findings and conclusions, no later than December 13, 1985 (Tr. 15,708-09). References to particular proposed findings will be designated "PF."

find that this conduct diminishes to some extent the high marks we previously accorded to HL&P for its openness, and hence diminishes to some extent our previous highly favorable evaluation of its character, it does not do so to a degree sufficient to warrant the denial of operating licenses for lack of character.

In Part II.B of this Opinion, we consider the competence questions left open by PID-I under Issues B and D. Although we find certain deficiencies to have existed, we conclude that HL&P has demonstrated sufficient competence to be permitted to complete construction of and to operate the STP.

In Part II.C of this Opinion, we provide reasons for our grant of summary disposition on most of the design aspects of Contention 4 (concerning hurricanes). We are requiring further development of the record with respect to the hurricane design of several safety structures (or portions thereof). In that connection, we are offering comments on the probabilistic methodology used by the Applicants and approved by the Staff for analyzing the necessity for hurricane-missile resistance of those structures. Except for such structures, we are concluding at this time that the STP has been adequately designed to withstand hurricanes.

In Part III of this Opinion, we consider the update to the evidence on Issue C that PID-I determined to be necessary. Subject to favorable findings by the Staff on certain open items — noteworthy among which is the adequacy of HL&P's shift technical advisor (STA) program — we find HL&P's organization and staffing for operations to be adequate. In Part III, we are also ruling on (and granting) the Applicants' motion for summary disposition of Issue F (QA program for operation).

Finally, in Part IV of this Opinion, we deny two motions of CCANP to reopen the Phase II record.

II. OPINION ON INDIVIDUAL PHASE II ISSUES

A. Reportability or Notifiability of Quadrex Report and of Replacement of B&R; HL&P's Candor

1. *Background*

The Quadrex Report was initially provided to the Board and parties through the Applicants' letter of September 28, 1981, almost 5 months after HL&P's receipt of the report. CCANP proposed to add new contentions based on the Quadrex Report (including both the substance of the report and the handling of the report by HL&P) through its motion dated November 21, 1981. CCANP sought to have those issues litigated in Phase I. At the December 8, 1981 prehearing conference, we

deferred consideration of all Quadrex Report issues to Phase II, including those raising questions as to HL&P's furnishing of the report to NRC. We determined that "[a]ny findings made at the conclusion of Phase I will be subject to change in Phase II to reflect the information in and reviews of the Quadrex Report." Fourth Prehearing Conference Order, *supra*, at 4-5; Memorandum and Order (Denying CCANP Motion for Reconsideration of Schedule for Hearing Quadrex Matters), dated March 25, 1982 (unpublished).

Accordingly, as pointed out earlier (*supra* pp. 607-08), our resolution in PID-I of Issue A — particularly insofar as it ruled on the adequacy of HL&P's character — was subject to modification as a result of the Phase II consideration of the Quadrex Report. Reflecting claims made in CCANP's November 21, 1981 motion, such consideration was initially viewed as encompassing both the substance of the report and its procedural aspects (i.e., its handling by the Applicants).

During the course of Phase II discovery, we established further guidance with respect to the resolution of questions raised by the Quadrex Report. The first occasion was our Memorandum and Order (Granting Applicants' Motion to Compel Responses to Certain Discovery Requests, Delineating Procedural Format for Resolving Various Phase II Issues and Establishing Briefing Schedules for Certain Legal Questions), dated June 22, 1983 (unpublished). There, we recognized that the report embodied extensive factual information but that a portion of that information was not safety-related. We also took note of the extensive and apparently thoroughgoing reviews of the Quadrex Report that had been performed by Bechtel Corp. (for the Applicants) and by the NRC Staff. We accordingly called on CCANP and other parties to "identify, prior to hearing, those portions of the Quadrex Report and the reviews thereof which impact the safety issues before us and which they seek to litigate." We specifically pointed out that, as a predicate to litigation, CCANP "must identify particular safety questions which it claims arise from the Quadrex Report and have not, in its opinion, been adequately resolved through the Bechtel or NRC Staff reviews." *Id.* at 4.

In the same Memorandum and Order, we recognized that the questions raised by CCANP concerning reportability and notifiability of the Quadrex Report might present legal questions. We called on the Staff to brief these legal questions and permitted other parties to respond. *Id.* at 6-7.

Following the issuance of PID-I in March 1984, we offered additional guidance on the defining of Quadrex Report issues. In granting in part CCANP's request for additional discovery, we reiterated our earlier

view that the Quadrex Report issues had to be narrowed: “[t]he Quadrex Report is so broad, and covers topics with varying applicability to safety, that greater particularization is necessary to permit informed inquiry into potentially unresolved safety questions.” Memorandum and Order (Ruling on CCANP Motions for Additional Discovery and Applicants’ Motion for Sanctions), dated May 22, 1984 (unpublished), at 4. We also clarified the permissible scope of the Quadrex Report issues in light of our previous holdings in PID-I (*id.* at 5-6). Thereafter, in denying reconsideration but clarifying certain aspects of the latter ruling, we elaborated on the aspects of the Quadrex Report that we deemed material to Phase II issues (Memorandum and Order (Denying Reconsideration but Clarifying Memorandum and Order of May 22, 1984), dated July 10, 1984 (unpublished)).

After receipt of briefs from all parties on the reportability (or notifiability) of the Quadrex Report, and of the positions of the parties on the proper scope of Quadrex Report issues, we discussed those issues at the Fifth Prehearing Conference, held in October 1984. We concluded, as to the substantive questions arising from the Quadrex Report, that CCANP had not identified any issues suitable for adjudication. We dismissed all Quadrex-related issues except those challenging the reporting or furnishing to NRC (including this Board) of that report. Fifth Prehearing Conference Order, dated November 16, 1984 (unpublished), at 7-9.

Thereafter, in a Memorandum and Order dated February 26, 1985, we admitted two contentions bearing on HL&P’s reporting to or notifying NRC of the Quadrex Report. The first (Contention 9) challenged the failure to report the entire Quadrex Report, and most findings of that report, to the NRC pursuant to 10 C.F.R. § 50.55(e). The second (Contention 10) challenged the timeliness of the Applicants’ furnishing of the report to this Board pursuant to the *McGuire* doctrine (*see infra* pp. 623-26). In both contentions, CCANP claimed that HL&P’s performance reflected a lack of character sufficient to require a denial of the operating licenses. LBP-85-6, *supra*, 21 NRC at 462-63.⁴

In admitting Contention 9, we included claims involving the reportability pursuant to § 50.55(e) of the Quadrex Report as a whole, together with several specified findings therein, premised upon claims that CCANP had made in its November 21, 1981 motion. We also provided a mechanism for parties (or the Board) to identify further findings the

⁴ In the same Memorandum and Order, we denied CCANP’s motion for reconsideration of our earlier ruling dismissing all Quadrex-related issues other than reportability or notifiability. LBP-85-6, *supra*, 21 NRC at 464-66.

reportability of which warranted adjudication (including the reflections, if any, on HL&P's character of a failure to have reported various findings determined to be reportable). On April 22, 1985, CCANP submitted additional Quadrex Report findings that it claimed should have been reported and should be adjudicated. The Applicants filed a reply dated April 26, 1985, opposing the adjudication of any additional findings and suggesting further refinement of the findings we had identified in LBP-85-6.

We considered these positions (together with that of the Staff) at the April 30-May 1, 1985 prehearing conference. By letter dated May 3, 1985, CCANP clarified one of the positions it had taken at the conference. In our Sixth Prehearing Conference Order (Further Definition of Phase II Issues), dated May 17, 1985 (unpublished), we admitted one additional generic finding and several additional proposed discipline findings⁵ but rejected most of the additional findings proffered by CCANP. We later further clarified the findings to be litigated in our Memorandum and Order (Applicants' Motion for Clarification of Sixth Prehearing Conference Order), dated May 24, 1985 (unpublished).

Our rulings that rejected litigation of the additional Quadrex findings proposed to be litigated by CCANP were set forth in summary form, with details to be provided in this PID. (We have already explained our reasons for accepting some of CCANP's proposals, and are not repeating those explanations here.) Our reasons for rejecting the proposals of CCANP are as follows:

1. CCANP sought to litigate generally all of the findings of the Quadrex Report that were designated as "most serious," all of the discipline findings that undergirded a "most serious" generic finding, and all of the findings identified by the Staff as "safety significant." (See *infra* pp. 616-17.) In permitting CCANP to identify additional Quadrex findings for litigation, we directed that it provide a basis for its claims. LBP-85-6, *supra*, 21 NRC at 463. The brief explanations that CCANP provided for these broad categories of findings do not constitute adequate bases for litigating the reportability of these findings. Specifically, CCANP has made no attempt to demonstrate how these groups of findings are comprehended by the rather precise criteria of 10 C.F.R. § 50.55(e)(1)(i) and (ii). (See *infra* pp. 617-18.) For example, just because the Staff regards a finding as "safety significant" does not mean that there is necessarily a "deficiency," a

⁵The Quadrex Report included both discipline findings and generic findings (which were based, in large part, on various interrelated discipline findings). For further explanation, see *infra* pp. 616-17.

"QA breakdown," or that the matter had been "released for construction." The Staff review (NUREG-0948) uses the safety-significant designation only for purposes of evaluating corrective actions and not for purposes of reportability. Staff Exh. 136 at 24. Moreover, it is apparent from the wording of the Quadrex Report itself, as well as from testimony provided in Phase II, that the "most serious" category is far broader than matters reportable under § 50.55(e). *See, e.g.*, Quadrex Report (Appl. Exh. 60), Vol. I, ¶ 3.0(1) at 3-1; Finding 470, *infra*.

2. CCANP attempted to justify the adjudication of the reportability of four findings (4.1.2, 4.5.5, 4.6.2, and 4.8.2) on the basis that selected excerpts represent "[b]road conclusions of the Quadrex Report which concern design inadequacies with potential quality assurance implications" (CCANP April 22, 1985 response, at 3). For reasons set forth in our Sixth Prehearing Conference Order, *supra*, we accepted for litigation a portion of one of these findings (4.8.2.1). As for the rest, CCANP failed to analyze these findings against the reportability criteria of 10 C.F.R. § 50.55(e)(1)(i) or (ii) and also provided no other bases for litigation. For lack of an adequate basis, we rejected litigation of the reportability of these findings.

3. The final group of findings sought to be litigated by CCANP (4.6.2.4, 4.4.2.1, 3.2(n), and 4.8.2.2) is denominated only as "[s]pecific areas of concern for the adequacy of design." Finding 4.4.2.1 was in fact reported, and additionally was discussed to some extent during the Phase II hearings (*e.g.*, Goldberg, ff. Tr. 11,491, at 23, 34). Finding 4.6.2.4 is a group of the findings that were not designated as "most serious" findings but only as "potential problem findings." CCANP made no demonstration why it believed these findings were covered by the § 50.55(e) reporting criteria. Findings 3.2(n) and 4.8.2.2 are also not among the "most serious" findings; they are "serious" findings which are said only "to impact the generation of reliable power." Lacking any showing of safety significance, we fail to see how they would be reportable under § 50.55(e). In any event, CCANP has not provided an adequate basis for litigating any of this group of findings.

In admitting Contention 10, we initially only included a claim that the Quadrex Report should have been furnished to the Licensing Board shortly after its release, pursuant to the *McGuire* doctrine (*see infra* p. 622). LBP-85-6, *supra*, 21 NRC at 460-63. As part of that claim, we designated for litigation the accuracy of the information provided us by

the Applicants during Phase I concerning the performance by B&R as a contractor (*id.* at 460). Thereafter, in denying CCANP's motion to reopen the Phase I record, we ruled that Contention 10 could be read as broad enough to incorporate one of the issues raised by that motion — specifically, the Applicants' failure to inform us prior to September 24, 1981, of the potential change in contractors for the architect-engineer and construction manager of the STP. We designated that matter also to be considered under Contention 10. LBP-85-19, *supra*, 21 NRC at 1715. When we granted CCANP's second motion to reopen the Phase II record, it was to complete the record on Contention 10 insofar as that contention considered the notification of this Board of the Quadrex Report.

We turn now to Contentions 9 and 10.

2. Contention 9: Reportability Pursuant to 10 C.F.R. § 50.55(e) of Quadrex Report (Findings 446-614)

Contention 9 claims that the Applicants' failure to notify the NRC (Region IV) of the Quadrex Report, and of many findings beyond those actually reported, within 24 hours from the time HL&P became aware of the findings or prospective findings of the report (including drafts), violates 10 C.F.R. § 50.55(e)(2) and reflects adversely on the character and competence of the Applicants and on their ability to manage the construction and operation of a nuclear power plant. LBP-85-6, *supra*, 21 NRC at 462-63. In approving this contention, we restricted the specific findings at issue to the ten "most serious" generic findings, sixteen named discipline findings, as well as the report as a whole. *Id.* at 463; Sixth Prehearing Conference Order (Further Definition of Phase II Issues), dated May 17, 1985 (unpublished); Memorandum and Order (Applicants' Motion for Clarification of Sixth Prehearing Conference Order), dated May 24, 1985 (unpublished).

By way of background, the Quadrex Report includes categories of findings denominated as "discipline findings" and "generic findings." Quadrex had been asked to assist HL&P in review of the following nine technical disciplines (Appl. Exh. 60 at 1-1):

- Civil/Structural
- Computer Programs and Codes
- Electrical/Instrumentation and Control
- Geotechnic
- Heating, Ventilating, and Air Conditioning (HVAC)
- Mechanical Analysis
- Nuclear Analysis

The Quadrex Report included findings in each discipline, albeit the disciplines were grouped in slightly altered order and a section on In-service Inspection Aspects was added (*id.* at i, 4-1, *et seq.*). From the individual discipline findings, Quadrex derived a set of “generic” findings based on a detailed evaluation of each technical discipline and intended to present matters applicable to most, if not all, of the individual disciplines (*id.* at 3-1).

Quadrex grouped each set of discipline findings, and the set of generic findings, according to what Quadrex deemed their seriousness, as defined at pages 3-1 and 4-1 to 4-2 of the report (Appl. Exh. 60). With respect to the generic findings, these consisted of “most serious” and “serious” findings. Only the former included findings with an impact on safety. *Id.* at 3-1. With respect to discipline findings, there were five categories: “most serious,” “serious,” “noteworthy,” “potential problem,” and “other.” Again, only the “most serious” findings included matters of safety significance. *Id.* at 4-1 to 4-2.

In LBP-85-6, *supra*, 21 NRC at 452-53, we outlined the reporting requirements of § 50.55(e) applicable to holders of construction permits. For ease of reference, we will rehearse, and to some extent supplement, that discussion here. The section requires:

(1) If the permit is for construction of a nuclear power plant, the holder of the permit shall notify the Commission of each deficiency found in design and construction, which, were it to have remained uncorrected, could have affected adversely the safety of operations of the nuclear power plant at any time throughout the expected lifetime of the plant, and which represents:

(i) A significant breakdown in any portion of the quality assurance program conducted in accordance with the requirements of Appendix B to this part; or

(ii) A significant deficiency in final design as approved and released for construction such that the design does not conform to the criteria and bases stated in the safety analysis report or construction permit; or

(iii) A significant deficiency in construction of or significant damage to a structure, system, or component which will require extensive evaluation, extensive redesign, or extensive repair to meet the criteria and bases stated in the safety analysis report or construction permit or to otherwise establish the adequacy of the structure, system, or component to perform its intended safety function; or

(iv) A significant deviation from performance specifications which will require extensive evaluation, extensive redesign, or extensive repair to establish the adequacy of a structure, system, or component to meet the criteria and bases stated in the safety analysis report or construction permit or to otherwise establish the adequacy of the structure, system, or component to perform its intended safety function.

(2) The holder of a construction permit shall within 24 hours notify the appropriate Nuclear Regulatory Commission Regional Office of each reportable deficiency.

(3) The holder of a construction permit shall also submit a written report on a reportable deficiency within thirty (30) days to the appropriate NRC Regional Office. . . .

Under these requirements, reportability is determined by a three-part test: a deficiency must be found, it must have the potential to affect safety adversely if left uncorrected, and it must fall into one of the categories numbered (i) through (iv) in the regulation. *All* three parts of the test must be met for an item to be considered reportable. As we also ruled earlier, since categories (iii) and (iv) concern construction and the Quadrex Report concerns only design, any reportable matters resulting from the Quadrex review, including the report itself as a whole, would necessarily have to fit categories (i) or (ii). LBP-85-6, *supra*, 21 NRC at 452-53.

Applying these criteria to the myriad of situations that arise in nuclear power plant construction is not a simple task. A previous Board found that § 50.55(e) “do[es] not provide precise definitions for events that are reportable” and that “[m]uch is left to the judgment of licensee’s staff and of the NRC Staff.” *Virginia Electric and Power Co.* (North Anna Nuclear Power Station, Units 1 and 2), LBP-78-10, 7 NRC 295, 299 (1978). In the time since that decision, the NRC Staff has issued guidance to clarify the circumstances and procedures for reporting deficiencies under this regulation. The latest version of this guidance was that issued in 1980. Heishman, ff. Tr. 14,846, at 2; Staff Exhs. 137,⁶ 139. It was made available to NRC applicants generally, including HL&P (Johnson/Constable, ff. Tr. 14,846, at 5). The Staff guidance attempts, *inter alia*, to clarify some of the phrases used in the regulation (i.e., “could adversely affect,” “significance,” “extensive,” “significant breakdown in quality assurance,” and “notification and reporting”). The chief difference between that version and the guidance available earlier was the creation of a category of items called the “potentially reportable deficiency.” This category was meant to allow for the fact that determining reportability might be time-consuming. Thus, it required early reporting where all facets of reportability could not be quickly established, set reasonable time limits for evaluation (recommended time limit of 14 days), and recognized that some matters reported as “potentially reportable” items might eventually be evaluated as not meeting the criteria and hence not ultimately requiring a report. Staff Exh. 137 at 6-7.

⁶ “Guidance — 10 C.F.R. § 50.55(e) Construction Deficiency Reporting,” dated April 1, 1980 (hereinafter “§ 50.55(e) Guidance”). A copy is attached to the testimony of Mr. Robert F. Heishman, ff. Tr. 14,846.

The matter of reportability under § 50.55(e) is thus multifaceted and complex, involving judgmental considerations that span both legal requirement and technical evaluation. In the case of a design matter in particular, we reiterate that a reportable item must represent a deficiency, that deficiency must have the potential to affect safety adversely, and it must either represent a significant breakdown in quality assurance or reflect a deficiency in final design as released for construction. Furthermore, reportability of a given item is frequently a matter of engineering judgment about which knowledgeable experts may reasonably differ, despite the efforts of the NRC Staff to provide guidance intended to make the requirements clearer and more uniformly applied. Indeed, a technical expert may well experience a change of mind on reportability as his or her familiarity with the specific matter changes (Findings 482, 484, 606, *infra*). The Staff's § 50.55(e) Guidance, which creates the "potentially reportable" category, recognizes that a particular determination may be time-consuming and that some potentially reportable items may ultimately prove to be nonreportable. See § 50.55(e) Guidance at 6-7. The Staff does not regard a failure to submit a "potentially reportable" item as a violation, since the "potentially reportable" category stems from Staff guidance rather than regulation. Tr. 14,989 (Taylor); Tr. 14,990, 15,024-25 (Johnson). Nor do we. On the other hand, a failure to submit as a potentially reportable item an item that later proves to have been reportable does constitute a violation of NRC requirements that may lead to the imposition of penalties. See 10 C.F.R. Part 2, Appendix C, Supp. II, C.3.

In considering Contention 9, we have examined in detail the process by which HL&P decided what it would report under § 50.55(e) and what it would not report (Findings 463-471). We have also examined the results of that process: in particular, we have considered whether the entire report should have been submitted to NRC under § 50.55(e) (Findings 480-487), whether there were specific discipline findings (other than those that led to the reports actually made) that should have been reported (Findings 488-553), and whether the "most serious" generic findings should have been reported (Findings 554-613). In doing so, we have considered the analyses presented by witnesses for the Staff and Applicants, witnesses subpoenaed by CCANP, and reports prepared by the NRC Staff and by Bechtel Corp. (for HL&P).

In LBP-85-6, *supra*, 21 NRC at 454, we criticized the interpretation of § 50.55(e) that had been advanced by the Staff. Specifically, we found that the Staff had improperly interpreted the regulation by its position that the significant QA breakdown in design contemplated by 10 C.F.R.

§ 50.55(e)(1)(i) could not satisfy the requisite potential-adverse-effect-on-safety test unless the design had in fact received approval to be released for construction. By so construing the section, we observed, the Staff was essentially ignoring the requirement for reportability set forth in § 50.55(e)(1)(i). In its Phase II testimony, however, the Staff, although indicating that it had in fact given some consideration to whether a significant QA breakdown had occurred (Johnson/Constable, ff. Tr. 14,846, at 4), corrected any interpretive error it might have made in this regard by specifically considering anew whether any of the findings under consideration represented significant QA breakdowns, as interpreted by us in LBP-85-6 (Taylor, ff. Tr. 14,846, at 3).

Examination of the testimony concerning reportability of the Quadrex Report as a whole shows that none of the witnesses believed after due analysis that the entire report should have been turned over as a reportable item (Findings 481-485). Nor did the Staff's independent investigations conclude otherwise (Staff Exh. 140 at 2; Staff Exh. 136 at 23). It is true that one Staff witness felt, on first impression, that the Quadrex Report might have been reportable (Finding 482). Indeed, even one member of HL&P management thought, on first impression, that it might be necessary to report it in its entirety, and he frankly told us so (Finding 484). But all the expert sources, having examined the report in detail and viewed it against a background of more complete knowledge of the situation, concluded that there was no requirement to report it and that it would have been inappropriate to submit the entire report under § 50.55(e) (Findings 481-486). We agree.

As for the specific discipline findings admitted for litigation, the Staff's expert viewed as potentially reportable three out of sixteen of those previously unreported findings (Findings 491, 520, 531), although he characterized one of these as a "close call." Of these, we believe that one should have been reported as "potentially reportable" but that the other two (based on information possessed by HL&P of which the Staff reviewer was not aware) were neither reportable nor potentially reportable (Findings 522, 494, 533). Bechtel advised HL&P that one additional unreported finding was potentially reportable; HL&P reported it but later withdrew it as not reportable (Finding 497). We ourselves additionally see as a close call (but not in fact reportable) one generic finding (Finding 561).

Thus it is evident that the violation of the regulations alleged in Contention 9 is ephemeral at best. We find no instance, either with respect to the Quadrex Report as a whole or the individual findings being adjudicated, where a clear failure to report a deficiency occurred. We find, in fact, only a bare handful of instances in which the opinions of experts

regarding reportability even differed, and in each of these instances the question centered only on "potential reportability," all experts agreeing that the matters were not reportable once all the facts were in.

We find no evidence of any conspiracy to withhold the Quadrex Report from NRC, as alleged by CCANP. We reject CCANP's claim that the process utilized by HL&P to evaluate and determine reportability constituted such a conspiracy. Indeed, considering the complex legal-technical nature of the decision to report and the short time in which that decision must be made, we believe that HL&P's behavior here was exemplary. HL&P used its three most experienced nuclear engineers to determine reportability. HL&P's practice represents about as good a balance as a licensee can strike between reporting everything required and overwhelming NRC with unneeded reports.

We shall here apply the same criteria of character and competence to reporting under § 50.55(e) that we describe in more detail (and apply) to informing the Board under the *McGuire* doctrine (*see infra* pp. 625-26), *viz.*, that the failure to inform does not in itself reflect a deficiency in character or competence, but that such failure would have to be a deliberate breach of a clearly defined duty, a pattern of conduct to that effect, or an indication of bad faith. In applying these criteria here we note, at the threshold, that it is questionable whether any failure to report occurred at all.⁷ Still less was there any indication of a breach of a clearly defined duty, a pattern of conduct to that effect, or an indication of bad faith. HL&P clearly made every good-faith effort to comply with the existing requirements and generally succeeded well in doing so. The one instance where we have found that reporting a matter as "potentially reportable" would have been preferable is clearly a "close call" — a matter where reasonable opinions may differ.

A few additional comments on certain of CCANP's claims are here warranted. First, CCANP would have us find that, by the end of April 1981, HL&P knew enough from informal briefings by Quadrex to make notifications to NRC under § 50.55(e), in particular; that HL&P knew

⁷ During the hearing, a dispute arose between CCANP and the Applicants concerning the interpretation of the regulation as elucidated by the Staff § 50.55(e) Guidance. CCANP adopted the position that "potential reportability" was a thing apart from ultimate reportability and that failure to notify NRC of a "potentially reportable" item could not be justified by the fact that the item ultimately proved unreportable. Further, CCANP argued that items that were potentially reportable but for which no notification was made reflected adversely on the Applicants' character or competence (Tr. 11,471, 11,474; CCANP FOF-II, PF II.7). The Applicants argued that there is only one variety of reportability, that an item which ultimately proves nonreportable was not reportable to begin with, and that the fact that thorough review shows an item to be nonreportable is relevant (Tr. 11,472, 11,474-75; Appl. FOF-II, PF II.3-II.9; Appl. Reply FOF-II, PF RII.46). The dispute seems to us to have more or less evaporated. CCANP ends its discussion by saying of this difference that "the distinction between the parties is not material" (CCANP FOF-II, PF II.7); the Applicants say that their "differences with CCANP are of little significance" (Appl. FOF-II, PF II-9; Appl. Reply FOF-II, PF RII.46).

that B&R was inexperienced in some nuclear engineering matters and was far behind in design work. CCANP characterizes the failure to report at this stage as a "willful act of concealment." CCANP FOF-II, PF III.22 at 72. We do not find that either inexperience or slow accomplishment is *per se* reportable. We find that preparation at this stage for review of the final report by both HL&P and B&R was an entirely appropriate procedure. We note that in the one instance where Quadrex felt that a matter might be reportable, that matter was reviewed by B&R and by the HL&P Incident Review Committee and was found not to be reportable. HL&P maintained records of the IRC's consideration of this matter. Finding 462, *infra*. Such a procedure scarcely suggests an attempt at concealment.

Second, we are particularly displeased with the wildly speculative and fundamentally irresponsible charges that CCANP expressed on the basis of minor discrepancies between the testimony of the Applicants' and Staff's witnesses (CCANP FOF-II, PF III.91-III.92). We are faced with serious charges of witness misconduct, supported only by statements that begin "[w]e cannot help but suspect that . . .," or "[i]t is quite possible . . ." We have repeatedly warned CCANP about its irresponsible behavior in bringing unsubstantiated charges. See LBP-85-45, *supra*, 22 NRC at 827-28; *cf.* Part IV of this Opinion, *infra* pp. 668-70. We will discuss this matter again under Contention 10 (*infra* pp. 626-27). Here we note only that such excursions beyond the bounds of propriety do nothing to further CCANP's cause before this Board.

In sum, we find that there is nothing in HL&P's handling of the Quadrex Report under § 50.55(e) that reflects adversely in any way on the organization's character or competence.

3. *Contention 10: Notifiability Pursuant to McGuire Doctrine of Quadrex Report and B&R Replacement; Candor of HL&P Phase I Testimony (Findings 615-677)*

As originally formulated, Contention 10 claimed that the Quadrex Report was relevant and material to issues of character and competence addressed in Phase I and, under the *McGuire* doctrine, should have been furnished to the Board and parties shortly after its receipt by HL&P; and that the Applicants' failure to have furnished the report at that time reflects adversely on their character and competence and on their ability to manage the construction and operation of a nuclear power plant. LBP-85-6, *supra*, 21 NRC at 463. In discussing this claim, we asked the Applicants to explain at the hearing any inconsistency between the Quadrex Report and Phase I testimony concerning the adequa-

cy of B&R's services, and the Applicants' reasoning for not mentioning the Quadrex Report or the review of B&R's engineering services during the Phase I testimony (*id.* at 460). We later determined that the contention was broad enough to encompass CCANP's claim (set forth in its April 15, 1985 motion to reopen the Phase I record) that the Board and parties should have been notified on a more timely basis of the potential removal of B&R as architect-engineer and construction manager. Sixth Prehearing Conference Order, dated May 17, 1985, at 3-4 (unpublished); LBP-85-19, *supra*, 21 NRC at 1715.

All of the foregoing matters bear upon the Applicants' candor in dealing with regulatory authorities. We shall discuss them in this portion of our Opinion.

a. *The McGuire Doctrine*

As we observed in LBP-85-6, *supra*, the *McGuire* doctrine stems from a long line of Appeal Board decisions, extending as far back as 1973, which obligate applicants and licensees to keep licensing or appeal boards informed of newly developing information that is "relevant and material" to issues pending before such Boards (21 NRC at 460-62 and cases cited). The doctrine has been enunciated only through adjudicatory decisions and has not been promulgated into a rule or regulation. During the 1981 time period at issue in Contention 10, management officials at HL&P were aware of the substance of the doctrine and the general obligations engendered thereby (Finding 632).

In their first filings on whether the Quadrex Report should have been furnished to the Board shortly after its issuance pursuant to the *McGuire* doctrine, the Staff and CCANP each took the position that the report was relevant and material to Phase I issues and accordingly should have been furnished to the Board shortly after its receipt by HL&P. The Applicants took a contrary position. In LBP-85-6, we agreed with the Staff and CCANP "that the Quadrex Report was relevant and material to matters before the Board and, as a matter of law, should have been turned over under the *McGuire* doctrine shortly after its receipt by HL&P" (21 NRC at 461-62). We went on to hold, however, that a mere failure to notify the Board would not, *per se*, reflect a character deficiency. We held that question to warrant an adjudicatory hearing and accordingly approved for hearing the issue that we denominated as CCANP Contention 10.

The Applicants now ask us to revisit our conclusion that the Quadrex Report, as a matter of law, was comprehended by the *McGuire* doctrine (Appl. FOF-II at III-3 through III-5). They reason that relevance and

materiality are dependent on facts; that the facts demonstrate that the Quadrex Report has little bearing on the Phase I issues, which focussed on quality assurance (QA) in construction; and that the facts of record undercut our previous conclusion that “[c]onstruction and design QA are not so disparate as to be considered unrelated subjects” and, accordingly, that the Quadrex Report should have been furnished to us shortly after its issuance as a matter of law.

CCANP and the Staff would each have us adhere to our earlier legal conclusion. They each assert that it was correct on the merits (CCANP FOF-II at 26; Staff FOF-II at 114-19). In addition, CCANP asserts that we should not even entertain the Applicants’ request for us to revisit our previous legal conclusion since it represents an untimely and improper motion for reconsideration of our ruling in LBP-85-6 (CCANP FOF-II at 27-28). In their reply, the Applicants acknowledge that they are seeking reconsideration, but only on the basis of new information developed at the hearing. That being so, they claim that their position seeking reconsideration is neither untimely nor improper. Appl. Reply FOF-II at 75-76.

We agree with the Applicants that it was not improper for them to have sought reconsideration on the basis of new factual information not available at the time a motion for reconsideration of LBP-85-6 would normally have been required to have been submitted. That being said, we have reexamined our previous ruling and find no reason to modify it. Indeed, evidence at the hearing confirms that the Quadrex Report had enough bearing on Phase I issues to be considered relevant and material, within the meaning of the *McGuire* doctrine.

For example, several Quadrex findings related directly to operation of HL&P’s QA program — indeed, two of them were reported to NRC as significant QA breakdowns (Finding 468). As we previously pointed out, and as the Staff again states (Staff FOF-II at 115), “[c]onstruction and design QA are not so disparate as to be considered unrelated subjects.” LBP-85-6, *supra*, 21 NRC at 462. Although we were furnished copies of the two reports that were deemed to represent significant QA breakdowns, those reports would have assumed added significance to the litigation before us in the context of the Quadrex Report as a whole.

Furthermore, the Quadrex review was exemplary of HL&P’s efforts to exercise managerial control over its contractor. Thus, it fell within the “abdication of responsibility” issues authorized by the Commission in CLI-80-32, *supra*, and delineated in more detail through Issues A and B. We therefore reiterate our conclusion that the Quadrex Report should have been furnished to the Board pursuant to the *McGuire* doctrine shortly after its issuance.

On the other hand, the record establishes that the decision to seek an alternative to B&R as architect-engineer was not made until June 29, 1981, that the potential availability of practical alternatives was not known until mid-August 1981 (after proposals had been received) and that, until mid-to-late September 1981, various uncertainties with respect to selection of a replacement contractor were not yet resolved (Findings 649-650). That being so, the advice to us on September 24, 1981, of the replacement of B&R conformed to standards required by the *McGuire* doctrine.

b. Effect on Character of McGuire Doctrine Violations, and Instances of Lack of Candor

As we also pointed out in LBP-85-6, *supra*, 21 NRC at 462, and as all parties recognize, failure of an applicant to inform a Licensing Board pursuant to the *McGuire* doctrine does not, by itself, reflect a deficiency in character or competence (Appl. FOF-II at III-5 to III-7; CCANP FOF-II at 27-28; Staff FOF-II at 116-17). Additionally, it would have to be demonstrated that the failure to notify the Board was itself motivated by or reflective of a character deficiency. LBP-85-6, *supra*, 21 NRC at 458-59, 462.

The additional showing that the Applicants would require is that the failure to provide information to a licensing board was "a deliberate breach of an unmistakable duty, a pattern of conduct to that effect, or any indications of bad faith" (Appl. FOF-II at III-5). The Staff, for its part, would require a showing that the information subject to the *McGuire* doctrine was "intentionally concealed" from the Board (Staff FOF-II at 119). In that connection, the Staff stresses (*id.* at 118) that the Appeal Board has viewed the timely submission of information to the Staff (although not to a board) as countering a claim that a licensee intentionally acted to conceal from such board information that should have been furnished earlier. *Metropolitan Edison Co.* (Three Mile Island Nuclear Station, Unit 1), ALAB-774, 19 NRC 1350 (1984).

CCANP does not elaborate on what showing it believes would be required to demonstrate a deficiency in character. As we understand its position, it is asserting that the facts or inferences on which it is relying are sufficient to constitute such a deficiency, without inquiry into the totality of elements that might be deemed to contribute to such a deficiency.

The Applicants' proposed standards are more precise, and not substantively different, from those advanced by the Staff. In our view, they are generally appropriate for determining whether a potentially disqualifying

character deficiency for failing to furnish information to the Board as required by the *McGuire* doctrine has been demonstrated. In using these standards, we are interpreting “unmistakable” to mean “clearly defined,” and “bad faith” as including “a design to mislead or deceive another” — i.e., not an “honest mistake.” Black’s Law Dictionary 176 (rev. 4th ed. 1986). In determining whether a showing of alleged character deficiencies proved to be disqualifying, we would view it in the context of an applicant’s overall record in supplying information to the Board, the reasons why specified information was not furnished to the Board, and (assuming a demonstration of less-than-full candor in certain instances) the significance of the information and the number of instances of less-than-full candor. In our view, these standards are consistent with the “intentional lack of truthfulness or candor condoned by management” and the “willful misrepresentations . . . or representations made with disregard for their truth,” which we cited in PID-I as demonstrating a potentially disqualifying lack of character. LBP-84-13, *supra*, 19 NRC at 678.

CCANP would have us find a disqualifying lack of character on the basis that there was a “conspiracy” on the part of senior HL&P management to withhold information about the Quadrex review or report from the Board. Given such a conspiracy, CCANP reasons that the violation of the *McGuire* doctrine (which we have found) perforce reflects adversely on the Applicants’ character sufficiently to disqualify them from continuing to manage the construction, and eventually managing the operation, of STP. CCANP perceives the conspiracy in the manner in which HL&P organized its reportability review of the Quadrex Report. CCANP FOF-II at 28, 145-46.

We have found no evidence of any conspiracy to withhold information from this Board. The similarity of views of upper management officials as to the scope of the Phase I hearings — although not in accord with our own view — does not represent a conspiracy. Nor does the manner in which HL&P organized its reportability review of the Quadrex Report. HL&P could have undertaken such a review in a number of ways, but the manner chosen by HL&P (whether or not the most efficient or effective) had justifiable bases warranting its consideration and selection. In any event, we have found the method of review selected by HL&P to have been appropriate under the regulations and guidelines then extant. *See supra* p. 621.

In developing its conspiracy theory, CCANP advances arguments that attack the credibility of two of the Staff witnesses (Messrs. Donald E. Sells and John T. Collins). CCANP attempts to portray Mr. Sells as being untruthful because of a recent illness (and hospitalization) which

he experienced — indeed, CCANP even portrayed Mr. Sells as part of the conjectured conspiracy. CCANP's argument is based only on unsubstantiated conjecture without a fact cited, other than a slight difference in details between the testimony of Mr. Sells and that of an Applicants' witness (CCANP FOF-II at 113-14). Similarly, CCANP asserts that a portion of Mr. Collins' testimony possibly was only a "cover story," derived to explain an alleged failure of Mr. Collins to take actions that CCANP deemed to be appropriate (*id.* at 116-17). Absolutely no evidence supporting CCANP's theory (other than a slight difference between Mr. Collins' testimony and that of one Applicants' witness) is either cited or is present in the record.

Both of these arguments of CCANP overstep the bounds of propriety. *Cf.* Memorandum and Order (CCANP Motions II and III to Reopen Record), LBP-85-45, 22 NRC 819, 827-28 (1985). We regard Messrs. Sells' and Collins' testimony as true to the best of their recollections, despite some differences in detail from testimony of the Applicants. Indeed, in both of the instances cited, we have accepted the version advanced by the Staff witnesses (although we do not doubt that the Applicants' witnesses in this regard were also testifying truthfully, to their best recollections). *Ad hominem* arguments of the type being employed by CCANP do not advance its position; if anything, they undercut the credibility of the proposed findings that CCANP is asking us to adopt.

Applying the criteria for measuring character that we have found appropriate, we find the *McGuire* doctrine to have constituted a clearly defined duty, the general obligations of which were well known to HL&P officials back in 1981. We also note, however, that certain details of the doctrine were not well known at that time — in particular, that close questions as to relevancy or materiality are to be resolved by the Board, not by the Applicants. We find that HL&P misconstrued the scope of the Phase I hearings, but we find no evidence that HL&P witnesses intentionally sought to avoid obligations imposed by the *McGuire* doctrine. Clearly there was no pattern to that effect. For as far as we can ascertain, HL&P in many instances has provided us and the parties with information beyond that which would technically be required to be furnished under the *McGuire* doctrine. The failure to furnish or mention the Quadrex Report or review represents an isolated — although by no means insignificant — deviation from that pattern.

In terms of the last of the criteria for ascertaining character, we have found a few instances where HL&P witnesses in Phase I provided testimony or answered questions with less-than-desirable candor. The most significant was HL&P's description of its management of B&R's engineering services. HL&P witnesses may have viewed B&R's design engi-

neering services as outside the scope of the Phase I hearings, as they claim. But when their direct testimony deals with HL&P's management of design engineering services, they have an obligation to provide a full story to the Board — including HL&P's undertaking of the Quadrex review and its direction to B&R as to how to respond to Quadrex findings (Finding 658).

HL&P's explanation that the direct testimony dealt only with activities of the Project Engineering group and that such group had no function with respect to the Quadrex review or Quadrex Report (Tr. 12,616-17 (Goldberg)) is specious at best. The Phase I testimony could only be properly construed as describing for the Board HL&P's organization for providing programmatic direction to the B&R technical support effort, and the process by which HL&P performed this engineering review. Specific examples were provided of "action HL&P has recently taken as part of its direction of B&R . . . design efforts." Goldberg/Frazar, ff. Tr. 906, at 11-12. If the testimony were limited only to the Project Engineering group, it was patently incomplete and misleading, since that group obviously was not the only means through which HL&P performed its engineering review during 1981. That group had significance only insofar as it represented a methodology employed by HL&P for performing such review. In any event, it is clear to us that the Quadrex review or report and the directions to B&R resulting therefrom were two of the most significant elements in HL&P's engineering review of B&R during the Spring of 1981 and, as such, should have been mentioned.

We have also found several instances where the Quadrex review or Quadrex Report should have been mentioned in response to cross-examination inquiries (Findings 656, 665). Irrespective of the witness' view of the scope of the Phase I hearings, full answers to these questions (which directly mentioned design engineering activities) should have brought forth a reference to the Quadrex review or report.

As for the replacement of B&R, we have found no *McGuire* doctrine violation as a result of our not being notified prior to September 24, 1981. But the answer of one witness to a question concerning potential consideration of the replacement of B&R may not have been fully responsive (Findings 646, 675).

These instances of less-than-full disclosure do not represent a pattern of conduct. They do not represent a conspiracy. Insofar as the Quadrex Report and review are concerned, they do not reflect a withholding of information from NRC as a whole (as distinguished from the component of NRC represented by this Board). Nor do they represent a deliberate effort to mislead the Board. They appear to reflect only a higher threshold for relevancy and materiality on HL&P's part than we view as ap-

appropriate. Indeed, they represent a situation where valid operational considerations may conflict with the openness and candor which NRC's regulatory system mandates.

Taking these considerations into account, we believe that these instances do reflect less-than-desirable candor and do detract in some degree from the high marks that we gave to HL&P's character in Phase I. In PID-I, we found the most important character trait to be HL&P's truthfulness and candor and we gave high marks to HL&P managerial personnel for their responsiveness to Staff inquiries and their willingness to communicate with NRC about project developments. We found no basis for determining that HL&P was anything other than open and frank with the NRC Staff and this Board — subject, of course, to the further hearings on the Quadrex Report. LBP-84-13, *supra*, 19 NRC at 683-86. Although the few instances of less-than-full disclosure that we have described undercut to some extent our previous evaluation of HL&P's character, they do not do so to a degree sufficient to warrant the denial of operating licenses for lack of character. As in *TMI*, ALAB-774, *supra*, they do not establish a lack of management integrity.

We trust, however, that our findings herein will serve as a guide for future HL&P communications with NRC, including this Board. If instances of lack of candor (either with this Board or other elements of NRC) should recur in the future, their import should necessarily be evaluated against a background of the instances of lack of full disclosure identified herein.

In sum, we hold that the instances of less-than-full disclosure identified in the resolution of Contention 10 are not significant enough for us to conclude that HL&P lacks character to a degree that would warrant the denial of operating licenses.

B. Current Competence of HL&P and Its Contractors (Issues B and D) (Findings 678-762)

1. Background

In PID-I, we reached only preliminary conclusions on those aspects of Issues B and D that question the competence of HL&P to complete construction of and thereafter to operate the STP, and the effectiveness of corrective actions adopted following the 1980 Show-Cause Order. We did so because the record at that time on these subjects was largely composed of programmatic-type information (i.e., the organization, proposed personnel, and construction and QA programs), together with the reputations of HL&P's new contractors, Bechtel and Ebasco, derived from

work on other projects. The record included little information concerning implementation of those programs by HL&P and its new contractors.

PID-I established a procedure for enhancing the record to enable us to resolve the competence issues that had been left open. We directed the Staff to provide a report concerning the performance of HL&P, Bechtel, and Ebasco at STP since the close of the Phase I record. This report was to be presented during Phase II and was to encompass (although not necessarily be limited to) such matters as the effectiveness of Bechtel and Ebasco procedures in areas that had been subject to Phase I litigation, violations (if any) of applicable regulatory requirements, nonconformances (particularly, although not limited to, the civil structural area), altercations (if any) between construction and quality control (QC) personnel, and SALP ("Systematic Assessment of Licensee Performance") evaluations. We explicitly sought the Staff's evaluation of the adequacy of implementation of the QA/QC program for construction. We also invited other parties to supplement or comment on the Staff's report, or to provide their own reports if they wished. LBP-84-13, *supra*, 19 NRC at 697, 700.

In considering CCANP's motion for additional discovery with respect to the Phase II competence inquiry (and in granting that motion in part), we made it clear that we did not envisage an open-ended extension into Phase II of the competence issues addressed in Phase I. Rather, the inquiry in Phase II would be whether our expectations as to improvement of HL&P's competence (set forth in PID-I) were in fact being fulfilled. We emphasized that the centerpiece of the Phase II issue would be the Staff's report, which we anticipated would be founded upon such documents as various Office of Inspection and Enforcement (I&E) and Office of Investigations (OI) reports, SALP reports, and 10 C.F.R. § 50.55(e) reports filed by HL&P. We made certain that all parties would have access to those documents. Memorandum and Order dated May 22, 1984, *supra*, at 7-11.

We further discussed the scope of the competence issue at the Fifth Prehearing Conference in October 1984, and established schedules (later modified in several respects) for the submission of various parties' reports or comments. We determined that the Staff report would be submitted in affidavit form. We also made it clear that the competence report would not be automatically considered at an evidentiary hearing, but that it would be necessary for parties to define explicitly any competence issues that they believed required further hearings. Fifth Prehearing Conference Order, *supra*, at 3-4.

The Staff filed its affidavit on December 21, 1984. It filed an amended and updated affidavit on January 24, 1985. The Applicants filed their

own supplementary affidavit on February 25, 1985. On the same date, CCANP filed comments on the Staff affidavit, together with several motions. As a result of a misunderstanding with respect to certain documents, we permitted CCANP to file an additional response to the Staff affidavit, along with its response to the Applicants' affidavit. Memorandum (Telephone Conference Call of 2/26/85), dated February 28, 1985. By letter dated March 13, 1985, CCANP advised that it would forego its opportunity to submit those responses. On March 14 and 25, 1985, the Applicants and Staff, respectively, submitted responses to CCANP's filings on the competence questions; each asserted that CCANP had not set forth facts with sufficient particularity to warrant a further hearing on the competence of HL&P and its contractors.

In the interim, we had identified two elements of HL&P's competence that we viewed as unresolved by the affidavits. In LBP-85-6, *supra*, which accepted for litigation several questions arising from the reportability of the Quadrex Report, we also accepted as a competence issue HL&P's practices and procedures for reporting § 50.55(e) deficiencies. Shortly thereafter, in LBP-85-9, 21 NRC 524 (1985), we denied a proposed late-filed contention of CCANP dealing with soil stability but accepted as part of the competence issue the matter of the Applicants' current organization, procedures and activities in soils areas. Both § 50.55(e) reporting and soils were functional areas where the Staff had given HL&P a category 3 (below-average) rating in the SALP report for the period December 1, 1982–November 30, 1983 (I&E Rept. 83-26).

As for other aspects of the competence issue, we held that CCANP's February 25, 1985 comments did not identify any facts with sufficient particularity to warrant an evidentiary hearing. *See* LBP-85-9, *supra*, 21 NRC at 530 n.6. Rather, CCANP for the most part took issue with the procedural method we had adopted for resolving the competence issue. CCANP claimed that it should not be required to identify factual matters in the Staff affidavit that required a hearing, inasmuch as Issue B had already been accepted for litigation. CCANP listed some general areas that it indicated it wished to explore (including the Staff's SALP report), but it set forth no particular facts that explained why a further hearing on such areas was warranted.

By their filings dated March 14 and March 25, 1985, the Applicants and Staff, respectively, had urged that the portions of the competence issues not already identified for litigation be resolved on the basis of the filed affidavits. We perceived that resolution in that manner would be comparable to the grant of partial summary disposition pursuant to 10 C.F.R. § 2.749 of portions of Issues B and D. Because we regarded CCANP as not adequately informed that such method of resolving

Issues B and D would be utilized, we advised CCANP that we would treat the Staff's and Applicants' affidavits as affidavits seeking summary disposition and provided further opportunities for CCANP to respond. We explicitly pointed out that, to warrant litigation of additional aspects of the competence issue, CCANP would have to identify "specific material facts in controversy . . . which could undermine the conclusions reached by the Applicants or Staff in their affidavits or tend to demonstrate a lack of competence of HL&P or its contractors in implementing the QA/QC program for construction." Memorandum and Order (Telephone Conference Call of April 4, 1985), dated April 5, 1985 (unpublished). CCANP filed its response on April 25, 1985.

Following oral argument at the Sixth Prehearing Conference (Tr. 11,074-182), we granted summary disposition on all aspects of HL&P's competence except reporting under § 50.55(e) and soils questions (both of which we defined more precisely than we had in our earlier descriptions). We also called upon Staff witnesses to update generally their evaluations of HL&P's competence. We indicated that we would explain this ruling in our Phase II PID. Sixth Prehearing Conference Order (Further Definition of Phase II Issues), dated May 17, 1985 (as corrected by Errata dated June 14, 1985) (unpublished).

2. Summary Disposition: Standards

The standards for ruling on motions for summary disposition are well accepted and not in dispute here. Summary disposition of an issue may be granted if the filings in the proceeding, including affidavits, demonstrate that there is no genuine issue as to any material fact and the moving party is entitled to a decision as a matter of law. 10 C.F.R. § 2.749. Here, we are treating the Staff's and Applicants' affidavits as motions for summary disposition by those parties.

The burden of proof with respect to summary disposition is on an applicant/movant to demonstrate the absence of any genuine issue of material fact. *Cleveland Electric Illuminating Co.* (Perry Nuclear Power Plant, Units 1 and 2), ALAB-443, 6 NRC 741, 753 (1977). As set forth in 10 C.F.R. § 2.749(b), a response to affidavits "may not rest upon . . . mere allegations or denials . . . [but] must set forth specific facts showing that there is a genuine issue of fact." In determining whether a motion for summary disposition should be granted, the record must be reviewed in the light most favorable to the opponent of such a motion. *Dairyland Power Cooperative* (LaCrosse Boiling Water Reactor), LBP-82-58, 16 NRC 512, 519 (1982). To preclude summary disposition, the opponent must set forth specific *facts*; naked assertions or general

denials are not sufficient. *Houston Lighting & Power Co.* (Allens Creek Nuclear Generating Station, Unit 1), ALAB-629, 13 NRC 75 (1981); *Virginia Electric and Power Co.* (North Anna Power Station, Units 1 and 2), ALAB-584, 11 NRC 451 (1980).

CCANP provided no affidavits in response to the Staff's and Applicants' affidavits. Its failure to respond with evidentiary materials, however, does not mean that the summary disposition motion must be granted. *Perry, supra*, 6 NRC at 754, citing *Adickes v. Kress & Co.*, 398 U.S. 144, 159 (1970). To grant summary disposition, we must still find no genuine issue of material fact and that the movant is entitled to prevail as a matter of law. Moreover where, as here, significant health and safety issues are involved, a Licensing Board should only grant an applicant's motion for summary disposition "if it is convinced from the material filed that the public health and safety . . . will be satisfactorily protected." *Cincinnati Gas & Electric Co.* (William H. Zimmer Nuclear Station), LBP-81-2, 13 NRC 36, 40-41 (1981); see also *Carolina Power & Light Co.* (Shearon Harris Nuclear Power Plant), LBP-85-27A, 22 NRC 207 (1985).

CCANP's April 25, 1985 response relied almost entirely on CCANP's interpretation of I&E inspection reports, notices of violation, the Staff's SALP report, and HL&P's § 50.55(e) reports. In evaluating the safety significance of material of this type, it is important to remember that

[P]erfection in plant construction and the facility construction quality assurance program is not a precondition for a license under either the Atomic Energy Act or the Commission's regulations. What is required instead is reasonable assurance that the plant, as built, can and will be operated without endangering the public health and safety.

Pacific Gas and Electric Co. (Diablo Canyon Nuclear Power Plant, Units 1 and 2), ALAB-756, 18 NRC 1340, 1345 (1983).

Furthermore, it is clear that every QA deficiency, such as those commonly discussed in I&E reports, does not perforce "reflect an attitude or lack of discipline that undermines confidence that the QA program has been successful." *Long Island Lighting Co.* (Shoreham Nuclear Power Station, Unit 1), ALAB-788, 20 NRC 1102, 1141-42 (1984). Nor, in our view, does the identification of a QA deficiency, however minor, *per se* reflect adversely on the overall conclusion we must reach on HL&P's competence.

With these general principles in mind, we turn to our rulings on the claims set forth by CCANP in its April 25, 1985 filing, and our reasons for granting summary disposition of portions of Issues B and D.

3. Ruling on CCANP's April 25, 1985 Response

In Part II of its response, CCANP advances several procedural objections to the method we had selected for resolving the competence issues. In ¶¶ a and b, below, we treat those of CCANP's procedural claims on which we have not previously expressed our opinion. In Part III of its response, CCANP advances a number of substantive claims. We treat those claims in ¶¶ c through l, below.

a. CCANP first asserts that our order of April 5, 1985, which set forth the summary disposition procedure we would follow for those aspects of the competence issue not already designated for litigation, narrowed the scope of Issue B by not including the "character" aspects of the issue. Therefore, according to CCANP, the character aspects of Issue B were still open for litigation in Phase II.

This position ignores the circumstance that the character aspects of Issue B were disposed of by PID-I. The only character question remaining open for Phase II adjudication involved HL&P's handling and reporting of the Quadrex Report, including its reporting of the change in contractors that, in our view, stemmed at least in part from the revelations of that report. This open character question (which we consider in this PID) is part of Issue A, not B (or D).

b. CCANP also claimed that, since we would hear "many genuine issues" concerning Issues B and D (i.e., those matters we previously had identified), Issues B and D were no longer subject to summary disposition. To the contrary, however, the summary disposition procedures may be utilized with respect to "all *or any part* of the matters involved in the proceeding." 10 C.F.R. § 2.749(a) (emphasis added). It is clearly appropriate for a Board to grant partial summary disposition of an issue, where such result is warranted. *See, e.g., Cleveland Electric Illuminating Co.* (Perry Nuclear Power Plant, Units 1 and 2), LBP-82-114, 16 NRC 1909, 1913-18 (1982); *cf. Pennsylvania Power & Light Co.* (Susquehanna Steam Electric Station, Units 1 and 2), ALAB-641, 13 NRC 550 (1981).

CCANP's observation that the procedure we adopted would have us rule on Issues B and D without the benefit of testimony and cross-examination merely states the obvious: any grant of summary disposition pursuant to § 2.749 produces that result. The purpose of the procedures, however, is not to deny a litigant the right to a full hearing on legitimately disputed issues of material fact but, rather, to ensure that "evidentiary hearing time is not unnecessarily devoted" to issues as to which there is no genuine issue of material fact. *Statement of Policy on Conduct of Licensing Proceedings*, CLI-81-8, 13 NRC 452, 457 (1981).

c. CCANP claimed that all "open" items, as well as all "closed" items, in I&E inspection reports since the close of the Phase I record

constitute unresolved factual questions bearing on the adequacy of HL&P's competence and of its QA program for construction. With respect to this general claim, CCANP makes no attempt to demonstrate the significance or "materiality" of most of the open or closed items, or of the total number of such items; it advanced no specific factual basis by which we could conclude that these items reflect adversely on the competence of HL&P or its new contractors. CCANP's lack of particularity as to the significance of most of the open or closed items caused us to conclude that, in these general claims, CCANP had not identified a material unresolved fact.

CCANP also generally took issue with the Staff's open-item system, claiming that the Staff should instead have issued violations. CCANP cited the Staff's definition of an open item as one about which more information is required to ascertain whether it is an acceptable item, violation, or deviation. CCANP would have us assume that each open item constitutes a "violation" until proved otherwise. CCANP asserts that it traced the history of seventy open items since the close of the Phase I record and that, as of March 22, 1985, forty-four remained open. CCANP would have us add these forty-four items to the number of violations set forth in the Staff's affidavit. On the basis of such assumption, CCANP asserts that there are material facts in dispute concerning statements in the affidavits concerning numbers of violations and their significance.

We find no persuasive reason to adopt the assumption proposed by CCANP. As the Staff asserts, there are many reasons for an item being designated as open. Some, if not most, of those reasons are not traceable to activities of an applicant or licensee — e.g., time limitations imposed by NRC on particular inspections or inspection activities, and the relative importance of the item under review. *See* Tr. 11,131-32; *see also* Tr. 11,095-96.

Indeed, we view CCANP's proposed assumption as likely to lead to less thorough enforcement than exists under the open-item system. For, it is likely that with most open items, the Staff would not have sufficient information to issue a Notice of Violation. The open-item system in our view serves as a regulatory device to highlight areas where further NRC review is warranted. We have been given no persuasive reason to indicate or suggest that the NRC has been abusing this system.

In sum, CCANP's general claim is not based on reasons why particular open items should instead have been violations. CCANP did not even attempt to relate particular open items to the NRC criteria for violations. *See* 10 C.F.R. Part 2, Appendix C. Thus it failed to set forth a material

fact in dispute concerning the open-item system. In any event, a licensing proceeding is not an appropriate forum for challenging the Staff's methodology for carrying out its functions, at least in the absence of a showing (not made here) that the functions are inconsistent with regulatory requirements or were performed other than normally for the particular plant under review.

For these reasons, we are giving weight to the affidavits' statements regarding the number and significance of violations and deviations attributable to HL&P during the period under review.

d. CCANP did list twelve open items and seven closed items which, it claimed, raised significant issues. CCANP provided little more than its conclusion to this effect. It never explained adequately why any of the items would be material to an evaluation of the competence of HL&P and its new contractors, or to the adequacy of implementation of the QA/QC program for construction.

There are other reasons why the listed open or closed items cannot be considered as raising a material factual question. For example:

- (i) As the Applicants have pointed out, CCANP has mischaracterized or misunderstood the nature of some of the listed items. For example, one of the listed open items had in fact been closed (item numbered by CCANP as III.A.6). Another represented an inaccurate reading of an I&E report (item III.A.12). To its credit, CCANP conceded that it had made some errors in its filing, as a result of lack of time for its preparation; it apologized for any such errors (Tr. 11,141).
- (ii) Four of the open items (numbered III.A.1, III.A.2, III.A.3, and III.A.4 in CCANP's filing) arose from inspections of B&R procedures or practices. They thus are beyond the scope of the Phase II competence issues. CCANP's main claim of error seems to hinge on the length of time in which these items remained open. That complaint would appear to relate to the Staff's procedures rather than to the current competence of HL&P or its contractors.
- (iii) Several of the open items (numbered III.A.6, III.A.7, and III.A.11) represented questions by inspectors concerning the absence of particular procedures. These items represented areas in which QA procedures were not mandatory. That such procedures may eventually have been written does not reflect adversely on HL&P's competence or undermine the affidavits before us.
- (iv) One of the open items (numbered III.A.5) was concerned with the question as to whether a particular item of equipment was

safety-related. When it was later determined to be safety-related (a matter of several weeks), HL&P promptly filed a report pursuant to § 50.55(e). We note that we in fact took evidence on HL&P's reporting practices pursuant to § 50.55(e).

- (v) With respect to six of the seven closed items which CCANP asserts affect HL&P's competence (items numbered III.B.1 through III.B.6), CCANP's major complaint seems to be that the Staff treated them as open items rather than violations. CCANP fails, however, to explain how, on the basis of information known to the Staff when the item was flagged, any of those items could have been determined to fall within the NRC criteria for violations. CCANP's conclusory allegations fail to show a genuine issue exists and are therefore insufficient to defeat a motion for summary disposition.
- (vi) With respect to the final closed item listed (III.B.7), CCANP has apparently misunderstood or misstated the facts involved. See Tr. 11,176-77 (explanation by Applicants).

e. CCANP lists eight items (III.C.1(a)-III.C.1(h)) that it claims either should have been reported pursuant to § 50.55(e) or should have been reported sooner than they actually were. CCANP provides only conclusory statements as to how any of the items fall within the criteria of § 50.55(e). In any event, the adequacy of HL&P's reporting practices under § 50.55(e) was earlier designated as a topic for hearing under the competence issue. In that regard, we asked the parties to address HL&P's methodology for handling "close questions" as to reportability. CCANP provided no facts by which we might conclude that any of its listed items that were not in fact reported were even close questions. Thus, we did not litigate any of CCANP's designated § 50.55(e) items as close questions, but we covered the substance of CCANP's claims under the issue we had defined.

f. In its item III.C.2, CCANP challenges the NRC Staff's positive conclusions concerning the effectiveness of HL&P's responses to notices of violation. CCANP cites one instance (III.C.2.a) where NRC required a further response, another instance (III.C.2.b) where HL&P apparently could not find certain records, and a final instance (III.C.2.c) where, instead of undertaking its own corrective action, HL&P decided to contract out the particular activity. In our view, these three examples do not present serious challenges to HL&P's competence, and CCANP fails to elucidate its general claim in this regard.

g. In its item III.C.3, CCANP challenges the Staff's generally favorable conclusions concerning the involvement of HL&P "upper management" in construction and QA-related activities. Without specificity,

CCANP bases its challenge on the “record of the project reviewed in this response” (CCANP Response at 24). CCANP then goes on to highlight one NRC finding that, it claims, reflects lack of involvement by HL&P managerial personnel. This finding, according to CCANP, reflects “that HL&P upper management does not review QA audits for substance” and that HL&P “leaves it up to Bechtel to review NCR’s [Non-conformance Reports] for possible 50.55(e) notification (while insisting HL&P be permitted to screen such determinations)” (*id.*).

In our view, CCANP has misread the inspection report on which it is relying (I&E Rept. 83-12, at 11). That report said no more than that HL&P did not *routinely* review NCRs but had assigned that responsibility to Bechtel. HL&P audits Bechtel’s performance of this function. The report also noted that the “use of QA audit reports by upper management was not reviewed” (*id.*). We have no reason to disagree with the Applicants’ statement that the review method being used by HL&P is comparable to that used by every utility that utilizes an architect-engineer and constructor (Tr. 11,093-95). For these reasons, we concluded that CCANP’s item III.C.3 does not set forth any material unresolved facts. In any event, we had already designated as a competence issue HL&P’s program for developing and reviewing § 50.55(e) reports, so that the substance of this item was in fact open for litigation.

h. During Phase I, allegations of harassment of B&R QC inspectors constituted a major issue that we considered. As we suggested in PID-I, HL&P’s recent experience with questions of this nature would be relevant to the report we were requesting. Both the Staff and Applicants included this topic in their affidavits. Both of them describe a new organization established by HL&P, denominated “Safeteam,” to consider quality or safety-related allegations. Staff Aff. (Tomlinson/Crossman), ¶¶ 20, 21 (corrected); Appl. Aff. (Geiger), ¶¶ 17-20.

CCANP observes (in item III.C.4) that it has not had access to records of Safeteam investigations but expresses a “concern” that NRC is abdicating its investigatory responsibilities to the Applicants. Further, CCANP claims (in item III.C.5) that NRC improperly abdicated its investigative responsibilities to the Department of Labor (DOL) or the Occupational Safety and Health Administration.

Nothing that CCANP has mentioned in this regard would suggest to us a material unresolved issue regarding HL&P’s competence. As we describe *infra*, the Safeteam organization appears to be a worthwhile addition to HL&P’s methodology for resolving allegations. The NRC Staff does not appear to have abdicated any of its investigative responsibilities; as the Staff points out, CCANP has identified no facts to support its bare assertions in this regard (Tr. 11,134-36). But even if CCANP’s claims

had a basis, that would not necessarily bear on the competence of HL&P or its contractors. Furthermore, NRC has a Memorandum of Understanding with the DOL under which DOL assumes responsibilities in conjunction with alleged unjust terminations (to which CCANP's response refers). Memorandum of Understanding Between NRC and Department of Labor; Employee Protection, 47 Fed. Reg. 54,585 (Dec. 3, 1982).

i. In item III.C.6, CCANP raises questions about the Staff's SALP report (I&E Rept. 83-26), particularly the areas where HL&P received a "3" rating (satisfactory but below average). CCANP provides no material facts to contradict the filed affidavits. In any event, two of the three areas in which HL&P had received a "3" rating are ones bearing upon matters that we previously had designated for hearing.

j. In item III.C.7, CCANP mentions one HL&P violation relative to a concrete pour but sets forth no additional facts that could raise a material question concerning the competence of HL&P and its contractors in this area. Given the lack of any requirement for perfection, one violation (without more) does not suggest a material unresolved question. Indeed, CCANP appears to be advancing this item as much to criticize Staff inspection practices as to cast doubt on HL&P's competence. In that context, the comments are beyond the scope of Phase II issues.

k. In item III.D, CCANP cites several of HL&P's responses to I&E bulletins as being inadequate. *See also* Tr. 11,164-65. From the Applicants' response (Tr. 11,177-79), it appears to us that CCANP's claims are based on a misunderstanding of the particular responses in question and, in one respect, its claim was simply not accurate. Clearly CCANP here set forth no material unresolved question concerning the competence of HL&P or its contractors.

l. Finally, in item III.E, CCANP lists several of what it describes as "generic issues" — issues that arose in more than one I&E report. CCANP provides no specific references, or reasons why the issues would materially derogate from the conclusions reached by the Staff or Applicants in their affidavits. For these reasons, these claims are not sufficient to reflect a material unresolved question concerning the competence of HL&P or its contractors.

4. *Reasons for Granting Partial Summary Disposition*

As detailed in our Findings (*infra* Findings 678-699), the affidavits submitted by the Staff and Applicants (and not controverted by CCANP) establish that there was a controlled transition from the performance of design engineering, construction management, and con-

struction functions by B&R to the performance of those functions by Bechtel and/or Ebasco. Safety-related construction under B&R was halted by December 1, 1981, and was not resumed by the new contractors until November 1982, following detailed review and approval by the Staff. From that time until the Summer of 1983, construction efforts and activities were increased incrementally.

We have reviewed HL&P's record of violations and deviations from the restart of construction through January 1985, its record of responding to violations and deviations during that time period, and the qualifications of senior personnel employed at STP since the change in contractors. We have also examined changes in the QA program for construction adopted since the close of the Phase I record. Finally, we have reviewed the SALP report undertaken by the Staff for the period December 1, 1982-November 30, 1983. That report rated the STP as below-average in three areas. Since two of those areas (soils and foundations, and corrective actions and reporting) involved issues or contentions with which we dealt extensively in PID-I, we identified those areas for further hearings in Phase II. (Those areas are considered later in this PID. *See infra* pp. 641-45.)

We also reviewed HL&P's efforts to resolve questions involving the harassment, or alleged harassment, of QC inspectors by construction personnel. We had devoted considerable attention to this subject in PID-I. On the basis of the affidavits, we are satisfied that intimidation or harassment of QC inspectors by construction personnel no longer appears to constitute a significant problem area at STP. We particularly take note of the establishment by HL&P of its Safeteam organization, an investigatory organization the sole function of which is to identify, investigate, report, and dispose of items that present, former, or exiting employees believe could affect plant safety. This organization complements those previously and currently maintained by HL&P, Bechtel, and Ebasco, and represents, in our view, a logical outgrowth of the further steps that HL&P indicated it might take to deal with harassment, intimidation, or threats against QC inspectors. *See* PID-I, *supra*, 19 NRC at 825-26, Findings 395 and 398.

On the basis of the affidavits, we have concluded that, except with respect to (1) soils and foundations and (2) § 50.55(e) reporting, there are no material facts about which there are genuine issues in dispute concerning the competence (as of February 1985) of HL&P and its contractors. We also have concluded that the QA program described in those affidavits (through Revision 7) meets all applicable requirements. We have reasonable assurance, based on the affidavits, that as of February

1985, HL&P had remedied the competence deficiencies dealt with in PID-I, except in the two areas indicated.

We have therefore granted partial summary disposition of the competence questions left open in PID-I. We required further hearings with respect to (1) soils and foundations and (2) § 50.55(e) reporting. We also asked that the competence questions be updated from the February 1985 cutoff date of the affidavits. These matters are dealt with *infra* pp. 645-46.

5. 10 C.F.R. § 50.55(e) Reporting (Findings 700-717)

In LBP-85-6, *supra*, 21 NRC at 460, we set forth as matters appropriate for adjudicatory consideration in Phase II HL&P's system for evaluating deficiencies and ascertaining their reportability under § 50.55(e). We also examined, in that connection, changes in procedures or personnel since 1981 and methods for establishing trends in violations or deficiencies, and we requested explanation of procedures where reportability presented a "close question." In particular, we asked for witnesses who could address an open item in a 1983 I&E report (Finding 700).

We received evidence on these subjects from both the Applicants and Staff, evidence that included the testimony of witnesses involved in or reviewing the procedures and exhibits detailing the procedures themselves. While CCANP presented no direct testimony, it was afforded extensive opportunity to cross-examine the witnesses presented by the other parties.

HL&P's reporting program is implemented through procedures that require employees of HL&P, Bechtel, and Ebasco to bring to the attention of supervisory personnel any conditions that may represent significant deficiencies within the meaning of § 50.55(e). The mechanism for this is, for HL&P, a Deficiency Evaluation Form (DEF) and, for Bechtel (and, through Bechtel, for Ebasco), a Deficiency Evaluation Report (DER). These DEFs and DERs are reviewed by HL&P Engineering. If Engineering determines that no deficiency exists, the basis for that determination is documented. If a deficiency is found to exist, the DEF or DER is sent to the Chairman of the Incident Review Committee (IRC) (Finding 706). The IRC conducts an initial evaluation and, if the deficiency is reportable or if there are insufficient data to determine reportability, the IRC chairman notifies the Manager, Nuclear Licensing, or the Group Vice-President, Nuclear, and with concurrence of one of them (or on his own if neither is available), he notifies the NRC. The purpose of concurrence by one of these officials is to ensure that complete information is supplied to the NRC. Neither the present incum-

bents nor the past Nuclear Licensing Manager has ever overruled an IRC decision to notify the NRC. Finding 710.

Once a reportable or potentially reportable condition is transmitted to the NRC, the IRC chairman initiates a technical review to confirm the reportability of the condition. Both the initial evaluation and the technical evaluation are carefully documented using forms specified for the purpose. If the technical evaluation finds the condition is in fact reportable, a report is sent to the NRC within 30 days. If it is not found reportable, NRC is notified within 30 days and the finding is documented. If the evaluation cannot be completed in 30 days, an interim report is sent to the NRC. Finding 711. To assure that DEFs and DERs that do not reach the IRC do not include reportable items, such DEFs and DERs are periodically reviewed (Finding 712).

Those who are charged with making the system work seem to us to be well-qualified (Findings 701, 707-709). Review by the Staff inspectors has found that the process meets the requirements of § 50.55(e) at present and has met it in the past. No deficiencies in the reporting system have been observed by the Staff since 1983, and NRC inspectors have been favorably impressed both before and since that time. Findings 703-704. The changes in the reporting system since 1981, aside from the institution of the DEF, have been minor (Finding 713).

We also examined the methods used by HL&P for discovering trends in deficiencies and thus ascertaining whether a group of deficiencies, each in itself nonreportable, might when taken together constitute a reportable QA breakdown. There is indeed an established trending program. All deficiency documents are collected; coded according to company, discipline, activity, and other appropriate categories; and analyzed to determine whether, taken together, they show a trend. The deficiencies are normalized for this purpose against hours of work or inspection time or quantities installed. Finding 714. The system seems to us well-calculated to attain its purpose.

We also reviewed the circumstances surrounding Open Item 83-12-01 in I&E Report 83-12, an item concerning an apparent failure to report a QA breakdown which we had asked the parties to address. As ultimately analyzed, this matter was deemed not to show such a breakdown by both HL&P's experts and those of the NRC Staff. Findings 715-716. We see nothing to indicate a failure in the reporting system.

During our adjudication of soils issues (see *infra* pp. 643-45), an instance of a failure by HL&P properly to respond to a notice of violation was revealed. We do not evaluate this instance as demonstrating any systemic deficiency in the § 50.55(e) reporting system but are nevertheless recommending certain corrective action (*infra* p. 645).

In sum, we have looked carefully at HL&P's system for reporting deficiencies under § 50.55(e). All evidence points to a system that works as well as one can reasonably expect. CCANP educed no direct evidence to the contrary, brought out nothing on cross-examination seriously to question the system, and produced no arguments in proposed findings that would persuade us to find otherwise (Finding 717).

6. Soils and Foundations (Findings 718-751)

In ruling on Issues B and D in PID-I, we left open certain questions relating to the competence of HL&P and its new contractors (Bechtel and Ebasco) to complete construction of the STP. Although we have granted summary disposition of most of the competence questions (*supra* pp. 639-41; Finding 699, *infra*), we nevertheless designated for hearing as a competence question HL&P's current organization, procedures, and activities in soils areas. We did so because (1) HL&P had experienced substantial difficulties in soils matters, which were reviewed in PID-I; (2) subsequently HL&P was charged with several violations in this area and also received the lowest SALP rating (Category "3") for this area, for the period from December 1, 1982, through November 30, 1983 (during which substantial soils activities were undertaken); (3) HL&P's own audit undertaken in 1984 also uncovered certain questionable practices or procedures in this area; and (4) the Staff's SALP report had portrayed one of the alleged violations as "represent[ing] a failure on the part of the licensee to rectify issues raised in the Show-Cause Order concerning the adequacy of backfill inspection" — one of the particular issues we had considered in Phase I. See LBP-85-9, *supra*, 21 NRC at 529-30; Finding 718, *infra*.

The soils questions were admitted as Issue B/D-1. That issue questioned whether backfill placed at the STP by Ebasco conformed to the requirements of the construction permits and applicable regulations in light of the two alleged violations discussed in the referenced SALP report and two named findings from the HL&P audit. The issue was addressed by three expert witnesses of the Applicants and by the Staff inspector responsible for discovering the alleged violations as well as for compiling the soils portion of the SALP report. We have found all of these individuals qualified to address Issue B/D-1. CCANP presented no direct testimony and filed no proposed findings on this issue. Findings 718-719, 721-722.

None of the alleged violations or audit items turned out to have significant safety implications. The first alleged violation (Notice of Violation 83-24-02) involved a failure to follow the standard laboratory test

method for determining “minimum density” of backfill. Bechtel had evaluated and ordered a different method to be used but had neglected to implement a corresponding change in the construction specifications or to generate an FSAR change. The second (which in fact was an unresolved item — number 83-24-01 — rather than a violation) concerned Ebasco’s procedures for quality control inspections of the backfill operations: there was a discrepancy between the written procedures (which were ambiguous and possibly deficient) and the procedures actually followed (which were adequate). Similarly, the two audit findings involved ambiguous specifications or directions. The first turned out to be overly conservative, whereas the second involved a practice that Ebasco was properly following even though it was not clearly required by the governing specifications.

The evidence of record demonstrates a thorough examination of both the sufficiency of the procedures followed and the adequacy of the backfill. All witnesses agreed that the backfill was of high quality and that the procedures followed were adequate. Furthermore, as for the future, most backfill work had already been undertaken as of the time of the evidentiary hearings.

Three matters warrant additional comment. First, the remark of the Staff inspector in I&E Report 83-26 that Unresolved Item 83-24-01 represented a failure to correct practices that had been highlighted in the Show-Cause Order was explained by the inspector, Mr. Joseph I. Tapia, as a matter which “fell in the crack” during the transition to a new construction organization. Although disturbed by Ebasco’s failure to fine-tune its backfill operation, Mr. Tapia had no technical concern with the resulting backfill. Tr. 13,784-85 (Tapia); Finding 740, *infra*.

Second, Mr. Tapia was questioned concerning a difference of opinion that reportedly had arisen between him and another NRC Staff inspector relative to the Staff close-out of soils matters discussed in Phase I. (Information concerning the difference of opinion had arisen as a result of a deposition of the other inspector taken as part of the lawsuit between the Applicants and B&R.) In response to inquiry by the Board, Mr. Tapia indicated that the other inspector had a procedural difference of opinion concerning the manner in which NRC had closed out its original soils concerns but that there was no technical difference of opinion concerning the adequacy of the soil. The other inspector had not filed a differing professional opinion on the matter, as he would have had a right to do if he had felt it necessary. Tr. 13,756-63 (Tapia). Given these circumstances, the referenced difference of opinion has no safety significance and casts no doubt on the credibility of Mr. Tapia’s opinions.

Finally, one deficiency in the implementation of the system for responding to notices of violation did manifest itself during the course of the soils hearings before us. In considering their response to Notice of Violation 83-24-02, the Applicants advised that, during preparation of testimony for this proceeding, they discovered an error in the response they had previously submitted to the Staff in response to the Notice of Violation. They also acknowledged that their procedures should have precluded the error from having taken place. They attributed the error to a failure to use controlled drawings, and they indicated that Bechtel's engineering judgment was that drawings and related documentation that are part of the backup to a response to a notice of violation should be subject to the same controls or checks as are drawings issued for construction. Finding 735.

The Staff also perceived a problem in HL&P's failure to use controlled drawings in responding to notices of violation (*id.*). We agree. Although this procedural change had not been implemented at the time of the hearing (*id.*), we strongly recommend that such a change in requirements be put into effect.

Notwithstanding the foregoing, we have found no systemic deficiencies in HL&P's overall methodology for reporting or responding to notices of violation, in the soils area or elsewhere. Further, we find reasonable assurance that the backfill placed by Ebasco conforms with the requirements of the construction permits and Commission regulations; and that the deficiencies in backfill activities considered in Issue B/D-1, and their handling by HL&P, do not reflect unfavorably on the competence of HL&P.

7. General Update on Current Competence of HL&P and Its Contractors (Findings 752-762)

Earlier in this Opinion, we evaluated the competence of HL&P and its new contractors on the basis of affidavits filed by the Staff and Applicants (*supra* pp. 639-41), together with our resolution of two designated competence issues (*supra* pp. 641-45). In our Sixth Prehearing Conference Order, *supra*, at 9, we directed the Staff to update its affidavits by evaluating (generally) the competence of HL&P and its new contractors, as compared with the competence existing in September 1981. We had in mind a general supplementation of the Staff's SALP report (I&E Rept. 83-26) and the Regional Administrator's letter of June 22, 1984, which transmitted that report to the Applicants.

At the hearing, several Staff witnesses addressed this update on the competence of HL&P and its new contractors, including one who had

joined in authoring the Staff affidavit and the SALP report. All of them believed that such competence was satisfactory and improving and compared well with that at other utility sites. No testimony to the contrary was provided or elicited. On the scale of SALP ratings ranging from "3" (satisfactory, although lowest) to "1" (highest), HL&P was evaluated generally as better than "2" — i.e., as falling between "1" and "2" (Finding 761). Moreover, as we have seen, HL&P's competence has substantially improved in the two areas that were specifically litigated (in which the SALP rating had been "3").

In sum, on the basis of the entire record, we conclude that the competence of HL&P and its current contractors meets NRC regulatory requirements and provides reasonable assurance that the STP will be completed in conformance with the terms of the construction permits and other applicable requirements. Issues B and D are resolved on that basis.

C. Contention 4: Hurricane Design and Construction (Findings 763-793)

CCANP Contention 4 questions whether Category I structures at the STP have been adequately "designed and constructed" to withstand hurricanes, including hurricane-generated missiles. In our Sixth Prehearing Conference Order, *supra*, we indicated that we were granting summary disposition of the design aspects of this contention but not of the construction aspects. We deferred setting forth our reasons for that ruling to this PID. Thereafter, in January 1986, we became aware of information that cast some doubt on a limited aspect of our design ruling. We therefore sought supplementary affidavits. On the basis of those affidavits, we find that on the record before us there are material unresolved factual issues and, accordingly, that we cannot grant summary disposition of the limited aspect of the design ruling which gave rise to the supplementary affidavits. We are requiring further development of the record in this regard. Most of our earlier design ruling, however, remains in effect. We here present the reasons for both our earlier and our supplementary rulings, including the findings on which we are relying.⁸

⁸ We note that CCANP had indicated at the Sixth Prehearing Conference that it might wish to file certain affidavits on the design aspects of the contention. We indicated in the Sixth Prehearing Conference Order, at 5 n.5, that to do so, CCANP would have to meet the standards for reopening a record. CCANP has not filed or attempted to file any such affidavits. Further, at the Seventh Prehearing Conference, CCANP indicated that it would not respond to the supplementary affidavits filed by the Applicants and Staff (Tr. 15,905).

1. Background (Findings 763-767)

Contention 4 had initially been sponsored by CEU, the Intervenor that withdrew from the proceeding prior to the conclusion of Phase I. By our Memorandum and Order of October 15, 1982, LBP-82-91, *supra*, we permitted CCANP to adopt this contention. The primary basis for the contention was reported wind speeds in the Gulf coastal areas in excess of the 125 mph for which safety structures at STP assertedly were designed. Further, although the contention by its terms does not specifically address the effects of heavy rainfall and hurricane-induced storm surge on the STP, certain of the Intervenor's discovery responses do refer to such conditions. These collateral effects, as well as the hurricane wind loads, together with certain questions raised by the Board, are addressed by the affidavits of the Applicants and/or Staff, filed in support of summary disposition, supplemented by the supplementary affidavits referenced above.

As set forth earlier in this Opinion (*supra* pp. 632-33), summary disposition should be granted only if the filings in the proceeding, including affidavits, demonstrate that there is no genuine issue as to any material fact and the moving party is entitled to a decision as a matter of law. On the other hand, where the filings in the proceeding, including affidavits, fail to make an adequate demonstration, summary disposition should not be granted, irrespective of the merit or lack of merit of responses which oppose such a motion. Where appropriate, summary disposition may be granted in part (*supra* p. 634).

Here, CCANP's April 5, 1985 response to the Applicants' March 12, 1985 motion included no affidavits but mainly focussed on the adequacy of the methodology used by the Applicants and approved by the Staff for determining the wind speed for which STP safety structures would be designed. With respect to certain structures where the Applicants and Staff analyze hurricane design through a probability approach, we have factored CCANP's comments into our analysis of the material before us. However, except for those legally oriented comments, and for reasons set forth below, CCANP has not set forth facts which demonstrate the existence of an unresolved genuine issue of material fact concerning the design of STP to withstand hurricanes. Nonetheless, as we construe the affidavits filed by the Applicants and Staff, we find an unresolved genuine issue of material fact that precludes us from granting summary disposition of all aspects of the design portion of Contention 4.

2. Design Questions (Findings 768-791)

Under NRC rules, the structures, systems, and components of nuclear power plants important to safety shall be designed to withstand the effects of natural phenomena, including hurricanes and tornadoes. 10 C.F.R. Part 50, Appendix A, § I, General Design Criterion (GDC) 2. Such structures, systems, and components are also required to be appropriately protected against dynamic effects, including the effects of missiles. GDC 4.

In evaluating the design of STP safety structures to withstand hurricanes, we must differentiate between the design-basis wind speed (DBW) and the operating-basis wind speed (OBW). A plant must be designed to operate safely in the event of an OBW but must be able to withstand a DBW and be shut down safely, without an adverse effect on the public health and safety. The 125-mph wind speed referenced by CCANP is the OBW; the DBW is the tornado-based wind speed (design-basis tornado) of 360 mph (rotational speed of 290 mph plus translational speed of 70 mph). See NRC Regulatory Guide 1.76; Standard Review Plan (SRP), NUREG-0800 Rev. 2, July 1981, §§ 3.3.1, 3.3.2.

Furthermore, defining the OBW, the Staff, through its SRP, takes the position that a nuclear power plant's design should withstand an operating-basis wind load, in combination with other severe loads, calculated on the basis of the 100-year recurrence "fastest-mile wind speed." That wind is the "most severe wind that has been historically reported for the site and surrounding area with sufficient margin for the limited accuracy, quantity, and period of time in which historical data has been accumulated." SRP §§ 2.3.1, 3.3.1. Data to be used to calculate the fastest-mile wind speed are to be taken from standard meteorological records from representative National Weather Service, military, or other stations recognized as standard installations with long periods of record (SRP § 2.3.1).

Under GDC 2 and 4, proper design to withstand hurricane wind speeds includes the requirement to protect against objects or "missiles" that may be generated by such wind speeds. Under Staff guidance, the missiles against which safety structures must be protected are set forth in § 3.5.1.4 of the SRP ("Missiles Generated by Natural Phenomena"). Particular examples of "design-basis" missiles are set forth (SRP at pp. 3.5.1.4-2 through 3.5.1.4-4) and include objects such as an 1800-kg automobile, a 125-kg 8-inch armor-piercing artillery shell, and a 1-inch solid steel sphere, all impacting at a specified wind speed (identified as Spectrum I). (Certain acceptable alternative spectra of missiles are also set forth.)

a. Reported Wind Speeds

CCANP (or, previously, CEU) advanced a number of reported wind speeds that exceeded the 125-mph OBW. None of them even approached the DBW for which the plant is designed. The Board asked questions to ascertain whether structures designed to resist tornado pressures (relatively short-lived) would withstand hurricane pressures, which extend for considerably longer durations. We were assured that the loads for which STP was designed are greatly in excess of those anticipated for hurricanes and are applicable regardless of the wind-load duration (Finding 778). Indeed, we were specifically advised that STP could withstand hurricane wind loads generated by wind speeds in excess of 200 mph,⁹ greater than any of the reported wind speeds on which CCANP was relying.

Although the design aspects of Contention 4 could be disposed of for all except three nonconforming structures solely on the above basis, we also recognize that not all of the wind speeds advanced by CCANP are appropriate for evaluating the STP design under the SRP criteria referenced above, particularly with respect to “standard installations.” The Applicants analyzed each of the wind-speed readings cited by CCANP, demonstrating that many were of dubious value in terms of SRP standards. Although most of them were derived from weather service or other reputable sources, those not utilized by the Applicants in analyzing the STP were unverifiable, or lacked adequate indications of reliability, or for varying reasons (particularly location) were not relevant to the STP.

The weather stations primarily relied on by the Applicants are Port Arthur, Galveston, Corpus Christi, and Brownsville, Texas.¹⁰ These weather-station locations are all within 10 miles of the Gulf Coast and are 150, 80, 105, and 220 miles, respectively, from the STP site (FSAR, Table 2.3-40; Tr. 10,915). Two of the readings relied on by CCANP — Matagorda and Port Lavaca, Texas — are much closer to the site: 8 miles and 37 miles, respectively (FSAR, Table 2.1-1, at pp. 2.1-9 and 2.1-12). The 170-mph wind speed at Port Lavaca was discounted because:

⁹ Linderman Aff., ¶ 17; Tr. 10,922-23, 10,929-30.

¹⁰ The FSAR analysis (in the form utilized during the early adjudication of Contention 4) originally had relied on data from Victoria, Texas, approximately 45 miles from the coast. As amended in 1984, the FSAR used near-coastal stations exclusively, since hurricane wind speeds typically decrease as storms move inland. Wolfe Aff., ¶ 11, at 5.

- non-fastest mile wind speed; estimated value; observation height unknown; quality of observer training and equipment indeterminate.

The 150-175-mph wind speed recorded in the Matagorda area was discounted because

- observation height unknown; quality of observer training and equipment indeterminate.

Another reading at Port Lavaca (175 mph) was discounted because

- observation height unknown; quality of observer training and equipment indeterminate.

Wolfe Aff., ¶ 18, at 10-11.

In accordance with SRP guidance, it was appropriate for the Applicants not to rely on these readings in calculating the fastest-mile wind speed (Finding 781). However, it would be desirable if readings as close to the site as these could either be factored into an analysis of hurricane design or, alternatively, a more detailed explanation for their non-use provided. Better data would be desirable either to justify the lack of reliance on such readings or (alternatively) to permit nearby readings to at least be taken into account to some degree. We recommend that the Staff consider devising better criteria for giving some weight to nearby wind readings that do not necessarily satisfy in full all of the SRP criteria (*see* Tr. 10,936). In particular, we believe that some reliance might well be placed on otherwise acceptable readings from stations lacking a long period of service. Otherwise readings from newly established stations might be unjustifiably ignored.

In any event, the readings at Port Lavaca and Matagorda on which CCANP relies are significantly lower than the DBW. Failure to have taken them into account accordingly imposes no undue risk to the public health and safety, even if they were to be accorded a reliability that they apparently do not possess.

b. Nonconforming Structures

Several safety-related structures have not been designed to withstand the effects of hurricane- or tornado-generated missiles, as required by GDC 4 (Findings 785-786). The affidavits initially filed by the Applicants and Staff had indicated that the STP safety structures all meet the NRC design criteria for missiles generated by a DBW (or design-basis tornado (DBT)) except with respect to one portion of one structure:

the roof area of the isolation valve cubicle (IVC). With respect to that structure, the Applicants employed a probabilistic risk assessment to demonstrate that the probability of a tornado- or hurricane-generated missile is sufficiently low (2×10^{-10} and 1.2×10^{-10} , respectively) that the design need not consider it. (Collectively, these probabilities total 3.2×10^{-10} .) The Staff calculated a somewhat higher probability (3×10^{-9} for both tornado- and hurricane-generated missiles), which was still less than the risk at which such matters must be considered under a long-standing Staff acceptance criterion (1×10^{-7}). Finding 780. See Reg. Guide 1.117 (Rev. 1, April 1978) and SRP §§ 2.2.3 and 3.5.1.4. In response to Board inquiries, the Applicants and Staff each confirmed that the plant was not being subdivided into small segments to reduce the risk of damage to specified portions of structures and hence lower the safety standards for these portions of the structures. Rather the probabilities of damage from all natural phenomena to relatively few portions of the plant not meeting the design criteria were summed and determined to be lower than the Staff's 1×10^{-7} acceptance criterion (Tr. 10,924-29, 10,940).

In our Sixth Prehearing Conference Order, *supra*, we had indicated that the method used by the Applicants and Staff to evaluate the IVC roof is acceptable. Later, however, new information developed which raised significant questions concerning the Applicants' and Staff's application(s) of this evaluation method to STP safety structures. By virtue of a January 10, 1986 filing by HL&P with the Staff (of which we and the parties were sent copies),¹¹ we learned that there was at least one other safety structure that had not been designed to withstand missiles generated by tornadoes (or, under the Applicants' analysis, hurricanes). Through a telephone conference call generated by our receipt of this information, we learned that there could be yet another safety structure not designed to withstand tornado or hurricane missiles. We asked the Applicants and Staff (and other parties that wished to do so) to address the conformance of those and possibly other structures with safety requirements. We also asked the parties' views concerning the numbers of safety structures (or portions thereof) that permissibly could fail to be designed to withstand natural phenomena, as long as the probability of damage remained lower than the Staff's acceptance criterion of 1×10^{-7} . Memorandum (Telephone Conference Call-January 28, 1986), dated January 29, 1986 (unpublished).

¹¹ We regard these copies as a *McGuire* doctrine communication which provided us relevant and material information on a timely basis.

The Applicants and Staff filed supplementary affidavits on February 18 and 28, 1986, respectively. They each indicated that, in addition to the IVC roof, certain Mechanical Electrical Auxiliary Building (MEAB) HVAC openings, as well as diesel generator exhaust stack openings, have not been designed to withstand the impact of tornado missiles.¹² The Applicants determined that the median probability of a tornado missile striking the MEAB HVAC dampers is 2×10^{-10} /year, and that the median probability of a tornado missile striking the exhaust stacks or entering the stack openings is 1.2×10^{-12} /year. The Staff calculated these additional probabilities collectively at about 50% of the probability (3×10^{-9}) of a missile striking the IVC roof — i.e., the probability of a tornado- or hurricane-generated missile striking the MEAB HVAC dampers and the diesel generator exhaust stacks is 1.5×10^{-9} . Combining the probabilities of a tornado missile striking any of the three structures, the Applicants' combined probability is 4.012×10^{-10} . The Applicants' combined probability for tornado and hurricane missiles striking these structures is approximately 6×10^{-10} /year. The Staff's is 4.5×10^{-9} for both tornado and hurricane missiles. All of these calculated probabilities are well below the Staff's acceptance criterion of 1×10^{-7} . Findings 785-786; *see also* Finding 788.

With respect to our inquiry as to the numbers of structures or portions thereof that may be encompassed by the 1×10^{-7} acceptance criterion, both the Applicants and Staff focus only on the probabilities and whether they meet the 1×10^{-7} acceptance criterion, irrespective of the number of safety structures or portions thereof that may fail to be protected because they collectively fall within the acceptance criterion. As the Staff's affidavit states:

The number of locations, where barriers are not provided to protect against tornado-generated missiles, is not a critical factor in the Staff's review. The important point is whether the overall probability of tornado missiles striking these locations meets the Staff's criteria.

Supplementary Affidavit of Mr. Jerry N. Wilson, dated February 27, 1986, ¶ 4.

We cannot accept this position in its entirety. In our opinion, this position amounts to regulation by probability or safety goal — a position that the Commission itself has explicitly rejected. In the words of a currently effective Commission Policy Statement:

¹² The Applicants further advised that two doors in the MEAB are also not designed to withstand a tornado missile but that other internal barriers protect safety-related equipment and components in the MEAB. Linderman Supp. Aff. at 2 n.*. We are accepting that representation (Finding 791).

[D]uring the evaluation period [for the safety goal program], the preliminary safety goals and preliminary numerical design objectives will *not* replace the NRC's reactor regulations. Rather, NRC will continue to use conformance to regulatory requirements as the *exclusive licensing basis* for plants. . . .

The Commission recognizes that some probabilistic risk analyses have already been performed for individual nuclear plants and that safety inferences might be made as a result of comparing the results of these analyses to the preliminary design objectives. The Commission *cautions against the use of such inferences to reach bottom-line safety conclusions*. . . .

Safety Goal Development Program, 48 Fed. Reg. 10,772 (Mar. 14, 1983) (emphasis supplied). For that reason, we do not believe it permissible to allow an unlimited number of safety structures to fail to conform to regulatory requirements on the ground that the probability of being adversely affected by a natural phenomenon (or natural phenomena) is less than 1×10^{-7} .

We stress here that, for the three structures in question, NRC design requirements are technically not being satisfied (Findings 785-786).¹ On the other hand, in the situation before us, assuming the probabilities have been adequately ascertained, the probability of the three structures being struck by tornado or hurricane missiles would be far below the Staff's acceptance criterion. Moreover, as the Applicants point out, the probability of radiation releases in excess of limits in 10 C.F.R. Part 100 — on which the 1×10^{-7} acceptance criterion is premised — would be even lower. For that reason, if the probabilities were adequately determined, we would regard the failure to meet safety standards for the portions of the three structures in question to be *de minimis* and consistent with an overall conclusion that STP safety structures have been adequately designed to withstand hurricanes and hurricane missiles, as required by GDC 2 and 4 (Finding 789).

Our reluctance at this time to accept the probability calculations of the Applicants and Staff, insofar as they establish probabilities for a missile strike on the three nonconforming portions of the structures, stems from the supplementary affidavits of the Applicants and Staff considered in conjunction with the earlier affidavits. There appear to be potential shortcomings in the probability calculations, stemming not from the probability of occurrence of hurricanes or tornadoes but, rather, from the population of missiles considered in ascertaining the probability of a missile strike.

In considering whether STP safety structures generally are designed to withstand missiles, the Applicants' March 1985 affidavit employed as its missile source a spectrum of missiles including a steel reinforcing bar,

several varieties of steel pipe, utility poles, wooden planks, and automobiles. This is one of the acceptable spectra of design-basis missiles recognized by § 3.5.1.4 of the SRP. These spectra are said to envelope missiles that could be generated from non-Category I structures, and encompass missiles generated by both tornadoes and hurricanes. Linderman Aff., ¶¶ 22, 23. The Staff raised no question with respect to the source of missiles used by the Applicants (Ma Aff.).¹³

With respect to its probability calculation for the IVC roof, the Applicants state that the number of potential missiles is based on data from Electric Power Research Institute (EPRI) surveys at seven nuclear power plant sites. These data, although referenced, have not been provided to us. Linderman Aff., Attachment II, at Attachment 3 (p. 2) and Attachment III, at Attachment 2 (pp. 2 and 4). We are unable to ascertain from the material before us whether the missiles considered are limited to a spectrum of design-basis missiles set forth in § 3.5.1.4 of the SRP. We assume that to be so, however, in view of the Staff's statement that the Applicants' probabilistic risk assessment considered specified design-basis missiles as set forth in § 3.5.1.4 (Linderman Aff., Attachment IV, at Staff's Safety Evaluation Report, p. 4). Indeed, because of the height of the IVC wall (55 feet), the Staff was able to exclude the utility pole and car as missiles, as permitted by the SRP (*id.*).

The likely reliance on design-basis missiles to ascertain probabilities of hurricane or tornado damage became more apparent through the supplementary affidavits of the Applicants and Staff dealing with the MEAB HVAC openings and the diesel generator exhaust stack openings. The Applicants stated that they used the "results of the probability calculations for the IVC roof . . . to evaluate the probability of a tornado missile striking the diesel generator exhaust stack openings with a correlation using appropriate target specific parameters (target area and target elevation)." Linderman Supp. Aff., Attachment A, at 2. The Staff apparently utilized its earlier calculations and merely increased the target area by about 50%, and accordingly concluded that the 50% probability increase that would result would still leave the probability of a missile strike during a hurricane or tornado at "much less than 1×10^{-7} " for the three structures. Wilson Supp. Aff. at 4. The Staff apparently did not modify its new probability calculation for differences in target elevation or the missiles that would strike at different elevations. It incorporated by reference § 3.5.2 of the SER, which had not yet been issued. Now that it has been issued (*see* note 14, *infra*), we have examined it and it sheds no

¹³ See also SER § 3.5.1.4, at p. 3-11, where the Staff approves such missiles.

further light on the particular missiles utilized for the probability calculations. It indicates, however, that the HVAC dampers and other openings in the MEAB were greater than 64 feet above grade, and the diesel generator exhaust pipe openings were 67 feet above grade (compared with 55 feet for the IVC roof). If the design-basis missiles were to be used, no further modification of the IVC calculation for differences in target elevation would be called for.

If our understanding of the affidavits before us is correct, there is a fundamental flaw in the probability calculations undertaken by both the Applicants and Staff. The flaw stems from their apparent reliance on design-basis missiles (as set forth in § 3.5.1.4 of the SRP) to undertake the probability calculations. The design-basis missiles are appropriate for evaluating the design of safety structures; they include the worst-case examples that can be said to envelope the less severe missiles that almost surely also will impact a structure during a hurricane or tornado. We refer, for example, to missiles such as pieces of sheet metal, tree limbs, small fence rails, pieces of wood, or even chickens or birds. A structure designed to withstand a design-basis missile may be presumed to withstand a missile of this type. The strike probability of missiles of this type, however, may be considerably higher than the strike probability of a spectrum of design-basis missiles.

But where, as here, a structure is *not* designed to withstand design-basis missiles, a probability calculation based on such missiles is meaningless. Missiles of lower severity but likely higher probability must also be considered, as long as they could strike a safety structure not designed to resist them. On the present record, we have no basis for ascertaining the missile resistance of the IVC roof, the MEAB HVAC openings, and the diesel generator exhaust stack openings. (In the case of the IVC roof, we understand that it is open (Linderman Aff., Attachment IV, Safety Evaluation Report at 4), but we have no basis for ascertaining the missile protection afforded to components inside a given IVC.) That being so, we cannot conclude on the present record that the probability of a missile strike to a given structure (or collectively the three structures) from a hurricane and/or tornado is less than 1×10^{-7} .

Accordingly, we conclude that, with respect to the three nonconforming portions of the structures, there is an unresolved material issue of fact that precludes our granting summary disposition of Contention 4 (insofar as it involves the IVC roof, the MEAB HVAC openings, and the diesel generator exhaust stack openings) at this time. In the near future, we will issue questions to the parties covering, *inter alia*, the probability calculations involved and the missile resistance of the three structures. When we have received responses, we will evaluate whether

summary disposition may then be granted or whether further hearings may be required.

With respect to all of the design aspects of Contention 4 other than those dependent on the probability calculations referenced above, we reiterate our conclusion that there is no genuine issue as to any material fact and that the Applicants are entitled to a decision in their favor as a matter of law.

c. CCANP's Opposition to Summary Disposition

As for CCANP's reasons for our denying summary disposition of the design aspects of this contention, as set forth in its filing of April 8, 1985, we have commented earlier on the legal basis for employing probability calculations as a foundation for ascertaining compliance with NRC requirements — a use to which CCANP takes issue (Response at 8). The large margin of error to which CCANP points is one of the sources for our caution in employing this methodology to the extent espoused by the NRC Staff or Applicants. However, for reasons set forth above, we would be prepared to sanction use of the probability method in situations where such use is *de minimis*. Our requirement that the record be further developed was imposed so that we could ascertain whether the *de minimis* situation in fact is present.

Beyond that, we find none of CCANP's reasons for denying summary disposition to establish an unresolved material factual issue or to represent a reason why the Applicants are not entitled to prevail as a matter of law. Briefly:

(1) CCANP asserts, correctly, that the SRP guidance is not the exclusive basis for selecting data on severe weather phenomena. It claims that a "more comprehensive approach" is called for. But it has provided no selected alternative approach. Although, as expressed above, improvements in the SRP approach might be desirable, we find no fatal flaw in that approach that would make the results achieved incompatible with the regulatory requirements of GDC 2 and 4.

(2) Although wind speeds in excess of 125 mph have been observed in the area of the plant, as claimed by CCANP, the Intervenor has presented no grounds for our disregarding the reasons offered by the Applicants or Staff for discounting those particular wind-speed readings.

(3) CCANP has presented no adequate basis to support its claim that unverifiable observations of wind speeds of hurricanes in other locations should have been considered in designating the

OBW for the STP. Moreover, rejection of the use of unverifiable observations does not constitute a shifting of the burden of proof to CCANP. The Applicants have explained (through affidavit) why they did not utilize each of these readings.

We reiterate, however, that the DBW is greater than any of the readings relied on by CCANP (whatever be their reliability). That reason alone is an adequate basis for granting summary disposition of the design aspects of Contention 4 insofar as the contention applies to properly designed structures.

3. Construction Questions (Findings 792-793)

Contention 4 also claims that the STP has not been adequately "constructed" to withstand hurricanes. Since the Applicants' affidavits did not directly address these questions, and the Staff indicated it had not completed its review of these matters (Ma Aff., ¶ 3; Tr. 10,929-30), we declined to grant summary disposition of this aspect of Contention 4. We described methods by which CCANP could litigate such construction questions. To be timely, CCANP must raise any such questions within 30 days after release of the Staff's Safety Evaluation Report (SER). The questions must arise from information in the SER. Sixth Prehearing Conference Order, *supra*, at 6.¹⁴ Any such construction questions will be resolved later in Phase III, either through hearings or summary disposition.¹⁵

¹⁴ The Staff's "Safety Evaluation Report Related to the Operation of South Texas Project, Units 1 and 2" (NUREG-0781) was dated "April 1986" but was not received by the Board until May 7, 1986. By Order dated May 20, 1986, we provided that CCANP must raise any hurricane construction questions by June 9, 1986.

¹⁵ As we mentioned during the Seventh Prehearing Conference (Tr. 15,907-09), CCANP had forwarded to us and the parties (in another context) a newspaper article indicating that an alleged deficiency in construction of the HVAC system could affect protection against tornadoes. Article from *Houston Post* of June 18, 1985, forwarded by letter from CCANP dated June 26, 1985. Since the Applicants and Staff are relying to some extent on tornado protection to respond to Contention 4, a deficiency in construction affecting protection against tornadoes would likely also impact on protection against hurricanes. By letter dated April 25, 1986, the Applicants advised us that the HVAC construction question to which the *Houston Post* article refers concerned the MEAB HVAC louvers, which have been subject to the probability analysis that we discussed earlier. We will consider these louvers as a design rather than a construction question. See *supra* pp. 650-56.

III. OPINION ON PHASE III ISSUES

A. Introduction

We earlier set forth the issues that we had contemplated hearing in Phase III (*supra* pp. 606, 610). They included an update of Issue C (concerning HL&P's planned organization for operation and its competence and commitment to operate the STP safely); Issue F (concerning the adequacy of HL&P's QA program for operation); CCANP Contention 3, which we dismissed at CCANP's request (LBP-86-5, *supra*); and certain aspects of Contention 4 (concerning hurricanes).

Our Order dated November 18, 1985 (unpublished), set forth a discovery schedule for Phase III, applicable only to Issue F (as to which discovery had not previously been authorized). CCANP's discovery requests were limited to essentially one subject that CCANP sought to include within Issue F: the alleged preferential administration of HL&P's program for controlling use and/or sales of illegal drugs by STP personnel. At the Seventh Prehearing Conference, held on March 21, 1986, we acted on a motion for a protective order filed by the Applicants and motions to compel discovery filed by CCANP, holding that the alleged preferential administration of the drug control program does not fall within the permissible scope of questions litigable under Issue F. We did not decide whether the drug issue falls within Issue C or could be entertained as a new contention, since we believed that CCANP had not set forth an adequate basis for its claim, as required by 10 C.F.R. § 2.714(a). Seventh Prehearing Conference Order, LBP-86-8, 23 NRC 182 (1986).

We provided CCANP the opportunity to set forth its basis adequately — in brief, by identifying (under protective order) the source of the anonymous allegations giving rise to the claim of preferential administration of the drug program. By letter dated March 26, 1986 (which confirmed a telephone communication to the Board), CCANP declined to identify its informant. CCANP also advised that it would not be responding further to the affidavits on Issue C which had been filed by the Applicants and Staff or to the Applicants' previously filed motion for summary disposition of Issue F.

Since we have the views of all parties who intend to submit them on Issue C, we are deciding that issue in this PID. *See infra* Part III.B, pp. 659-64. With respect to the Applicants' motion for summary disposition of Issue F, we advised the Staff that it need not respond, absent further order from us. LBP-86-8, *supra*, 23 NRC at 187 n.4. We have reviewed

the Staff's views on the QA program for operation as set forth in its recently issued SER (*see supra* note 14) and have determined that no further Staff response is necessary. As a result, we are granting the Applicants' motion for summary disposition of Issue F.

We still need to await the time we provided CCANP to review certain defined matters in the SER, together with the additional supplementation of the record that we have found to be necessary (pp. 650-56, *supra*), to conclude our consideration of CCANP Contention 4.

B. Issue C (Findings 794-807)

Issue C questions whether, in light of HL&P's planned organization for operation and the alleged deficiencies in its management of construction (including its past actions or lack of action, revised programs for monitoring the activities of its architect-engineer-constructor and those matters set out in Issues A and B), there is reasonable assurance that HL&P will have the competence and commitment to operate the STP safely. In PID-I, we resolved this issue favorably to HL&P, but solely on the basis of the preliminary information then of record. We called for the record to be updated in Phase III, and our resolution of Issue C in PID-I was conditioned on any updated information to be added to the record. LBP-84-13, *supra*, 19 NRC at 697-99, 781-87.

On February 18, 1986, the Applicants filed the affidavit of Mr. Jerrold G. Dewease, currently HL&P's Vice President, Nuclear Plant Operations, updating the Applicants' previous testimony on Issue C.¹⁶ On March 14, 1986, the Staff filed the affidavit of Mr. Lawrence P. Crocker, updating the Staff's previous testimony on this issue.¹⁷ On May 16, 1986, the Staff filed a supplemental affidavit of Mr. Crocker. On May 19, 1986, the Applicants filed additional information concerning Mr. Dewease's affidavit.

There have been numerous changes since 1982 in the organizational structure contemplated for operation of the STP. Mr. Dewease's affidavit, which incorporates an updated version of relevant sections of the FSAR, describes these changes in considerable detail. Mr. Crocker has reviewed this affidavit for the Staff, as well as the sections of the FSAR;

¹⁶ That previous testimony was presented by a panel consisting of Mr. Dewease and Mr. Jerome H. Goldberg.

¹⁷ That previous testimony was presented by two panels, each including Mr. Crocker. The testimony of both panels was entered into the record by stipulation. LBP-84-13, *supra*, 19 NRC at 786 n.50.

he has forwarded an advance copy of Chapter 13 ("Conduct of Operations") of the Staff's SER.¹⁸

In PID-I, we reviewed HL&P's progress in developing plans for operation. We stressed the apparent intimate involvement of HL&P's upper management with construction activities during the period following the issuance of I&E Report 79-19 (which, itself, had led to the issuance of the April 30, 1980 Show-Cause Order). We noted that HL&P officials seemed dedicated to safe plant construction and operation. We also found that key officials who were then identified possessed appropriate qualifications. Finally, we observed that the NRC Staff had reviewed HL&P's plans for operation and concluded that HL&P's planned management and operating organizations met the requirements of applicable NRC rules and regulations. Although the Staff review was preliminary, we found no reason at that time to disagree with its conclusion.

The Staff has again reached a similar conclusion, although on the basis of a much more complete record. Mr. Crocker notes that a number of minor changes in the Applicants' preparations for operations have recently been made and, indeed, that the Staff "would be concerned if there were not such changes" (Crocker Aff., ¶ 6; *see also* Crocker Supp. Aff., ¶¶ 4-5). Mr. Crocker also notes that a number of "minor items" call for Staff verification, currently tentatively scheduled for early Fall, 1986. He concludes that the still unresolved items "may be safely left for [S]taff confirmation on the [S]taff site visit" (Crocker Aff., ¶ 7).

On the basis of our review of the affidavits before us, including the matters requiring further Staff verification, we conclude that four of the open items are of importance in terms of the matters to be considered under Issue C. Specifically, under this issue, we are evaluating HL&P's organization and staffing for operations in light of the deficiencies uncovered in Phase I. One of those open questions relates to HL&P's organizational structure, and three relate to staffing. The deficiencies considered in Phase I have a bearing on each of them.

In terms of organizational adequacy, we earlier found that one of the reasons why, at lower organizational levels, HL&P failed to exercise effective control prior to the Show-Cause Order was the excessively long chains of command and lines of communication, particularly between onsite personnel and offsite managers (LBP-84-13, *supra*, 19 NRC at

¹⁸ The final version of the SER (NUREG-0781 (April 1986)) was recently issued. *See* note 14, *supra*. Chapter 13 does differ in minor ways from the advance copy on which Mr. Crocker's affidavit is based. Mr. Crocker's supplemental affidavit analyzes generally an FSAR submission (Amendment 53) subsequent to that which the SER (or Mr. Crocker's previous affidavit) reviews. In their May 19, 1986 letter, the Applicants advised that Mr. Dewease's affidavit identified the changes which were incorporated into the FSAR by Amendment 53.

688-89, 690, 693). The extended lines of communication were a prime source of the quality-related difficulties that had arisen at STP (*id.* at 693, 751, 754-55). We also found, however, on the basis of the evidence before us, that HL&P had taken steps to shorten those chains of command and lines of communication (*id.* at 693, 695).

The open item relating to organization that we find important to this issue concerns HL&P's procedures governing the interface of offsite and onsite groups. The Staff has not yet reviewed these procedures (Finding 804).¹⁹ Given the significance of such interface in terms of the QA problems discussed in PID-I, we question whether this matter might properly be deemed a "minor item" to be left for Staff verification or confirmation (Crocker Aff., ¶ 7). However, in the absence either of a particular question raised by a party or an affirmative indication of improper procedures (neither of which is present here), we will leave this matter for final Staff resolution.

In that connection, we also call the Staff's attention to the somewhat longer chain of communication currently attending certain portions of HL&P's organizational structure (Finding 802). We have no basis for concluding that such organization is not consistent either with an NRC requirement or with the commitments made by HL&P in Phase I. Nonetheless, we anticipate that, in reviewing the interface procedures, the Staff will bear in mind the communications difficulties discussed in Phase I and the Applicants' commitment to shorten and simplify lines of communication to avoid such difficulties in the future.

The other three open items that we deem to be significant concern the experience and qualifications of operations personnel. In PID-I, we found that lack of experience was the "most significant" reason for HL&P's difficulties that led to the April 30, 1980 Show-Cause Order (LBP-84-13, *supra*, 19 NRC at 687-89, 691-93, 694-95, and findings referenced). Given the past history of this project, as set forth in PID-I, any deficiencies showing lack of experience for operations become significant predictive tools.

The first of these open items is a finding by the Staff that "there is little previous experience at the corporate level in nuclear plant operations" (Advance SER § 13.1.1.2; Finding 805, *infra*).²⁰ The Staff observes that, although such experience is desirable, it is not required. On

¹⁹ For information purposes, this open item appears at pp. 13-3 and 13-14 of the final version of the SER.

²⁰ For information purposes, this open item appears at p. 13-3 of the final version of the SER. The statement was modified to read "there *apparently* is little previous experience . . ." (emphasis supplied).

a generic basis, the Staff's conclusion appears to be accurate. In the context of this proceeding, however, given the history of nonconforming conditions resulting from lack of experience, as well as the Applicants' commitment to upgrade the level of experience of HL&P officials and employees, there may be more requirements in this regard applicable to HL&P than to licensees generally. We decline to resolve this question at this time, since the issue before us is currently uncontested. Nonetheless, we urge the Staff to give serious consideration to the nuclear experience (or lack thereof) of operations personnel before approving any operating licenses for STP.

Similarly, the other two open items relevant to the qualifications of operating personnel — both relating to the qualifications of shift crews — also have a bearing on how well the Applicants are meeting their Phase I commitments to upgrade the qualifications and experience of operating personnel. First, the Staff indicates that it will verify that HL&P (per its own commitment to the Staff) will meet the guidelines of Generic Letter 84-16, to ensure that each operating shift crew has sufficient hot operating experience (Advance SER § 13.1.2.1(1); Finding 805, *infra*).²¹ We urge the Staff to condition any grant of operating licenses on satisfactory fulfillment of this commitment.

Finally, the Staff has expressed reservations about HL&P's shift technical advisor (STA) program. In PID-I, we described HL&P's plans for assuring engineering expertise on shift as follows:

HL&P does not currently contemplate a Shift Technical Advisor (STA) in its shift organization but, rather, plans to provide for the expertise envisioned for an STA through increased training of its Shift Supervisors [who were to have had Senior Reactor Operator (SRO) licenses]. If, however, in the future the NRC requires that a specific Shift Technical Advisor position be established, HL&P has committed to creating such a slot, possibly using an additional licensed operator (probably an SRO) for that purpose.

LBP-84-13, *supra*, 19 NRC at 785-86, Finding 244. In its current affidavit, HL&P advises that it has decided to include separate STAs as part of the shift organization (Finding 803). One STA on shift is to serve two operating units. The STAs are also to serve as reactor performance engineers in the Reactor Performance Section of the Technical Support Division.

Current NRC requirements regarding STAs are set forth in a Commission Policy Statement on Engineering Expertise on Shift, 50 Fed. Reg.

²¹ For information purposes, this open item appears at p. 13-5 of the final version of the SER.

43,621 (Oct. 28, 1985, effective as of that date).²² This Policy Statement was forwarded to licensees and applicants by Generic Letter 86-04, dated February 13, 1986. The Policy Statement offers licensees and applicants two options for meeting current regulatory requirements for engineering expertise on shift:

1. Elimination of separate STA position by combining one of the required SRO positions with the STA position into a dual role (SRO/STA) position, occupied by an individual with specified qualifications.
2. Continuation of NRC-approved STA program (with a dedicated STA who meets criteria of NUREG-0737, Item 1.A.1.1) while meeting licensed operation staffing requirements.

Option 1 is encouraged. If option 2 is chosen, the Commission encourages licensees to work toward having the dedicated STA assume an active role in shift activities in certain described ways. *Ad hoc* approval of another system is permitted if it "meets the intent of this Policy Statement" (50 Fed. Reg. at 43,623).

In its advance SER, the Staff finds the proposed STA program to be "acceptable," even though "it does not meet the desires of the Commission as expressed in Generic Letter 86-04 . . ." (Advance SER, § 13.1.2.1(1), at 13-7).²³ The Staff does not provide enough detail to explain why the proposed program fails to qualify under option 2 of the generic letter. The Staff indicates, however, that HL&P "may wish to revise the STA program in light of the new policy statement."

Although cursory examination of the material before us suggests either that the STA may not qualify as "dedicated," that the STA's activities do not constitute the active role in shift activities as defined by the Policy Statement, or that the STA may lack appropriate qualifications, the Applicants have, by letter to the Staff dated May 8, 1986 (ST-HL-AE-1659, File No. G3.8, with copies to parties and the Board), submitted additional information concerning the STA program. The letter expresses HL&P's intent to conform to the generic letter (and hence the Policy Statement). This may be the revision to which the Staff referred.

²² Although the Policy Statement is denominated in those terms rather than as a rule or regulation, the Commission utilized notice-and-comment procedures comparable to those required for rulemaking in adopting the Policy Statement. Given those circumstances, the Policy Statement must be accorded considerable regulatory weight.

²³ This item appears at p. 13-5 of the final version of the SER. In that version, the statement concerning the Commission's "desires" is omitted, although suggestions for revising the STA program to conform to options of the Generic Letter remain. Our ruling here is premised, as it must be, on the material provided us under affidavit. In any event, the Staff has not explained whether it has changed its view on this matter and, if so, how.

We express no view as to whether the revised STA program in fact conforms to the Policy Statement. But we stress that the Staff cannot find the STA program "acceptable" absent an additional finding that it meets either option 1 or 2 or "the intent of [the] Policy Statement." The Policy Statement provides the exclusive methods for satisfying applicable regulatory requirements (including the *ad hoc* "intent" finding). Absent a finding that the Policy Statement has been satisfied through one of these mechanisms, we conclude that the Applicants will not have demonstrated compliance with all applicable regulatory requirements.

Although we do not have sufficient information before us to reach a definitive conclusion, it appears to us that the organizational structure we reviewed in 1982 might well qualify under option 1 of the policy statement.²⁴ The May 8, 1986 revision that we have just received might qualify under option 2 (or a combination of options, which is permissible). Although we leave the resolution of this open item to the Staff, we here urge the Staff to consider this open item against a backdrop of PID-I findings that attributed many QA difficulties to a lack of adequate experience. We subject our resolution of Issue C to a finding by the Staff that HL&P's shift program conforms to one of the Policy Statement options or otherwise "meets the intent of [the] Policy Statement."²⁵

In sum, subject to resolution satisfactory to the Staff of various open items, and in the absence of any issue currently raised by a party, we have no reason to change our earlier preliminary conclusion on Issue C. We particularly note with approval the commitment of HL&P to achieve strong nuclear expertise throughout upper management, up to the level of the Board of Directors (which includes a former Chairman of the NRC) (Tr. 12,185-86 (D. Jordan)). Subject to resolution by the Staff of the referenced open items, we now conclude that the Applicants' organization and staffing for operations, as set forth in the affidavits and record before us, meet all regulatory requirements, and we have reasonable assurance that HL&P possesses the competence and commitment to operate the STP safely.

C. Issue F (Summary Disposition) (Findings 808-815)

As set forth in detail in the cited findings, we have determined that summary disposition of Issue F is appropriate. That issue questioned

²⁴ The particular Shift Supervisor whose qualifications were provided would not, however, appear to meet the educational requirements of the Policy Statement (Appl. Exh. 56, § 13.1.3.2, ¶ 12, at p. 13.1-29).

²⁵ The statement in the final version of the SER (note 23, *supra*) does not suffice.

whether HL&P's QA program for operation of the STP would meet the requirements of 10 C.F.R. Part 50, Appendix B, the Commission's quality assurance regulation. The Applicants moved for summary disposition on March 12, 1986, offering the affidavit of Mr. James E. Geiger, HL&P's Manager, Nuclear Assurance.

We earlier rejected CCANP's attempt to litigate under Issue F certain allegations concerning the administration of HL&P's program for controlling drug use. *See supra* p. 658. That was the only matter that CCANP sought to raise under this issue. CCANP thus offered no reply to the Applicants' motion. Indeed, in response to interrogatories, CCANP had made clear that it "does not contend that the [q]uality [a]ssurance [p]rogram . . . will not fully satisfy the requirements of 10 C.F.R. Part 50, Appendix B . . ." (Findings 810, 811). The Staff did not reply to the Applicants' motion, but the Staff's recently issued SER specifically finds that "[t]he QA program describes requirements, procedures, and controls that, when properly implemented, comply with Appendix B to 10 CFR 50 . . ." (Finding 5).

On the basis of the affidavit of Mr. Geiger, which is uncontroverted by any party, the Applicants assert, *inter alia*, that "[t]he STP operations QA organization will have a staff and organization sufficient to perform its functions in compliance with Appendix B . . ." and "[t]he STP operations QA program satisfactorily addresses each of the 18 Criteria of Appendix B" (Finding 814). Mr. Geiger is qualified to address these matters (Finding 813).

Since the affidavit of a qualified person asserts that the QA program will meet 10 C.F.R. Part 50, Appendix B, the Staff's analysis finds that program in accord with the named regulation, the Intervenor disclaims any intent to show noncompliance (other than the drug matter that we have rejected), and there are no other matters under this issue for which we perceive a need for further adjudicatory consideration, we have found that there is no genuine issue as to any material fact respecting Issue F and the Applicants are entitled to a decision in their favor as a matter of law. We are accordingly granting summary disposition of Issue F.

IV. MOTIONS IV AND V TO REOPEN PHASE II RECORD

We observed earlier (*supra* p. 609) that, since the conclusion of the hearings held in August 1985, CCANP has filed five separate motions to reopen the Phase II record. We previously ruled on the first three of those motions — the first resulting in the inclusion in the record of an additional CCANP exhibit, and the second resulting in two additional

days of reopened evidentiary hearings, held in December 1985. Subsequent to those reopened hearings, CCANP filed its fourth and fifth motions (Motion IV and Motion V). Because the motions are based on similar types of information, we will treat them together.

Although we find no warrant for further evidentiary hearings on the new information on which CCANP is basing its motions, and hence are not granting either of the motions (or the related discovery sought by CCANP), we do find that certain of that information was relevant and material to the Phase II testimony of the Applicants and, accordingly, should have been furnished by the Applicants to the Licensing Board and parties as direct testimony during the hearings held in July-August 1985. Although the information could arguably be said to be included in some general language of that testimony, it was not explicitly set forth. As a result, the Applicants' testimony was somewhat less complete than would have been desirable and represents an additional instance of less than full disclosure, albeit only marginally so.

As is the case with certain other instances arising in Phase I (*see supra* pp. 627-29), however, we find no basis for concluding that the Applicants deliberately sought to withhold pertinent information from or to mislead the Board — indeed, they might not have even perceived its significance. Moreover, reference was freely made to this information during cross-examination (Tr. 11,584 (Goldberg)). Accordingly, we do not regard this additional possible lack of full disclosure as significant enough (either alone or in conjunction with the other instances of less than full disclosure) to warrant license denial for want of character.

A. Background

Motion IV²⁶ was filed on January 17, 1986. It sought to reopen the record to include (1) portions of a deposition of Mr. Eugene A. Saltarelli taken on July 18, 1984, as part of the litigation between B&R and HL&P; and (2) a memorandum prepared by Mr. Saltarelli in December 1980 or January 1981 (together with portions of Mr. Saltarelli's July 17, 1984 deposition concerning that memorandum) setting forth an overview of the engineering at STP. Mr. Saltarelli was head of B&R engineering during the period from the inception of the Quadrex review until the removal of B&R as design engineer for the STP. Motion IV also sought hearings on this material involving certain named witnesses, additional

²⁶ Citizens Concerned About Nuclear Power, Inc. Motion to Reopen the Phase II Record: IV; For Discovery and to Suspend Further Activity in Phase III.

discovery for CCANP and, on the assumption the motion to reopen were to be granted, a suspension of further activity in Phase III.

On February 3, 1986, the Applicants and the State of Texas each filed responses to Motion IV. The Applicants sought denial of the motion in all respects, whereas Texas favored granting of the motion and reopening of the record. Along with their response, the Applicants provided copies of several letters between CCANP's counsel and their counsel, concerning the background for the filing of Motion IV. On February 6, 1986, the Staff filed its response, which opposed the motion in all respects.

Upon review of the responses of the Applicants and Staff, including the correspondence forwarded to us by the Applicants, we determined that we needed further information to resolve various of the questions raised by Motion IV. By our Memorandum and Order (Additional Information Required to Resolve CCANP Motion to Reopen Phase II Record: IV), dated February 7, 1986 (unpublished), we requested the Applicants, Staff, and CCANP to file such information.²⁷ Each of them filed responses on February 21, 1986 (with CCANP's response being furnished in two segments). On February 28, 1986, the Applicants filed a proposed reply to portions of CCANP's response.²⁸

On February 28, 1986, CCANP filed its fifth motion to reopen the Phase II record.²⁹ That motion sought to reopen the record to include a portion of another deposition taken in the suit between HL&P and B&R — the January 30, 1985 deposition of Mr. Joseph W. Briskin, who served as head of HL&P's task force that responded to the April 30, 1980 Show-Cause Order. CCANP sought hearings involving certain named witnesses, as well as additional discovery. On March 14 and 19, 1986, respectively, the Applicants and NRC Staff filed responses opposing the motion. The Applicants' response was accompanied by an affidavit of Mr. Briskin.³⁰ We heard oral argument on certain aspects of both Motion IV and Motion V at the prehearing conference on March 21, 1986 (Tr. 15,715-53).

²⁷ Following our delayed receipt of Texas' response, we invited Texas also to respond to our request for additional information. Order dated February 10, 1986 (unpublished). By letter dated February 26, 1986, Texas advised that it had no further information to provide.

²⁸ The Applicants' proposed reply was accompanied by a motion for leave to file the proposed reply. CCANP did not respond to the motion; by response dated March 19, 1986, the Staff favored it. We hereby *grant* that motion.

²⁹ Citizens Concerned About Nuclear Power, Inc. (CCANP) Motion to Reopen the Phase II Record: V and for Board Ordered Production of Documents by Applicants. The motion was dated "2/21/86" but in fact was not served until February 28, 1986. We are treating it as filed on the latter date, and have provided response dates based on that date. Order (Response Dates for CCANP Motions), dated March 3, 1986 (unpublished).

³⁰ Mr. Briskin is no longer employed by HL&P.

B. Motive for Filing Motion IV

Before addressing the motions, we turn first to questions raised by the correspondence that the Applicants forwarded to us along with their response to Motion IV. This correspondence consisted of (1) a letter, dated January 17, 1986, from CCANP's counsel to one of the Applicants' counsel, transmitting Motion IV and setting forth some of the background that led CCANP to file the motion; (2) a subsequent letter, dated January 24, 1986, from CCANP's counsel to the Applicants' counsel, explaining to some degree the January 17 letter; and (3) response of the Applicants' counsel, dated February 3, 1986, to both of the foregoing letters. We had not previously been provided copies of CCANP's letters.

The January 17, 1986 letter recounted a meeting of unidentified "interested parties" to discuss how the STP might be cancelled. This group apparently decided to pursue a "negotiated cancellation" with the Applicants, but to take steps to "force" the STP partners to respond to a cancellation plan. Motion IV was forwarded to the Applicants in that context, the subject matter of which being portrayed as a "smoking gun" concerning the Quadrex study and likely to lead to the disqualification (by NRC) of senior HL&P management. The letter identified the motion as a first step, with other steps under consideration, including a complaint to the Justice Department alleging perjury and a conspiracy by HL&P senior management to obstruct the NRC, a grievance to the District of Columbia Bar regarding the performance of Applicants' counsel, and discussions with congressional contacts to convene congressional hearings on the commissioning, findings, and handling of the Quadrex Report. The letter added that if good-faith cancellation discussions commenced, CCANP's counsel would stipulate for the suspension of further proceedings on Motion IV. In the January 24 letter, CCANP's counsel described the earlier letter as a sincere attempt to initiate settlement negotiations and to describe what other nonparties to this proceeding perceive as a necessary future course of action.

The Applicants transmitted these letters to us, together with their reply which rejected the proposals and commented negatively on the tenor of the letters, for "such consideration as the Board may consider appropriate" (letter from Applicants to Licensing Board dated February 3, 1986). We found those letters could bear on CCANP's motive for filing Motion IV — i.e., an arguable attempt to utilize threats of criminal sanctions against various individuals, or complaints to the Bar concerning Applicants' attorney(s), to achieve a result in this proceeding — and that, if so, such a course of action would represent conduct inconsistent with standards of "honor, dignity, and decorum" expected of representatives of parties before us. *See* 10 C.F.R. § 2.713(a). Accordingly, we

directed CCANP to show cause why we should not impose sanctions for the letters in question. The potential sanctions we described ranged from striking Motion IV to the various forms of sanctions contemplated by 10 C.F.R. § 2.713(c) (reprimand, censure, suspension).

CCANP furnished its response in two segments. The first explained CCANP counsel's reasons for sending the two letters and filing Motion IV; and it advocated that no sanctions be imposed.³¹ The second focussed solely on why it would be improper for us in any event to impose the sanction of striking Motion IV.

In the first segment, CCANP explained that its first letter was "motivated by a sincere belief" that the documents provided in Motion IV "represented the proverbial 'smoking gun'" and that, as a result, the Board would be compelled to deny the operating licenses because of lack of character on the part of HL&P. The letter

was an attempt in a private and confidential manner to inform . . . Applicants themselves that there was a cancellation process under way and to offer [CCANP counsel's] services in expediting that process so Applicants could avoid the harshest consequences of their actions.

CCANP February 21, 1986 Response at 2.

CCANP's counsel added that he was not attempting (and did not intend) to threaten the Applicants; and that, prior to sending the first letter, he had it reviewed by another attorney to ascertain whether it would be understood. Thereafter, when it appeared that the letter might be misconstrued as a threat, CCANP's counsel advises that he sent the second letter to clarify his intent. He explained the circumstance of his earlier contact with the Department of Justice. He also reiterated his belief that cancellation negotiations would be in the best interests of both the Applicants and CCANP.

Finally, CCANP apologized for the forceful language in the initial letter. Although criticizing the Applicants for making the letters an adversarial matter, intended to damage CCANP counsel's credibility, CCANP admits an error in judgment in "assuming the Applicants or their attorneys would perceive current settlement opportunities as I do." *Id.* at 4.

We are convinced by this response that we need not impose sanctions for the letters in question. The NRC encourages attempts by parties to reach "fair and reasonable" settlements (10 C.F.R. § 2.759). Giving

³¹ This response was dated "Friday, January 21, 1986." As can be seen from the certificate of service, the "January" represents a typographical error. The response was served on February 21, 1986, and shall be considered as filed on that date (a timely response).

CCANP the full benefit of any doubt that may exist, and taking into account the points of view that CCANP is espousing in this proceeding, we shall assume that CCANP was attempting sincerely to initiate settlement negotiations. CCANP's first letter was not a very articulate attempt to do so. It was easily taken as a threat, of which Motion IV was but a first step. In that context, the letter represented not only poor judgment but also conduct unbecoming a member of the bar. However, the second letter attempted to place the first letter into a settlement context, and the first segment of CCANP's response to our Show-Cause Order did so to an even greater degree. Given the apparent sincerity of CCANP's explanation, coupled with its counsel's apologies, we decline to impose sanctions for the two letters in question.

The second segment of CCANP's response argues that dismissal of Motion IV is an inappropriate sanction. Since we are not imposing any sanction for the letters in question, we need not treat the second segment of CCANP's response in this context. Because that segment includes further argument on the merits of Motion IV, we will treat it in that context.³²

C. Ruling on Motions

All parties acknowledge the legal standards we must apply in determining whether to reopen a record. We have stated them on several occasions: *e.g.*, LBP-85-42, *supra*, 22 NRC at 798-99; LBP-85-45, *supra*, 22 NRC at 821-22. The Commission has recently reiterated them. *Louisiana Power & Light Co. (Waterford Steam Electric Station, Unit 3)*, CLI-86-1, 23 NRC 1, 4-5 (1986). Briefly, three criteria must be satisfied:

1. The motion must be timely filed.
2. It must address a significant safety (or environmental) issue.
3. It must demonstrate that the information sought to be added to the record might potentially alter the result the Board would reach in its absence.

No party disputes that the information proffered by both motions addresses a significant issue, and we agree. The second criterion has accordingly been satisfied for both motions.

The Applicants and Staff each take the position that both motions were untimely. They claim that CCANP could have developed the information during the original periods set for Phase II discovery, during 1983 and 1984, as well as during the period beginning in May 1985,

³² For that reason, we are permitting the Applicants to file a reply. *See supra* note 28.

after the depositions and document in question were released from the protective order of the Texas court.

CCANP does not argue the timeliness of Motion IV. Rather it cites authority to the effect that the timeliness criterion may be waived when the matter presented is of such gravity that lack of timeliness is outweighed by the need to render a fair and meaningful decision. LBP-85-45, *supra*, 22 NRC at 822-23. In Motion V, CCANP advances a similar argument but also cites barriers that it viewed as preventing it from undertaking timely discovery, particularly during the time frame following May 1985.

We recognize that CCANP should have inquired about information of the type involved here in earlier discovery periods during 1983 and 1984. Indeed, we have previously ruled that by failing to do so CCANP forfeited an opportunity for additional discovery that it was seeking. Fifth Prehearing Conference Order, dated November 16, 1984, *supra*, at 9-10; LBP-85-6, *supra*, 21 NRC at 466. We also recognize that during the summer of 1985, while Phase II hearings were taking place, CCANP (because of its limited resources) could not practically have been expected to engage in discovery. Because of the protective order imposed by the Texas court, it could not have obtained access to the depositions in question (as distinguished from the underlying information) prior to May 1985. By that time, the period for Phase II discovery had long been terminated.

Following the hearings during the Summer of 1985, however, the material relied on by CCANP in support of Motion IV was available in the Matagorda County Courthouse (Tr. 15,745), although its retrievability was questionable (Tr. 15,747). The material involved in the B&R litigation (including the material relied on for both Motions IV and V) was available in Austin, Texas, to parties involved in a proceeding before the Texas Public Utilities Commission (Tr. 15,743-44). Although CCANP was not such a party, CCANP's representative was closely associated with a party to such proceeding. The Applicants also advise that HL&P maintained the document room and permitted nonparties to have access (Tr. 15,742, 15,744). Thus, even though it had no legal right of access to the Austin document room, CCANP perhaps could have discovered the depositions earlier, around the time it submitted Motion II. The information proffered by Motions IV and V was relevant to the reopened hearings in December 1985, which grew out of Motion II. Balancing these equities, and taking into account both the potential significance of the subject matter of the new information and the circumstance that CCANP had no legally protected access to some of the information

(see Tr. 15,745-46), we note that Motions IV and V might have been filed earlier but we decline to bar those motions on timeliness grounds.

In our view, the most important criterion for reopening the record is the potentiality of the information in question to alter the result reached. In our view, the information in question is not conceptually different from information already in the record and, indeed, would to some extent be cumulative.

Both Mr. Saltarelli's deposition and Mr. Briskin's deposition appear to us to be not inconsistent with the proposition that a "side benefit" of undertaking the Quadrex review was to prepare HL&P witnesses at the Phase I hearings to respond to engineering questions should any be asked. See Motion IV, Saltarelli Dep., Tr. 615, 620; Motion V, Briskin Dep., Tr. 411. Indeed, Mr. Briskin explicitly characterized the Quadrex review in terms of "an independent review of design made so that he [Mr. Goldberg] could state an opinion on the quality of the design *should he be asked* by the ASLB" (Motion V, Briskin Dep., Tr. 411, emphasis supplied). That is a far cry from the asserted undertaking of the review to respond to Phase I issues or contentions. It is much more akin to the "side benefit" that Mr. Goldberg initially acknowledged on cross-examination during Phase II (Tr. 11,584 (Goldberg)), and was the subject of extended consideration in the reopened hearings (e.g., Applicants' Exhs. 79-81 and explanatory testimony). Neither deposition provides the additional step sought by CCANP — that a motivating purpose of the Quadrex review was to prepare for the Phase I hearings. Indeed, Mr. Briskin answered negatively to the question whether it was Mr. Goldberg's desire to "have an independent review of the design that he could present to the ASLB" (Motion V, Briskin Dep., Tr. 411). In our view, this information is not the "smoking gun" that CCANP portrays it to be; it might more justifiably be termed a "hidden alibi" for HL&P!

As for Mr. Saltarelli's memorandum attached to Motion IV, that document additionally emphasizes what the record already demonstrates — that there were serious problems of safety significance with B&R's engineering. It does not demonstrate that there were any additional matters that fall within the reporting criteria of 10 C.F.R. § 50.55(e).

We do not view the material forwarded by Motions IV and V as adding materially to information already in the record or as potentially changing the result we are reaching in this Decision. Hence we are deny-

ing both those motions (including the subsidiary relief, such as discovery, sought thereby).³³

D. Additional Information in Saltarelli Deposition

One aspect of Mr. Saltarelli's deposition (attached to Motion IV) warrants our further comment. At Dep. Tr. 613-14, Mr. Saltarelli recounted a meeting between Quadrex Corp. and B&R personnel which HL&P did not attend. He explained the absence of HL&P representatives on the basis that he had been told by an unidentified HL&P licensing engineer that HL&P would not be present since "if there were any findings that were reportable, they would be under the obligation to go report them within twenty-four hours and they wouldn't have had all the information out . . ." (*id.* at 614). Because we viewed this reason as reflecting an attitude possibly inconsistent with that required of personnel engaged in activities with safety significance, we called upon the Applicants and Staff (and other parties that wished) to file additional information. Memorandum and Order dated February 7, 1986, *supra*. The Applicants and Staff responded.

At the outset, we are rejecting the Staff's position — namely, that the reason the HL&P engineer declined to attend the meeting was not important since it did not overwhelm the "vast weight" (in the Staff's view) of evidence showing that HL&P was open and candid and responsibly fulfilled the reporting requirements imposed on it by NRC. That position is oversimplified, since it essentially would have us ignore information that, if proven accurate, might have consequences for the public health and safety. That position, if followed, could lead us to overlook evidence that has been brought to our attention of what could range from an essentially flawed program for reporting pursuant to § 50.55(e) to a significant defect in character or competence to complete construction of or to operate the STP (issues that, as of the time of Motion IV, were still not completely resolved). We decline to take that course.

On the other hand, the Applicants' response provided a full explanation for the deposition statement. It identified the HL&P engineer — Mr. Cloin Robertson, a previous witness in this proceeding (called at

³³ Although we concur with Texas' position that there be a full adjudication of HL&P's character and competence, we do not believe that the information proffered by Motion IV (or V) would contribute materially to that result, given the evidence already in the record. Moreover, we cannot authorize discovery to permit a party to develop information to be used to ascertain whether the record should be reopened. *Waterford*, CLI-86-1, *supra*, 23 NRC at 6.

the urging of CCANP).³⁴ Mr. Robertson filed an affidavit that explained (*inter alia*) that the meeting in question took place on May 1, 1981, and was a briefing of B&R by Quadrex; that HL&P had received a briefing on the same information the previous day (a matter reflected in the record);³⁵ that HL&P's absence from the B&R briefing would not result in any failure to inform the NRC of reportable items because HL&P would already have been briefed on the information and, in addition, B&R had a system for routinely identifying and advising HL&P of information covered by the § 50.55(e) reporting requirements; and that, on the basis of his former employment by an architect-engineer, he felt that HL&P's presence at the B&R briefing might inhibit full and free discussion of problem areas between Quadrex and B&R. Mr. Robertson further stated that he was concerned that, if HL&P were present during the briefing of B&R, the exchange between B&R and Quadrex might lead HL&P immediately to undertake a 24-hour review for reportability and, in effect, short-circuit the orderly process in place for § 50.55(e) reviews.

Acknowledging that Mr. Saltarelli in his deposition was conveying what he most likely had heard, Mr. Robertson opined that he had not conveyed to Mr. Saltarelli the full reasoning behind the decision for HL&P not to attend the B&R briefing. Mr. Robertson stressed that he was not trying to avoid HL&P's reporting responsibilities.

This affidavit in our view resolves the questions that we felt were raised by the relevant portions of Mr. Saltarelli's affidavit. Although we express no opinion on whether we agree with HL&P's decision not to attend the B&R briefing, we believe that it was a reasonable decision that casts no doubt on HL&P's character or competence to operate the STP. Beyond that, from our observance of Mr. Robertson as a witness, we have no hesitancy in accepting the sincerity of his response.³⁶

E. Additional Comments on HL&P Candor

As we have seen, the potential "side benefit" of the Quadrex review for providing information to respond to engineering questions at the Phase I hearings, should any such questions arise, was the most important information that Motions IV and V could add to the record. Al-

³⁴ At the time of his February 21, 1986 affidavit, Mr. Robertson was General Manager of Nuclear Engineering for HL&P. During the Spring of 1981, when the meeting in question took place, Mr. Robertson was Manager of Nuclear Licensing for HL&P. *See also infra* note 36.

³⁵ *See* Goldberg, ff. Tr. 11,491, at 12; Tr. 11,727 (Goldberg); Tr. 13,163-64 (Stanley).

³⁶ By letter dated March 10, 1986, the Applicants advised us that Mr. Robertson had accepted employment outside HL&P. That circumstance did not influence our ruling here. We wish Mr. Robertson success in his new endeavors.

though information to this effect is already in the record, causing us to deny Motions IV and V, the depositions in those motions indicate to us that this side benefit was viewed by HL&P management officials as somewhat more important than they led us to believe in Phase II (including the reopened hearings). Rather than merely being one of many facets of the Quadrex review discussed by the Management Committee, it appears from the Saltarelli and Briskin depositions, coupled with other evidence of record, that the side benefit was conceived as an important consideration attendant to undertaking the Quadrex review. It was viewed in this context both before the initiation of the Quadrex review and during the course of that review.³⁷

That being so, we agree with CCANP that we should have been independently and explicitly informed of this side benefit by the Applicants as part of HL&P's direct testimony in Phase II. That testimony did state that one purpose of the Quadrex review was to "provide information [Mr. Goldberg] would find useful for discussions of the status of the Project with HL&P management, the co-owners of STP and regulatory authorities" (Goldberg, ff. Tr. 11,491, at 5). The Applicants explained that this testimony was intended to encompass discussions with the Licensing Board and that discussions with other regulatory authorities were as important as with the Licensing Board (Tr. 15,729-33). Be that as it may, we agree with CCANP (Tr. 15,740-41) that, given the focus of Contention 10, the side benefit of answering questions before the Licensing Board, should any arise, was directly pertinent to the issue in controversy and should have been explicitly mentioned. *Cf. Consumers Power Co.* (Midland Plant, Units 1 and 2), CLI-83-2, 17 NRC 69, 70 n.2 (1983). This is particularly so in view of the Applicants' general position that the purposes of the Quadrex review were limited to other than usage in the licensing hearings and, accordingly, that it was "not unreasonable" for them to believe that the Quadrex Report did not contain information that was relevant and material to the issues in Phase I. Appl. FOF-II at IX-3 to IX-5 (PF IX.5-IX.9) and at III-5.

In our view, this represents another instance (albeit a marginal one) where the Applicants' testimony was not as open and forthright as it should have been. That testimony did not provide the full story that we have a right to expect. It circumscribed the scope of matters at issue more narrowly than was appropriate. To some extent, it may be viewed as akin to a failure to adhere strictly to *McGuire* doctrine standards. And

³⁷ See, e.g., Appl. Exh. 79, at 2052 (discussion on December 4, 1980); Appl. Exh. 81, at 2091 [9:35] (discussion on February 20, 1981); Briskin Dep., attached to Motion V, at 403, 410-11 (discussions in October-November 1980).

to some degree it derogates from the high standards of corporate character that we perceived in PID-I.

On the other hand, we do not find that the Applicants intentionally tried to deceive the Board.³⁸ Their witnesses have uniformly viewed the scope of the issues in dispute as somewhat narrower than we have. Although we disagree with that view, we do not believe it outside the bounds of a professional difference of opinion. Moreover, HL&P freely acknowledged the side benefit during Phase II cross-examination (Tr. 11,584 (Goldberg)). That being so, we do not find that this additional instance of less-than-full disclosure — either alone or in conjunction with the other instances outlined under Contention 10 (*supra* pp. 627-29) — constitutes a sufficient character deficiency to warrant denial of the operating licenses. As under Contention 10, however, this instance may be taken into account by us or the Staff, as appropriate, in any future evaluation of the candor of HL&P managerial personnel.

V. CONCLUSION

In PID-I, we characterized the STP as a project that, although in trouble at an earlier date, appeared to have “turned the corner.” We traced the earlier QA/QC problems not to character defects on the part of HL&P but, rather, to deficiencies in two key ingredients of competence. We concluded, *inter alia*, that HL&P was not deficient in character and that its competence, although questionable at one time, was not so deficient as to preclude, without more, the award of operating licenses. Furthermore, that competence appeared to have substantially improved. All of these conclusions were subject to the outcome of later phases of the proceeding. LBP-84-13, *supra*, 19 NRC at 721-23.

In reaching this Decision on various issues left for resolution in Phase II or III, we have completed our consideration of all issues ruled on in PID-I but left open in certain respects. We have also completed our consideration of the issues set forth by the Commission in CLI-80-32, *supra*. Only specified aspects of one Intervenor contention currently remain for resolution later in this proceeding.

CCANP, the only remaining Intervenor, devoted most of its efforts to issues questioning the character or competence of HL&P’s management, particularly in its handling and dissemination of the Quadrex Report. Through its assistance, a more-than-adequate record on these matters has been developed. We have reviewed all of CCANP’s claims with

³⁸ In response to our inquiry as to whether, if we should find a *McGuire* violation, we should reopen the evidentiary hearings to provide the Applicants an opportunity to explain, the Applicants declined the opportunity for reopened hearings (Tr. 15,735-36).

great care, including the entire record of this proceeding and the proposed findings of fact and conclusions of law submitted by the various parties.

On the basis of the foregoing Opinion, the Findings and Conclusions on which it relies, and the entire record, we conclude that HL&P's handling of the Quadrex Report does not establish a lack of character to a degree sufficient to warrant the denial of operating licenses. HL&P complied with the technical requirements of § 50.55(e) in informing the NRC of matters encompassed within the Quadrex Report. In some respects, HL&P might have been more open and forthcoming with respect to the report, particularly with this Board. Its conduct in this regard was apparently motivated by very real operational considerations bearing upon its relationship with its contractor, considerations that are not always consistent with the regulatory openness to which an applicant must adhere. But in general its handling of the Quadrex Report did not exhibit any intent to mislead the Board or deprive the NRC of information needed to complete its review of the STP application.

Additionally, we conclude that HL&P now appears to possess competence adequate to complete construction of and to operate the STP. This conclusion is subject to several additional Staff findings on items of staffing and organization. We are leaving these findings to the Staff because it has flagged these items for later consideration and because CCANP apparently has no interest in pursuing them. HL&P's QA program for operation appears to be adequate and to warrant the grant of the Applicants' motion for summary disposition of the issue relating thereto.

Finally, except for three structures, we have reasonable assurance that STP is adequately designed to withstand hurricanes and hurricane missiles. In this regard, however, the three structures do not conform to all NRC safety requirements, and we have expressed certain reservations as to the probabilistic methodology utilized by the Applicants and approved by the Staff for analyzing the hazards posed by hurricane missiles with respect to those three structures or portions thereof. We are requiring further development of the record with regard to the three structures.

This Opinion is based upon, and incorporates, the Findings of Fact and Conclusions of Law that follow. Any proposed findings or conclusions submitted by the parties that are not incorporated directly or inferentially in this Partial Initial Decision are rejected as being unsupported in law or in fact or as being unnecessary to the rendering of this Decision.

Findings of Fact and Conclusions of Law

I. FINDINGS OF FACT

A. Procedural Background

426.³⁹ The procedural background of this proceeding is set forth in the Licensing Board's Partial Initial Decision dated March 14, 1984, LBP-84-13, 19 NRC 659 (PID-I), and will not generally be repeated here. *See* LBP-84-13, *supra*, 19 NRC at 723-26, Findings 1-12.

427. Prior to the completion of hearings in Phase I, we had divided the proceeding into three phases. *See* PID-I, *supra*, 19 NRC at 725-26, Finding 11. Phase I issues were dealt with in PID-I. They included the determination of numerous questions bearing on the character and competence of the lead Applicant (Houston Lighting and Power Co. (HL&P)) to construct and operate the South Texas Project (STP). Phase II was to address the Quadrex Report (*see infra* Findings 452-454, 469), including its effect, if any, on certain determinations as to HL&P's character and competence which we reached in PID-I; CCANP Contention 4, relating to the ability of the STP to withstand hurricanes; and a report that we directed the NRC Staff to provide, concerning the current competence of HL&P and its new contractors to complete construction of STP. Phase III was to address Issue F concerning the operations QA program; an updating of Issue C, concerning HL&P's character and competence to operate the STP; CCANP Contention 3, relating to overpressurization of pressurized water reactors; and any remaining issues. PID-I, *supra*, 19 NRC at 697, 699, and 726.

428. Participants in the Phase II hearings included the Applicants (HL&P, the project manager; the City of San Antonio; Central Power and Light Co.; and the City of Austin), the Intervenor (Citizens Concerned About Nuclear Power, Inc. (CCANP)), and the NRC Staff. The State of Texas, an interested State, undertook discovery but did not participate in the Phase II hearings. Proposed findings of fact and conclusions of law (including supplementary findings and conclusions from reopened hearings) were submitted by the Applicants, CCANP, and the NRC Staff. *See supra* notes 2 & 3.

429. To facilitate the definition of issues for Phase II, the Licensing Board conducted two prehearing conferences. The first, which was the

³⁹ Findings 1 through 425 appear in PID-I. To avoid the potential confusion that could stem from the use of duplicate numbered findings in an ongoing proceeding, and for ease of reference, we are designating the findings in this Decision as following the numbered findings in PID-I.

fifth conducted in this proceeding, was held in Houston, Texas, on October 16, 1984. Following that conference, the Board determined that CCANP had failed to develop adequately any substantive issues arising from the Quadrex Report, but the Board deferred ruling on issues relating to the reportability to NRC of that report. The Board also established a procedural framework for considering the competence issues left open by PID-I (Issues B and D), and the hurricane issue. Fifth Prehearing Conference Order, dated November 16, 1984 (unpublished).

430. On December 21, 1984, in accord with the Licensing Board's arrangements for dealing with the competence issues left open by PID-I, the NRC Staff filed affidavits dealing with these issues. The Staff corrected and supplemented these affidavits by a filing dated January 24, 1985. On February 25, 1985, the Applicants filed affidavits dealing with their competence and supplementing the Staff affidavits. On the same date, CCANP filed comments on the Staff affidavits.

431. In our Memorandum and Order (Phase II Hearings on Quadrex Report Issues), dated February 26, 1985, LBP-85-6, 21 NRC 447, we authorized hearings on several CCANP issues dealing with the reportability of the Quadrex Report to NRC and this Board, pursuant to 10 C.F.R. § 50.55(e) and the *McGuire* doctrine (see *Duke Power Co.* (William B. McGuire Nuclear Station, Units 1 and 2), ALAB-143, 6 AEC 623, 625-26 (1973), and other cases cited by us in LBP-85-6, 21 NRC at 461). These issues included both character and competence questions that had been left open by PID-I. In LBP-85-6, we also authorized the filing by CCANP of additional Quadrex Report issues. CCANP filed such a request on April 22, 1985.

432. On March 12, 1985, the Applicants filed a Motion for Summary Disposition of CCANP Contention 4 (dealing with the ability of STP to withstand hurricanes). The motion was supported by two affidavits. (A corrected motion was filed on March 13, 1985.) On April 8, 1985, CCANP filed a response in opposition to the Applicants' motion. On April 15, 1985, the NRC Staff filed a response in support of the Applicants' motion, supported by four affidavits. CCANP did not file a written response to the Staff's position. The Board heard oral argument on the motion during the Sixth Prehearing Conference (Tr. 10,914-45).

433. In our Memorandum and Order (Denying Proposed Contention on Soil Stability but Directing Hearing on Certain Soils Questions), dated March 29, 1985, LBP-85-9, 21 NRC 524, we designated, as one of the "competence" questions to be litigated in Phase II, the matter of the Applicants' current organization, procedures, and activities in soils areas.

434. Following a conference call on April 4, 1985, and for the reasons set forth in our Memorandum and Order (Telephone Conference

Call of April 4, 1985), dated April 5, 1985 (unpublished), we determined that we would treat the affidavits filed by the NRC Staff and the Applicants on the competence issue (*see* Finding 430, *supra*), together with their filings of March 14 and 25, 1985, as motions for summary disposition of that issue (except to the extent that aspects of the competence issue had already been designated for litigation — *see* Findings 431 and 433, *supra*). We established a procedural framework for considering the competence questions.

435. On April 17, 1985, CCANP filed a Motion to Reopen Phase I Record. After consideration of the responses of the Applicants and Staff, together with oral argument at the Sixth Prehearing Conference on certain procedural aspects of the motion, we denied the motion. *See* Memorandum and Order (Explanation of Ruling on CCANP Motion to Reopen Phase I Record), dated June 18, 1985, LBP-85-19, 21 NRC 1707. However, we ruled that certain matters raised by one exhibit to the motion could be litigated under the aegis of CCANP Contention 10, one of the Quadrex Report contentions that we had accepted for litigation in our Memorandum and Order of February 26, 1985 (*see* Finding 431, *supra*).

436. On April 30–May 1, 1985, the Licensing Board conducted a prehearing conference in Bethesda, Maryland, in order to define further the issues to be heard in Phase II. The rulings on those issues appear in the Sixth Prehearing Conference Order (Further Definition of Phase II Issues), dated May 17, 1985 (unpublished), as amended by our Memorandum and Order (Applicants' Motion for Clarification of Sixth Prehearing Conference Order), dated May 24, 1985 (unpublished), and as corrected by the Errata (Sixth Prehearing Conference Order), dated June 14, 1985 (unpublished).

437. The Licensing Board provided ample opportunities for pretrial discovery on Phase II issues. The initial discovery period on all such issues extended for 90 days, ending on April 25, 1983 (Memorandum dated June 24, 1982 (unpublished); Memorandum and Order (Ruling upon CCANP's Motion to Adopt Contentions of CEU), LBP-82-91, 16 NRC 1364, 1374-75 (1982)). We subsequently granted additional discovery opportunities to the State of Texas and to CCANP. *See* Memorandum and Order (Granting Attorney General of Texas' Motion for Extension of Discovery Deadline), LBP-83-26, 17 NRC 945 (1983); Memorandum and Order (Ruling on CCANP Motions for Additional Discovery and Applicants' Motion for Sanctions), dated May 22, 1984 (unpublished); Memorandum and Order (Denying Reconsideration but Clarifying Memorandum and Order of May 22, 1984), dated July 10, 1984 (unpublished). During this period, the State of Texas engaged in

discovery, but CCANP failed to do so. (CCANP sought to participate in the State of Texas' deposition of one of HL&P's officials. At the request of the Applicants, we denied CCANP this opportunity, but we permitted CCANP to question this official at the Phase II evidentiary hearings concerning topics raised by Texas at the deposition. See Memorandum and Order (Denying CCANP Request to Conduct Cross-Examination at Goldberg Deposition), dated September 16, 1983 (unpublished); LBP-85-6, *supra*, 21 NRC at 466. CCANP conducted such cross-examination during the Phase II evidentiary hearings.

438. Because of CCANP's failure to pursue the discovery afforded to it as described in Finding 437, *supra*, as well as the inappropriateness or untimeliness of further additional discovery that it sought, we denied several additional discovery requests of CCANP. Fifth Prehearing Conference Order, dated November 16, 1984 (unpublished), at 9-10; LBP-85-6, *supra*, 21 NRC at 466; LBP-85-19, *supra*, 21 NRC at 1729-31. We made certain, however, with regard to the competence issues, that CCANP would have available to it the various § 50.55(e) reports filed by HL&P since the conclusion of Phase I, together with relevant I&E reports prepared by the Staff. See Fifth Prehearing Conference Order, *supra*, at 3-4; Memorandum (Telephone Conference Call of 2/26/85), dated February 26, 1985 (unpublished). We also directed the Applicants to furnish the Board and parties with copies of certain documents that we judged to be potentially relevant to the Phase II issues to be litigated. LBP-85-6, *supra*, 21 NRC at 463-64; LBP-85-19, *supra*, 21 NRC at 1730-31. In filings dated April 19, 1985, April 26, 1985, June 25, 1985, and July 2, 1985, the Applicants complied with these requests.

439. Two of the three Administrative Judges who participated in the Phase I hearings and Initial Decision — Charles Bechhoefer (Board Chairman) and Dr. James C. Lamb, III — continued to serve as Licensing Board members for the Phase II hearings. Effective May 10, 1985, the Licensing Board was reconstituted to substitute Administrative Judge Frederick J. Shon for Administrative Judge Ernest E. Hill, who became unable to continue to serve because of a schedule conflict. Notice of Reconstitution of Board, 50 Fed. Reg. 20,635 (May 17, 1985). Phase II evidentiary hearings were held in Bay City, Texas, on July 11-13, 1985, and in Houston, Texas, on July 15-19 and 29-31, and August 1-3, 5-9, and 13-14, 1985. Oral limited appearance statements were received in both hearing locations. The Phase II record was initially closed on August 14, 1985 (Tr. 15,387), except for receipt of the affidavit of Mr. Charles G. Thrash. That affidavit, dated September 4, 1985, was filed by the Applicants on September 6, 1985, and is part of the record of this proceeding (*see* Tr. 15,381-85).

440. CCANP filed five motions to reopen the Phase II record but subsequently moved to withdraw the third of these motions. By our summary Order of October 16, 1985, the rationale for which was explained in a November 5, 1985 Memorandum and Order, we granted the first motion in part by reopening the record to include a document that we designated as CCANP Exhibit 148, authorizing the parties to address that document in their initial Phase II findings or reply findings. We denied the remainder of the motion, which consisted of CCANP's attempt to include in the record an extensive report of a consultant. Order (Rulings on CCANP 9/30/85 Motion), dated October 16, 1985 (unpublished); Memorandum and Order (Explanation of Rulings on CCANP Motion of 9/30/85), LBP-85-42, 22 NRC 795 (1985).

441. In our Memorandum and Order (CCANP Motions II and III to Reopen Record), LBP-85-45, 22 NRC 819 (1985), we permitted CCANP to withdraw its third motion to reopen the record and we granted (in part) CCANP's second motion. As a result, reopened Phase II hearings were held on December 5-6, 1985, in Houston, Texas. The reopened Phase II record was closed on December 6, 1985 (Tr. 15,710), except for the receipt of an affidavit from Mr. Loren Stanley. That affidavit, dated December 12, 1985, was filed by the Applicants on December 17, 1985, and is part of the record of this proceeding (Tr. 15,394, 15,709-10).

442. On January 17, 1986, CCANP filed its fourth motion to reopen the Phase II record. On February 28, 1986, CCANP filed its fifth such motion. For reasons set forth in Part IV of this Opinion, *supra*, pp. 665-76, we are denying both of these motions.

443. By Memorandum and Order (Permitting Withdrawal of CCANP Contention 3), LBP-86-5, 23 NRC 89 (1986), we granted CCANP's motion to withdraw its Contention 3, relating to overpressurization of pressurized water reactors. That contention had been scheduled to be heard in Phase III. We examined the Staff's method for resolving the overpressurization generic issue and found it to be a "plausible" method for doing so.

444. On March 21, 1986, the Licensing Board conducted the Seventh Prehearing Conference. At that conference, we considered questions relating to the outstanding motions to reopen the Phase II record (*infra* Finding 442) and concerning the unresolved Phase III issues. We determined that the one matter that CCANP wished to litigate was not properly within the scope of Issue F (QA for operations) and that CCANP had not set forth a sufficient basis for the matter to be considered under Issue C or as a new contention. Seventh Prehearing Conference Order, LBP-86-8, 23 NRC 182 (1986).

445. On March 12, 1986, the Applicants filed a motion for summary disposition of Issue F. In view of our ruling that the one issue CCANP had raised for Phase III was not within the scope of that issue (*see supra* Finding 444), CCANP advised by letter dated March 26, 1986 (confirming an earlier telephone communication), that it would not respond to the Applicants' motion. (In our Seventh Prehearing Conference Order, *supra*, we advised the Staff that, unless we should indicate otherwise by future order, it need not respond to the motion. LBP-86-8, *supra*, 23 NRC at 187 n.4.) In its March 26, 1986 letter, CCANP also advised that it would not be responding to outstanding affidavits of the Applicants and Staff on Issue C. We deal with Issues C and F in Part III of our Opinion, *supra* pp. 659-64, as well as *infra* Findings 794-815.

B. Reportability or Notifiability of Quadrex Report and of B&R Replacement; Candor of HL&P Phase I Testimony

1. Contention 9

a. Background

446. Contention 9, as admitted in LBP-85-6, *supra*, 21 NRC at 462-63, reads:

The Applicants' failure to notify the NRC (Region IV) of the Quadrex Report, and of many findings beyond those actually reported, within 24 hours from the time HL&P became aware of the findings or prospective findings of the Report (including drafts), violates 10 C.F.R. § 50.55(e)(2) and reflects adversely on the character and competence of the Applicants and on their ability to manage the construction and operation of a nuclear power plant.

447. By LBP-85-6, as well as the Sixth Prehearing Conference Order (Further Definition of Phase II Issues), dated May 17, 1985 (unpublished), and our Memorandum and Order (Applicants' Motion for Clarification of Sixth Prehearing Conference Order), dated May 24, 1985 (unpublished), we restricted the matters at issue to the reportability of twenty-six specific (unreported) findings of the Quadrex Report and of the report as a whole under the cited regulation. The specific findings named were: discipline findings 4.1.2.1(b), 4.3.2.1(a), 4.3.2.1(d), 4.3.2.1(n), 4.5.2.1(b), 4.6.2.1(n), 4.7.3.1(a), 4.7.3.1(b), 4.7.3.1(k), and 4.8.2.1(a) through 4.8.2.1(g) inclusive, plus the ten "most serious" generic findings (designated 3.1(a) through (j), inclusive).

448. The Applicants called three witnesses to address these matters. Two appeared as a panel: Dr. Sydney A. Bernsen and Mr. Frank

Lopez, Jr., both employees of Bechtel Power Corporation (Bernsen/Lopez, ff. Tr. 13,441). Mr. Jerome H. Goldberg of HL&P gave extensive testimony alone on these findings (Goldberg, ff. Tr. 11,491). Certain other witnesses of the Applicants also testified on matters concerning the reportability of the Quadrex items at issue. They are cited below where their testimony applies.

449. The NRC Staff presented Messrs. Eric H. Johnson, George L. Constable, Robert G. Taylor, and Robert F. Heishman. Messrs. Johnson and Constable submitted co-authored prefiled testimony (Johnson/Constable, ff. Tr. 14,846). Messrs. Heishman and Taylor submitted separate prefiled testimony (Taylor, ff. Tr. 14,846; Heishman, ff. Tr. 14,846). All were cross-examined as a panel (Tr. 14,871 *et seq.*). Other Staff witnesses also mentioned the reportability questions. Their testimony is cited where applicable.

450. A number of written evaluations of the reportability of the Quadrex findings were admitted into evidence. They include a Brown & Root assessment of the most serious discipline findings (Appl. Exh. 62); a report by a Bechtel Task Force (Appl. Exh. 63); two reports by the NRC Staff, NUREG-0948 (December 1982) and I&E Report 82-02 (June 3, 1982) (Staff Exhs. 136, 140); and an August 24, 1984 analysis by the NRC Staff (Appl. Exh. 77).

451. CCANP subpoenaed and presented two witnesses addressing these issues: Mr. Jesse Poston of The City Public Service Board of San Antonio (Tr. 14,199 *et seq.*) and Mr. Cloin G. Robertson of HL&P (Tr. 14,583 *et seq.*).

b. General History of the Report

452. The Quadrex Report was commissioned by HL&P in January 1981, at the urging of Mr. Goldberg, who was then HL&P's Vice President, Nuclear Engineering and Construction (Goldberg, ff. Tr. 11,491, at 4-5; Tr. 12,760-61 (Sumpter)). The main purpose of the review by Quadrex was to enable Mr. Goldberg (who had been recently hired) to comprehend more exactly the status of the project (Tr. 15,505 (Goldberg); Tr. 15,409 (Jordan)). He had been informed by his staff of various concerns regarding B&R engineering, and his own observations had led him to suspect that the project might not be proceeding well (Goldberg, ff. Tr. 11,491, at 4; Tr. 11,572 (Goldberg); Tr. 12,763-66 (Sumpter)). Mr. Goldberg notified the NRC Project Manager, Mr. Sells, of the fact that the Quadrex review was being initiated at the time and, somewhat later, told Mr. Sells that he expected some reports under

§ 50.55(e) would result from the review (Sells, ff. Tr. 15,190, Attached Typewritten Statement at 1).

453. An important side benefit contemplated from the review was to prepare Mr. Goldberg for possible discussions of the status of the project with HL&P management, the co-owners of STP, and regulatory authorities (including this Board). Goldberg, ff. Tr. 11,491, at 5; Tr. 11,582-84 (Goldberg).

454. Quadrex was told to concentrate the review on areas where problems were likely to be found (Tr. 11,574-77 (Goldberg); Stanley, ff. Tr. 13,047, at 3). Quadrex conducted its review by analyzing B&R's response to selected issues known to present difficulties in the nuclear industry or matters in which HL&P suspected B&R was encountering problems (Stanley, ff. Tr. 13,047, at 3; Tr. 13,073 (Stanley); Appl. Exh. 60 at 1-1). The person in charge of the project for Quadrex, Mr. Loren Stanley, did not envision the review as being directed at evaluating B&R's conformance with the quality assurance requirements of 10 C.F.R. Part 50, Appendix B (Stanley, ff. Tr. 13,047, at 4).

455. The review was conducted through a series of questions prepared by Quadrex and by evaluation of various design documents, such as drawings and calculations (Appl. Exh. 60, ¶ 2.0; Goldberg, ff. Tr. 11,491, at 7-8; Sumpter, ff. Tr. 12,699, at 5-6). A series of meetings was held between Quadrex and B&R in the time period February to March 1981 to clarify the questions put to B&R by Quadrex and to identify materials on which B&R's answers were based, so that Quadrex could examine those materials (Goldberg, ff. Tr. 11,491, at 7; Appl. Exh. 60 at p. 2-12).

456. Although HL&P's involvement in the review process was kept to a minimum in order to preserve the objective of an independent third-party assessment, HL&P did receive briefings from Quadrex on several occasions (Goldberg, ff. Tr. 11,491, at 8-14; Sumpter, ff. Tr. 12,699, at 6, 8; Tr. 12,836-37 (Sumpter); Stanley, ff. Tr. 13,047, at 3; Tr. 13,116 (Stanley)).

457. The first of these briefings occurred on March 18, 1981 (Goldberg, ff. Tr. 11,491, at 9). The comments presented by Quadrex at that meeting were based on early results and were presented as being possibly subject to change as evidence was gathered (Tr. 13,083 (Stanley)). At the next briefing on April 13, 1981, a large number of findings were summarized on a discipline-by-discipline basis (Goldberg, ff. Tr. 11,491, at 10; Tr. 12,807-08 (Sumpter); Tr. 14,590 (Robertson)). Certain problems, including in particular the matter of computer code verification, mentioned at that meeting were deemed by HL&P to be of sufficient importance to warrant close attention, but Quadrex did not specifically

identify any finding as being reportable or potentially reportable to NRC (Goldberg, ff. Tr. 11,491, at 11; Tr. 14,598-99 (Robertson)). Mr. Goldberg's notes of the meeting include some items that he noted as "potentially reportable" (Goldberg, ff. Tr. 11,491, at 11, 14; Appl. Exh. 57). But most of these items ultimately turned out not to be reportable under § 50.55(e) (Goldberg, ff. Tr. 11,491, at 14). At the time, Mr. Goldberg did not believe he had sufficient basis to call any item "potentially reportable" (*id.* at 15).

458. At the April 13 meeting, Mr. Goldberg suggested that Quadrex categorize its findings in a manner that would facilitate HL&P's reportability review and would assist in setting priorities for corrective action (*id.* at 15-16; Tr. 11,646-47, 11,658-60 (Goldberg)). He further suggested that Quadrex establish a category to be called "most serious" for areas where B&R had not satisfied NRC requirements (Goldberg, ff. Tr. 11,491, at 11-12; Tr. 11,646 (Goldberg); Sumpter, ff. Tr. 12,699, at 9-10; Tr. 11,646, Goldberg; Tr. 12,809 (Sumpter)).

459. Quadrex believed that the category "most serious" as defined by Mr. Goldberg was too narrow and accordingly broadened that category to include any matters that could interfere with licensing the plant, whether or not NRC requirements had been met (Goldberg, ff. Tr. 11,491, at 16; Sumpter, ff. Tr. 12,699, at 10; Stanley, ff. Tr. 13,047, at 5; Tr. 13,137-40 (Stanley); Appl. Exh. 60 at pp. 3-1, 4-1). Quadrex felt it lacked sufficient information to judge which items were potentially reportable under § 50.55(e), although HL&P had asked that Quadrex do so (Stanley, ff. Tr. 13,047, at 5; Tr. 11,645 (Goldberg)). Instead Quadrex put everything with possible licensing implications into the "most serious" category, believing that the category would thus encompass all reportable matters as well as some nonreportable ones (Stanley, ff. Tr. 13,047, at 5; Tr. 13,140, 13,143, 13,149-50 (Stanley)).

460. After the April 13 meeting, on April 21, 1981, Mr. Goldberg called Mr. Sells and told him that the report was expected soon (Goldberg, ff. Tr. 11,491, at 49; Sells, ff. Tr. 15,190, Typewritten Statement at 1; Tr. 15,261 (Sells)). He informed Mr. Sells that some reports under § 50.55(e) were expected, and he offered to give Mr. Sells and NRC's Office of Nuclear Reactor Regulation a briefing on the report as soon as it became available (Goldberg, ff. Tr. 11,491, at 49). When Mr. Sells asked whether HL&P intended to file the report with NRC, Mr. Goldberg told him HL&P did not intend to do so, but that he could review the report at HL&P's offices at his convenience (*id.*; Tr. 12,658, 12,671 (Goldberg); Tr. 14,740 (Robertson)).

461. HL&P was next briefed on Quadrex's progress on April 30, 1981; B&R received a similar briefing the following day. HL&P did not

believe that any of the information presented at the April 30 briefing was potentially reportable under § 50.55(e) and did not immediately initiate a reportability review. Instead, HL&P took steps to have a reportability review initiated, both within its own organization and by B&R, as soon as the report might be received. Goldberg, ff. Tr. 11,491, at 13-14; Tr. 14,602 (Robertson). On May 6, 1981, Mr. Goldberg wrote a letter to B&R directing B&R to advise HL&P on the reportability of Quadrex findings and the steps that would be taken to resolve those findings (Goldberg, ff. Tr. 11,491, at 22; Appl. Exh. 61).

462. CCANP would have us find that, by the end of April 1981, HL&P knew enough from these informal briefings to make notifications to NRC under § 50.55(e); and, in particular, that HL&P knew that B&R was inexperienced in some nuclear engineering matters and was far behind in design work (CCANP FOF-II, PF III.22). We do not find that either inexperience or slow accomplishment is reportable under § 50.55(e). We note that in the one instance where, prior to the issuance of the report, Quadrex felt that a matter might be reportable, that matter was reviewed by B&R and by the HL&P Incident Review Committee (IRC) and was found not to be reportable (Tr. 12,783-93 (Sumpter); CCANP Exhs. 94, 95). HL&P maintained records of the IRC's consideration of this matter (CCANP Exhs. 94, 95).

463. On May 7, 1981, the Quadrex Report (Appl. Exh. 60) was delivered to HL&P, and personnel from both HL&P and B&R were briefed on its content (Goldberg, ff. Tr. 11,491, at 17-18). Representations at that meeting by Quadrex suggested that all "generic" findings in the report were based upon findings in individual disciplines. Since the broad general nature of the generic findings occasioned dispute between B&R and Quadrex, and since only the category "most serious" was expected to result in reportable items, Mr. Goldberg determined that B&R need review only the most serious discipline findings for reportability under § 50.55(e) (Goldberg, ff. Tr. 11,491, at 18-19; cf. Findings 469-471, *infra*).

464. During the 24 hours following delivery of the report, the most serious discipline findings were reviewed by both HL&P and B&R. Advice on reportability of those findings was supplied to HL&P by B&R on May 8, 1981 (Appl. Exh. 62), and HL&P convened a special review team to decide on reportability that same day (Goldberg, ff. Tr. 11,491, at 22; Sumpter, ff. Tr. 12,699, at 12-13). The special review team consisted of Mr. Goldberg, Dr. Sumpter and Mr. Robertson. Use of this team was not the usual HL&P practice, because HL&P would normally review information for reportability through its IRC. However, Mr. Goldberg felt that the nature of the report and its findings required the

attention of the most experienced nuclear engineers available; himself, Dr. Sumpter, and Mr. Robertson with 26, 11, and 15 years, respectively, all having great familiarity with the requirements of § 50.55(e) (Goldberg, ff. Tr. 11,491, at 25).

465. On May 8, Mr. Goldberg received a reply to his request for B&R's advice on Quadrex. The letter also responded to his request for B&R's plans to resolve the Quadrex findings, and it expressed B&R's judgment that no stop work orders would be necessary. Appl. Exh. 62; Tr. 11,713 (Goldberg). The review team met that same day to go through the findings, review B&R's advice and make decisions on reportability (Goldberg, ff. Tr. 11,491, at 22).

466. At his first reading of the Quadrex Report, Mr. Goldberg's reaction had been that the magnitude of B&R's engineering problems was indeed great. However, after discussions with Mr. Stanley on May 7, and the meeting of the review team on May 8, he concluded that the problems were much less formidable. Tr. 11,706-08, 12,525-26, 12,537-38 (Goldberg). For the most part the deficiencies were ones that had already been identified and were being resolved (Goldberg, ff. Tr. 11,491, at 19).

467. The review team read each of the Quadrex findings and considered B&R's advice. The team called the chairman of HL&P's standing IRC, Mr. Michael Powell, and had him join the meeting when it became evident that at least one reportable item would result. At the end of the meeting Mr. Powell telephoned NRC and reported three items that the team had identified as potentially reportable under § 50.55(e). Goldberg, ff. Tr. 11,491, at 23-24.

468. The three items initially reported were:

1. that certain faulted condition heat loads may not have been considered in designing the heating, ventilating, and air-conditioning system (HVAC).
2. that computer program users could not readily determine whether or not certain program versions had been properly verified.
3. that certain shielding design calculations might not have been verified in a manner consistent with the required verification of safety-related correlations.

Goldberg, ff. Tr. 11,491, at 23-24. The second and third of these items were considered by HL&P to be potentially reportable as significant breakdowns in the QA program (*id.* at 28). Later, in March of 1982, HL&P notified NRC of one additional item (an instrument air line that did not meet the single-failure criterion) from the Quadrex Report (*id.* at 37).

469. The Quadrex Report made findings concerning nine technical disciplines: Civil/Structural; Computer Programs and Codes; Electrical/Instrumentation and Control; Geotechnic; Heating, Ventilating, and Air Conditioning (HVAC); Mechanical; Nuclear Analysis; Piping and Supports/Stress and Special Stress; and Radiological Control (Appl. Exh. 60 at 1-1). It made generic findings based upon the separate discipline findings (Appl. Exh. 60 at 3-1; Goldberg, ff. Tr. 11,491, at 18-19; cf. Finding 463, *supra*). The generic findings were categorized as either "most serious" or "serious" (Appl. Exh. 60 at 3-1), while the findings in individual disciplines were categorized as "most serious," "serious," "noteworthy," "potential problem," and "other" (*id.* at 4-1, 4-2). Quadrex indicated that only those findings in the "most serious" category would be likely to be reportable to NRC (Stanley, ff. Tr. 13,047, at 5). Consequently, HL&P focussed its review on those most serious findings (Goldberg, ff. Tr. 11,491, at 29).

470. The review team did not simply report all of the most serious discipline findings because the definition of that category did not automatically imply reportability under § 50.55(e). For example, some of the Quadrex most serious findings related to activities that had not been completed by B&R. The fact that certain design activities may not yet have commenced or been completed does not necessarily mean there is a deficiency in a design or in QA. Goldberg, ff. Tr. 11,491, at 31-32. Similarly, a finding might address "a matter of serious concern to the NRC at this time" but would not necessarily reflect a "deficiency" in design or construction (*id.* at 32). Mr. Stanley confirmed that the most serious category included findings "which clearly were not reportable" (Stanley, ff. Tr. 13,047, at 5).

471. The other four categories of discipline findings were not reviewed by HL&P on May 8 because the characterization of them by Quadrex indicated that they were not reportable (Goldberg, ff. Tr. 11,491, at 29). The serious findings were not reportable because they did not relate to safety but only to "the generation of reliable power" (*id.* at 29; *see also* Appl. Exh. 60 at 4-1.) The noteworthy findings were not reportable because they did not relate to safety but only to "project schedule and/or cost increases" (*id.*). The potential problem findings were not reportable because they did not identify deficiencies but only identified subjects warranting "further investigation" (Goldberg, ff. Tr. 11,491, at 29; Appl. Exh. 60 at 4-2; Tr. 12,578-80 (Goldberg)). The Board asked whether the potential problem findings could include matters that might eventually be reportable. Mr. Stanley indicated that these findings were based on very preliminary and limited information, and that further investigation would have been necessary to determine

whether or not the finding might eventually be reportable (Tr. 13,143-44 (Stanley)). Finally, "other findings" were not reportable because they did not identify significant deficiencies but only identified "minor items or items that are not amenable to corrective action" (Goldberg, ff. Tr. 11,491, at 29; Appl. Exh. 60 at 4-2).

472. HL&P did bring the report to the NRC Staff's attention. In January or February 1981, Mr. Goldberg informed Mr. Sells, who was then STP project manager for the Staff, that HL&P was contracting with an outside firm to review B&R design. On April 21, 1981, Mr. Goldberg told Mr. Sells during a telephone conversation that the Quadrex Report would be completed in early May. Mr. Goldberg also stated that he expected some reports pursuant to § 50.55(e) to result from the report. Sells, ff. Tr. 15,190, Typewritten Statement at 1; Findings 452 and 460, *supra*. Mr. Goldberg raised a question concerning what the best method would be for him to present the results of the report to both NRC headquarters and Region IV, and he offered to show Mr. Sells the report when HL&P received it (Sells, ff. Tr. 15,190, Typewritten Statement at 1; Goldberg, ff. Tr. 11,491, at 49; Tr. 15,225-26 (Sells)).

473. During the week of May 11, 1981, while the Phase I evidentiary hearings were being conducted in this proceeding, Mr. Sells met with Mr. Goldberg for a briefing on the Quadrex results at the Holiday Inn in Bay City, Texas (Sells, ff. Tr. 15,190, at Typewritten Statement at 2; Staff Exh. 140, I&E Rept. 82-02 at 5; Goldberg, ff. Tr. 11,491, at 49-50). The meeting was brief, about 20 minutes, and there is some disparity in the two men's recollections of it: Mr. Goldberg remembered bringing a copy of Volume 1, at least, of the report, while Mr. Sells does not recall seeing the report himself. Nevertheless, Mr. Goldberg discussed the findings and again assured Mr. Sells that the report would be available for his perusal at HL&P's offices. *Id.*; Tr. 12,336-37, 12,532-35 (Goldberg); Tr. 15,225-26 (Sells); Tr. 14,402-03 (Oprea).

474. We would here pause to note that we view the minor differences between Mr. Goldberg's and Mr. Sells' recollections as being both understandable and unimportant. The important facts of the meeting were that Mr. Goldberg briefed Mr. Sells on the report and offered to allow him to review it on HL&P premises. We see absolutely no evidence of Mr. Sells becoming Mr. Goldberg's "co-conspirator" or Mr. Goldberg "suborning" an NRC official, as CCANP alleges (CCANP FOF-II at 114-15).

475. Mr. Goldberg believed at the time that, by informing Mr. Sells about the Quadrex Report and reporting the items required by § 50.55(e) to NRC's Region IV Office, HL&P had fulfilled its responsibilities to be completely candid (Goldberg, ff. Tr. 11,491, at 50-51).

Both he and Mr. Oprea believed that NRC's Office of Nuclear Reactor Regulation, as represented by Mr. Sells, was the appropriate arm of the agency to inform of the report (*id.*; Oprea, ff. Tr. 14,095, at 5-6; Staff Exh. 140, I&E Rept. 82-02, at 4). The Staff witnesses found that belief understandable and drew no adverse conclusions regarding HL&P's competence or character from the decision to discuss the report with Mr. Sells rather than Region IV (Constable, ff. Tr. 14,846, at 9-10; Tr. 15,058-59 (Johnson)).

476. During the course of an investigation in August 1981, an NRC inspector, Mr. H. Shannon Phillips, and an NRC investigator, Mr. Richard Herr, requested a copy of the Quadrex Report from HL&P's Quality Assurance Manager, Mr. Richard A. Frazar. Mr. Frazar did not have a copy, so he called Mr. Oprea. Frazar, ff. Tr. 14,412, at 3-4. Mr. Oprea made it clear that a copy should be provided to the NRC for review (Oprea, ff. Tr. 14,095, at 6; Frazar, ff. Tr. 14,412, at 3-4; Tr. 14,179-81 (Oprea); Tr. 14,418-20 (Frazar)). A copy was indeed made available to Messrs. Phillips and Herr the next day and again to Mr. Phillips the following week. He reviewed it, and neither Mr. Phillips nor Mr. Sells perceived any reluctance on HL&P's part to allow review of the report or answer questions about it. Phillips, ff. Tr. 15,192, at 3-4; Tr. 15,252-53 (Phillips, Sells).

477. In late August 1981, HL&P management decided to arrange a briefing on the Quadrex Report for personnel from NRC's Region IV office. There is some haziness in the testimony concerning just how and why this notion arose. Mr. Goldberg says that Mr. Oprea "suggested Region IV would be interested" and then arranged a briefing (Goldberg, ff. Tr. 11,491, at 53). Mr. Oprea said he arranged the briefing when he realized Region IV might not be aware of the contact made earlier with Mr. Sells (Oprea, ff. Tr. 14,095, at 6). A chronology prepared by NRC suggests that Mr. John Collins, then Deputy Director of Region IV, called Mr. Oprea about that time and requested review of the report (CCANP Exh. 138; Tr. 15,344 (Collins)). Mr. Oprea does not remember the phone call (Tr. 15,372 (Oprea)). For reasons set forth *infra*, Finding 642, we believe that the telephone call took place, and we so find. However, as with the slight discrepancy between the recollections of Messrs. Goldberg and Sells (Finding 474, *supra*), CCANP would again have us scent a conspiracy, proposing that we find "[i]t is possible that a cover story was created . . ." (CCANP FOF-II, PF III.97, at 117). Again we merely note that the discrepancy is of vanishingly small significance, human memory is notably fallible, and CCANP's unfounded accusation is unworthy of our consideration.

478. The proposed briefing was held on September 8, 1981. Messrs. Oprea and Goldberg described the Quadrex review and its results to Mr. Karl Seyfrit (then Regional Director), Mr. Collins and other personnel from Region IV. CCANP Exh. 140. The briefing covered the review and its results as well as HL&P's plans for resolving the problems identified in the findings (Goldberg, ff. Tr. 11,491, at 53; Oprea, ff. Tr. 14,095, at 6-7; Tr. 12,417-18 (Goldberg); Tr. 14,303-04 (Oprea); Tr. 15,292 (Collins)).

479. At the meeting on September 8, the question whether the Quadrex Report as a whole was reportable under § 50.55(e) arose. Mr. Goldberg attributes the question to Mr. Seyfrit; Mr. Collins believed he (Collins) had suggested it himself (Goldberg, ff. Tr. 11,491, at 53; Tr. 15,345-47 (Collins)). Whatever the source of the question, Mr. Goldberg answered it in the negative (Goldberg, ff. Tr. 11,491, at 53). While Mr. Collins may have raised the question then, he testified that, knowing what he now does, he does not presently believe the report in its entirety should have been submitted under § 50.55(e) (Tr. 15,348 (Collins)).

*c. Reportability of the Quadrex Report as a Whole Under
10 C.F.R. § 50.55(e)*

480. In our Opinion (*supra* pp. 617-19), as well as in LBP-85-6, *supra*, we described the criteria for reportability under § 50.55(e). We turn now to a consideration of whether or not the HL&P team properly applied those criteria to the Quadrex Report as a whole.

481. The Staff has concluded that the Quadrex Report, taken as a whole, was not reportable under the regulation (Johnson/Constable, ff. Tr. 14,846, at 8, 9). The Staff carried out an extensive investigation, culminating in I&E Report 82-02 (Staff Exh. 140), aimed at determining whether HL&P deliberately withheld the Quadrex Report from NRC as alleged by CCANP. The investigation concluded that the allegation was "not substantiated" (Staff Exh. 140, I&E Rept. 82-02, at 2). That same report concluded that two of the items that HL&P reported after examining the Quadrex Report were items that should properly have been reported much earlier, on the basis of information available in November 1980 and January 1981, before Quadrex had even started work (Johnson/Constable, ff. Tr. 14,846, at 7; Staff Exh. 140, I&E Rept. 82-02, at 2). That, however, does not suggest any failure to evaluate the Quadrex Report properly.

482. Mr. Collins of the NRC Staff had believed at first contact that the report as a whole might be reportable under § 50.55(e), although he did not think it necessarily showed a "breakdown" of quality assurance

(*cf.* Finding 479, *supra*; Tr. 15,291-92 (Collins)). Indeed, he did not assign it to a specific criterion or category, thinking merely that it might be a “potential” deficiency (Tr. 15,345-47 (Collins)). After subsequent detailed review by the Staff, however, he now believes that the report as a whole was not reportable under § 50.55(e). He also noted that, at the time of the first briefing, HL&P had the benefit of more information about the report than did NRC, information that led HL&P not to report it. Johnson/Constable, ff. Tr. 14,846, at 4; Tr. 15,347-50 (Collins).

483. CCANP introduced into evidence an exhibit, CCANP Exhibit 147A, containing testimony before a congressional committee by Mr. William Dircks, then Executive Director for Operations of NRC. In it, Mr. Dircks suggests that the Quadrex Report brought to NRC’s attention quality assurance problems of greater magnitude than those already known to the agency at that time (CCANP Exh. 147A at 94). Mr. Collins reviewed that testimony and had input into it (Tr. 15,316, 15,291 (Collins)), and it reflected his beliefs in November 1981. At the time of his present testimony, however, in the light of further in-depth evaluation, he would change the wording of the statement. He does not now believe the Quadrex Report shows a breakdown in quality assurance. Tr. 15,291-92 (Collins).

484. Mr. Goldberg testified that the Quadrex Report did not, in his judgment, identify a widespread breakdown in quality assurance or suggest that a significant amount of the safety-related design was flawed, and he did not think it appropriate to submit the entire report under § 50.55(e) (Goldberg, ff. Tr. 11,491, at 48-49). “On first reflection,” he did believe the problems might be large enough to justify submitting the entire report, and it was only after he received the opinions of an independent engineering team whom he respected that he became convinced that the report was not as bad as the first glance might suggest (Tr. 12,536-37 (Goldberg)). With the benefit of the detailed review provided by Dr. Sumpter, Mr. Robertson and the B&R engineering group, Mr. Goldberg felt there was not enough substance to see the report as a broad indictment of engineering and submit it under § 50.55(e) (Tr. 12,604-06 (Goldberg)). Mr. Goldberg explained that the report, in his opinion, reflected neither a limited number of observations that projected a broad or far-reaching concern about engineering practices that could extend to many areas, nor numerous items that, while not significant individually, collectively might reach out into a broad area of design importance (Tr. 12,539-41 (Goldberg)).

485. Nor did Dr. Sumpter believe the report as a whole should be submitted under § 50.55(e) (Tr. 12,831-33 (Sumpter)). Asked whether they believed the report as a whole should have been submitted as a

quality assurance breakdown, Dr. Bernsen and Mr. Lopez, Bechtel engineers who reviewed the report, agreed with Mr. Goldberg and Dr. Sumpster, and with the present opinion of the NRC Staff witnesses (Tr. 14,022-23 (Bernsen/Lopez)).

486. CCANP would have us find, contrary to the testimony set forth immediately above, that the Quadrex Report as a whole reflected a serious quality assurance breakdown, thus coming under § 50.55(e)(1)(i) (CCANP FOF-II, PF III.34, III.92). But CCANP offered no direct testimony to that effect and elicited no agreement with that theory on cross-examination. Indeed, it appears that at the time the Quadrex Report was produced, the Quality Assurance Manager at the STP site was not involved and was not even asked to review it (Frazar, ff. Tr. 14,412, at 2-4). Thus it is unlikely that the report was viewed by those who commissioned it and received it as being primarily a quality assurance review.

487. We conclude that the report as a whole was not reportable under § 50.55(e).

d. Reportability of Named Individual Discipline Findings of the Quadrex Report Under 10 C.F.R. § 50.55(e)

488. As noted in Finding 447, *supra*, we named the following discipline findings of the Quadrex Report to be considered as “findings beyond those actually reported,” mentioned in Contention 9, which are alleged by the contention to reflect adversely on the Applicants’ character and competence because they were not reported: 4.1.2.1(b), 4.3.2.1(a), 4.3.2.1(d), 4.3.2.1(n), 4.5.2.1(b), 4.6.2.1(n), 4.7.3.1(a), 4.7.3.1(b), 4.7.3.1(k), and 4.8.2.1(a) through (g), inclusive. We treat each of these findings *seriatim*.

489. Although CCANP produced no direct testimony supporting the reportability of any of these findings, deduced nothing under cross-examination that would support their reportability, and indeed did not even deign to address the majority of them in its proposed findings, CCANP would, nevertheless, have us find that the Applicants’ testimony (generally supported by the Staff) was a “web of deception” and “false and misleading” (CCANP FOF-II, PF III.56). We specifically decline to make such a finding, and we again express our total disapproval of CCANP’s gratuitous attack on the Applicants’ integrity. Where CCANP did address a specific discipline finding we note that fact below.

QUADREX REPORT FINDING 4.1.2.1(b)

490. Quadrex Report finding 4.1.2.1(b) states:

There was no evidence of Civil/Structural evaluation of the reasonableness of postulated internal missiles or that the criteria for internal missiles presented in TRD [Technical Reference Document] 1N209RQ013-A had been implemented in the design (see Question C-9).

Appl. Exh. 60 at p. 4-6.

491. The Staff's witness, Mr. Taylor, analyzed and evaluated this finding. He interpreted it as relating to missiles postulated to come from a pump, and he noted that he would not expect a civil engineer to be able to challenge the reasonableness of missiles postulated perhaps by a pump engineer. He noted that even the Quadrex assessment of the referenced Quadrex question, C9, indicates that the civil/structural discipline was handling postulated missiles according to the state-of-the-art. He saw in the finding no violation of NRC quality assurance requirements. Taylor, ff. Tr. 14,846, at 36.

Asked if he thought the finding reportable under § 50.55(e), Mr. Taylor replied that more information would be needed. He characterized it as "a very close call" but thought it should have been reported as a "potential deficiency" (*id.* at 37). He saw in the failure to report no lack of candor on HL&P's part, and he noted that HL&P may well have known enough about B&R's practices at the time to feel certain this comment was nothing to be concerned about (*id.*). He did not believe that the failure to report this finding reflected adversely on HL&P's character or competence (*id.* at 39).

492. Mr. Goldberg testified that the finding did not identify a deficiency in design, but only an activity that still had to be performed (Goldberg, ff. Tr. 11,491, at 38-39). Indeed, he asserted that certain parts of the missile protection program had not even commenced (*id.*; Tr. 11,795 (Goldberg)). In particular, according to Dr. Sumpter, who also testified on this point, design to resist postulated missiles is done late in the design process after final layout and orientation of equipment (Tr. 15,368 (Sumpter)). Mr. Goldberg also noted this point (Tr. 11,805 (Goldberg)). It was, in fact, precisely this additional knowledge by Messrs. Goldberg, Sumpter, and Robertson of the incomplete state of missile protection design that led the review team to reject this finding as a reportable item (Tr. 11,804-07 (Goldberg)).

493. Dr. Bernsen and Mr. Lopez, also testifying on behalf of the Applicants, made much the same points: Design to resist missiles is generally accomplished late in the design process; Quadrex found B&R's

response to Question C9 to be "state-of-the-art"; the finding did not suggest a quality assurance breakdown (Bernsen/Lopez, ff. Tr. 13,441, at 91-92).

494. We find that, viewed from the standpoint of the HL&P review team, Quadrex finding 4.1.2.1(b) was not a deficiency reportable under § 50.55(e). Failure to have reported it accordingly does not reflect adversely on the Applicants' character or competence.

QUADREX REPORT FINDING 4.3.2.1(a)

495. Quadrex Report finding 4.3.2.1(a) states:

The common instrument air line, as depicted in FSAR drawing 9.4.2-2 attached to Question R-6, does not meet the single failure criterion required by IEEE 279-1971 and 10 CFR 50 (see Question E-15). The occurrence of this design error in the late 1970's in concert with the B&R response to other single failure criterion questions suggests that B&R is not sufficiently experienced in the performance of a Failure Mode and Effects Analysis that crosses discipline boundaries.⁵ In most organizations, the I&C [instrumentation and control] discipline would detect and immediately correct this type of design error by performing a rigorous examination of the separation provided between redundant divisions in the safety-related portions of the plant for all involved disciplines.

⁵ Instrument line blockage was identified as a potential concern for single failure analyses in the 1970 period when an early B&W [Babcock & Wilcox] plant had three instruments connected to two piping taps. Technicians repeatedly replaced the instrument connected to one tap because it read differently than the other two instruments connected in common to the other tap; only later did they discover that a blocked instrument line was causing the two common instruments to read erroneously.

Appl. Exh. 60 at p. 4-21.

496. Mr. Goldberg testified that this finding was not reported because the drawing involved had not been released for construction (thus failing to meet § 50.55(e)(1)(ii)); and, as a limited aspect of design, it did not indicate a significant breakdown in quality assurance (thus not meeting § 50.55(e)(1)(i)) (Goldberg, ff. Tr. 11,491, at 39-40).

497. After Bechtel reviewed the Quadrex Report, it notified HL&P that this finding was potentially reportable, and HL&P reported the matter to NRC on March 15, 1982, as a potentially reportable item. Further investigation revealed that failure of the line would not result in a safety hazard and that the design had not been released for construction, nor did it represent a quality assurance breakdown. It was therefore deemed not actually reportable, and NRC was so notified on April 8, 1982. Bernsen/Lopez, ff. Tr. 13,441, at 93-94; Goldberg, ff. Tr. 11,491, at 37-38; Appl. Exh. 63 at p. 4-9 and Appendix B at B-27.

498. The NRC Staff reviewed Quadrex finding 4.3.2.1(a) and concluded that it did not represent a significant breakdown in quality assurance (Taylor, ff. Tr. 14,846, at 19-21).

499. CCANP would have us find that the finding itself, which notes that the error “suggests that B&R is not sufficiently experienced,” taken together with Bechtel’s suggestion that a generic review of design be undertaken (Appl. Exh. 63, Appendix B at B-27), would compel a finding of quality assurance breakdown. We reject that reasoning and find that the item was not reportable. Clearly, as we have noted above, reportability under § 50.55(e) is a matter about which reasonable experts may reasonably differ. The fact that all the expert witnesses here ultimately agreed that the finding need not be reported bolsters an objective observer’s confidence in HL&P’s character and competence.

QUADREX REPORT FINDING 4.3.2.1(d)

500. Quadrex Report finding 4.3.2.1(d) states:

No formal methodology or documentation exists to verify adequate separation or the single failure criterion (see Questions E-1, E-8, and E-19).

Appl. Exh. 60 at p. 4-22.

501. Mr. Goldberg testified that HL&P knew that B&R did, in fact, have a formal procedure in place. As to the documentation Quadrex found lacking, Mr. Goldberg testified that such documentation is neither required by NRC nor universally used in the industry. He asserted that the finding “did not identify a deficiency in design or in quality assurance.” Goldberg, ff. Tr. 11,491, at 40.

502. Dr. Bernsen and Mr. Lopez testified that B&R did in fact have a formal methodology for verifying separation requirements and the single-failure criterion, but had no formal methodology for demonstrating how these requirements had been incorporated into the design. They noted that many projects have been successfully completed without the latter methodology. Bernsen/Lopez, ff. Tr. 13,441, at 95. They saw no quality assurance breakdown in the Quadrex finding (*id.* at 96).

503. Mr. Taylor testified that the finding did not identify a potentially reportable deficiency (Taylor, ff. Tr. 14,846, at 40-41).

504. Quadrex carried out its assignment by meetings with B&R, by site visits, and by analyzing B&R’s answers to a prepared series of questions (Appl. Exh. 60 at p. 2-4). CCANP would have us look at the Quadrex analysis of Questions E-1, E-8, and E-19 referenced in finding 4.3.2.1(d) and conclude, on the basis of certain phrases therein taken out of context, that the finding represents a deficiency reportable under

§ 50.55(e)(1)(i), i.e., a significant breakdown in quality assurance (CCANP FOF-II, PF III.60). We see no reason to do so. The finding lacked the elements of reportability in § 50.55(e) and was not reportable.

QUADREX REPORT FINDING 4.3.2.1(n)

505. Quadrex Report finding 4.3.2.1(n) states:

It is planned that various types of isolation devices will be used. Actual devices are still under evaluation and qualification. There is no existing document that provides guidance to the designers on the circuit application of these various types (e.g., optical couplers vs. fuses vs. relays, etc.). It is our opinion that lack of such a document (TRD) could result in design errors and licensing problems (see Question E-14).

Appl. Exh. 60 at p. 4-23.

506. Mr. Goldberg pointed out that the finding itself says that the isolation devices are “still under evaluation and qualification.” (Thus there is no way that this matter could be a deficiency in final design or a quality assurance breakdown.) A TRD of the type mentioned would be useful but not necessary until the isolation devices had been selected. Goldberg, ff. Tr. 11,491 at 41.

507. Mr. Taylor likewise felt no violation of quality assurance criteria could occur “until a design had been developed” (Taylor, ff. Tr. 14,846, at 38). He, too, believed that an engineering contractor like B&R could develop satisfactory designs without the document Quadrex thought necessary (*id.* at 39).

508. Dr. Bernsen and Mr. Lopez also note that the finding explicitly states that the devices were still under evaluation. Thus no quality assurance breakdown had occurred. They, too, felt the recommended document was not needed at the time. Bernsen/Lopez, ff. Tr. 13,441, at 96.

509. CCANP would make much of the fact that standards and a regulatory guide requiring that these devices be specified had been issued years before the Quadrex review, asserting that long-term failure to implement constitutes, *ipso facto*, a quality assurance breakdown (CCANP FOF-II, PF III.61). The argument strikes us as specious.

510. CCANP would also have us interpret the cross-examination of Mr. Loren Stanley, at Tr. 13,153-57, as indicating that orders for equipment, released to vendors without specification of isolation devices, would constitute final designs released for construction while containing deficiencies affecting safety (CCANP FOF-II, PF III.62). We note the witness said a few pages later that “there would be many checks and balances before the equipment was installed” and “the designs weren’t

done . . . it was correctable, and easily correctable” (Tr. 13,159-60 (Stanley)). Here, too, CCANP’s argument must be rejected.

511. Lastly, CCANP would have us find that, taken in concert with certain other findings (whose significance was not litigated), this finding shows that “a potential for quality assurance problems already existed” (CCANP FOF-II, PF III.63). We decline to base our opinion on matters not litigated, and we note that nowhere in § 50.55(e) is there a requirement to report every matter having “a potential for quality assurance problems.”

512. We conclude that the finding was not reportable.

QUADREX REPORT FINDING 4.5.2.1(b)

513. Quadrex Report finding 4.5.2.1(b) states:

EDS did not perform a design review or design verification of preliminary loads transmitted to B&R; these loads have, however, been used as a basis for plant design (see Questions C-4 and M-8).

Appl. Exh. 60 at p. 4-39.

514. EDS Nuclear, Inc., was a subcontractor to B&R, performing pipe-rupture analysis for piping inside containment (Appl. Exh. 60 at 1-2, 4-36). Mr. Goldberg testified that preliminary designs are often used as a basis for design and construction activities not only at STP but at every other nuclear project with which he is familiar. Where such data are used, an extra margin of safety is included. Such preliminary use does not represent a deficiency. Goldberg, ff. Tr. 11,491, at 41.

515. Mr. Taylor testified that nearly all the projects in heavy field construction in which he had been involved used conservative preliminary data for some parts of the construction. He noted this usually resulted in foundations being more oversized than originally contemplated. Such a practice would not be a quality assurance violation unless a nonconservative design was ultimately found to exist. Taylor, ff. Tr. 14,846, at 42.

516. Dr. Bernsen and Mr. Lopez confirmed that the use of preliminary loads is acceptable and not uncommon. They also note that Quadrex’s “major concern” with respect to this matter is potential conservatism. Bernsen/Lopez, ff. Tr. 13,441, at 97; Appl. Exh. 60 at p. 4-38.

517. CCANP offered no argument. The finding does not seem reportable to this Board. It identifies neither a design deficiency nor a quality assurance breakdown.

QUADREX REPORT FINDING 4.6.2.1(n)

518. Quadrex Report finding 4.6.2.1(n) states:

Assumptions regarding the availability of various heat sinks under varying plant conditions should be re-examined (see Question N-17).

Appl. Exh. 60 at p. 4-61.

519. Mr. Goldberg testified that inspection of the referenced Quadrex question, N-17, showed that the unanalyzed condition of which Quadrex complained was one that he knew had, in fact, actually been analyzed. Further, B&R had subcontracted with NUS Corp. for a reanalysis of the heat loads to the essential cooling pond (ECP), the heat sink mentioned in Question N-17; thus the recommended reexamination was already in progress. He saw no design deficiency or quality assurance breakdown. Goldberg, ff. Tr. 11,491, at 42.

520. Mr. Taylor would have made this an unresolved item in 1981. He believed it should have been reported as a potential § 50.55(e) matter; and, indeed, when a reanalysis of ECP heat loads was completed in October 1982, it was so reported. Taylor, ff. Tr. 14,846, at 44; Staff Exh. 136 at 267. In December of 1982 the notification was withdrawn, since it was found that all safety-related components would still function even with the higher-temperature water in the ECP (Taylor, ff. Tr. 14,846, at 44-45). Mr. Taylor still believes the matter should have been reported in May 1981, but he stated that his conclusion simply reflects a "somewhat lower threshold" of reportability. He did not feel that HL&P's failure to report the finding reflected a lack of candor or reflected adversely on corporate character or competence. *Id.* at 45-46.

521. Dr. Bernsen and Mr. Lopez stated in their direct testimony that, in fact, as Mr. Goldberg noted, the required analysis had been done (Bernsen/Lopez, ff. Tr. 13,441, at 97).

522. CCANP offered no argument concerning this finding. We note the somewhat checkered history of this finding's reportability: at first not reported, then reanalyzed as "potential," later withdrawn. We are inclined to agree with the Staff's position: The finding should have been reported in May 1981 as potentially reportable. However, the potential reportability was, as in other instances, a judgmental matter about which experts might reasonably differ. Failure to have reported it certainly does not suggest shortcomings in HL&P's character or competence.

QUADREX REPORT FINDING 4.7.3.1(a)

523. Quadrex Report finding 4.7.3.1(a) states:

B&R has not yet developed a criteria for jet impingement protection on unbroken piping systems (see Question P-20). A future TRD is planned.

Appl. Exh. 60 at p. 4-78.

524. All witnesses testified that this finding simply noted a failure on B&R's part to develop criteria and did not represent a quality assurance failure or a design deficiency (Goldberg, ff. Tr. 11,491, at 43; Taylor, ff. Tr. 14,846, at 46-47; Bernsen/Lopez, ff. Tr. 13,441, at 98; Tr. 11,695-96 (Goldberg)).

525. The Board finds this matter concerned only work to be performed. It was not reportable under § 50.55(e).

QUADREX REPORT FINDING 4.7.3.1(b)

526. Quadrex Report finding 4.7.3.1(b) states:

Approximately 50% of the reviewed SDDs [System Design Descriptions] do not yet contain system operating temperatures (see Question P-1).

Appl. Exh. 60 at p. 4-78.

527. Mr. Goldberg testified that, in fact, all but one of the SDDs reviewed either contained design temperatures or referenced documents that did (Goldberg, ff. Tr. 11,491, at 43-44). Dr. Bernsen and Mr. Lopez confirmed this, adding that either approach is acceptable, and noting that the referenced Quadrex Question P-1 did not identify any pattern of deficiency, only an isolated case of an SDD, in draft form, that lacked design temperatures (Bernsen/Lopez, ff. Tr. 13,441, at 99-100). Mr. Taylor lumped this finding with finding 4.7.3.1(a) as simply not showing either a design deficiency or a quality assurance violation (Taylor, ff. Tr. 14,846, at 46-47).

528. We find this matter not reportable under 10 C.F.R. § 50.55(e)(1)(ii).

QUADREX REPORT FINDING 4.7.3.1(k)

529. Quadrex Report finding 4.7.3.1(k) states:

B&R assumptions for seismic to nonseismic boundary anchors are probably unconservative and difficult to technically justify as adequate (see Question P-29).

Appl. Exh. 60 at p. 4-79.

530. Mr. Goldberg testified that this finding did not represent a reportable deficiency because it did not indicate a quality assurance breakdown and nothing embodying the B&R assumptions had been released for construction (Goldberg, ff. Tr. 11,491, at 44).

531. Mr. Taylor agreed that the finding did not indicate a quality assurance breakdown. He concluded that it should have been reported as a potential deficiency because he was uncertain whether designs based on it had been released for construction (Taylor, ff. Tr. 14,846, at 48-49). He believed, however, the designs had probably not been released, but he based that notion only on the fact that B&R's reply to Quadrex used the future tense (*id.*).

532. Dr. Bernsen and Mr. Lopez, although agreeing that the B&R approach to the design was in need of revision, saw the difference between B&R and Quadrex as a simple difference of engineering approach and not as a quality assurance breakdown (Bernsen/Lopez, ff. Tr. 13,441, at 100).

533. CCANP, citing Mr. Goldberg's statement under cross-examination to the effect that B&R's approach might not be conservative, his statement that he was not sure that B&R knew that fact, and B&R's own statement that the approach followed industry practice, would have us find the matter reportable as a quality assurance breakdown (CCANP FOF-II, PF III.64, *citing* Tr. 12,255-56 (Goldberg); Appl. Exh. 62, Enclosure (1),⁴⁰ Item 4.7.3.1(k)). CCANP cites no specific portion of 10 C.F.R. Part 50, Appendix B, which has been violated. We cannot follow the logic which would classify this as a quality assurance breakdown. The matter is, however, another close call, since we are uncertain whether the design had been released for construction. In view of the uncertainty expressed by Mr. Taylor, we will accept Mr. Goldberg's assertion that it had not been released and, on that basis, find the matter not reportable.

QUADREX REPORT FINDING 4.8.2.1(a)

534. Quadrex Report finding 4.8.2.1(a) states:

The instrument air piping, between the valves actuated by redundant radiation monitors and the valves that divert air flow through safety-related filter trains in the

⁴⁰ We observe that, in the cover letter of Exhibit 62, Enclosures (1) and (2) are incorrectly identified. Our citations refer to the enclosures as they are actually labelled, not as they are referred to in the cover letter.

FHB [fuel handling building] HVAC exhaust subsystem, does not meet the single failure criterion (see Question R-6).

Appl. Exh. 60 at p. 4-86.

535. This finding pertains to the same matter as finding 4.3.2.1(a) (Taylor, ff. Tr. 14,846, at 19-21, 50; Goldberg, ff. Tr. 11,491, at 45; Bernson/Lopez, ff. Tr. 13,441, at 101; Tr. 13,517-21 (Bersen/Lopez)). The Board has already ruled with respect to finding 4.3.2.1(a) (see *supra* Findings 495-499). HL&P correctly determined that this finding did not identify a potentially reportable deficiency.

QUADREX REPORT FINDING 4.8.2.1(b)

536. Quadrex Report finding 4.8.2.1(b) states:

No procedures exist that define the minimum qualification requirements for ALARA reviewers. Some design drawings have been reviewed and signed off for ALARA. There is limited evidence that proper follow-up has occurred to verify incorporation of ALARA specified designs (see Question R-1).

Appl. Exh. 60 at p. 4-86.

537. Mr. Goldberg testified that this item was not reportable since it did not identify a deficiency in a design released for construction and did not represent a quality assurance breakdown. ALARA considerations had been incorporated appropriately. He agreed the program could be improved in a manner suggested by Quadrex but noted that HL&P had instituted an ALARA program that was one of the most comprehensive in the industry. Goldberg, ff. Tr. 11,941, at 45-46.

538. Mr. Taylor noted that NRC is "heavily involved" in assuring that licensees implement the ALARA concept in both design and operation of a nuclear plant. His view was that Quadrex meant to call attention to the fact that designs and verification had not progressed as expected and that, unless B&R improved, NRC would not license the plant. He did not think the item reportable under § 50.55(e). Taylor, ff. Tr. 14,846, at 50-52.

539. In the view of Dr. Bersen and Mr. Lopez, reportability of this item, at least as a quality assurance breakdown, was precluded directly, since they believe that the quality assurance provisions of 10 C.F.R. Part 50, Appendix B, are meant to apply only to equipment and actions meant to protect the general offsite public from the consequences of accidents. They testified that ALARA activities are not encompassed therein. Bersen/Lopez, ff. Tr. 13,441, at 101-02. Nevertheless, they

analyzed this Quadrex finding as if it could impact upon a quality assurance (Appendix B) matter and concluded that it still would not constitute a quality assurance breakdown (*id.* at 102-03).

540. CCANP would have us note that Quadrex's analysis of the referenced question, R-1, contains the language "reviews performed by B&R to date of plant design from an ALARA standpoint have not been adequate." It would also have us note that Quadrex recommended that "a complete re-review" be performed, but that such a program had not been implemented (CCANP FOF-II, PF III.65; Appl. Exh. 60, Vol. III, at R-1). Because of that, and because of testimony elicited from Mr. Goldberg on cross-examination, testimony relating B&R's ALARA deficiencies to B&R's weakness in nuclear analysis, CCANP would have us find that "[a]s a whole the ALARA process and products constituted a generically reportable deficiency." CCANP FOF-II, PF III.65. We are aware of no provision for reporting such a deficiency under § 50.55(e), and CCANP has pointed to none. We conclude that the item was not reportable.

QUADREX REPORT FINDING 4.8.2.1(c)

541. Quadrex Report finding 4.8.2.1(c) states:

Modification of the MAB [Mechanical Auxiliary Building] HVAC system to eliminate filter media needs to be reexamined (see Question R-5 and R-29).

Appl. Exh. 60 at p. 4-86.

542. Mr. Goldberg testified that this finding was not potentially reportable because the design of the MAB HVAC system complied with the requirements of Appendix I to 10 C.F.R. Part 50 and therefore was not deficient (Goldberg, ff. Tr. 11,491, at 46-47). The NRC Staff also testified that this finding was not potentially reportable because it did not identify a potential deficiency or indicate a significant breakdown in quality assurance, but merely represented the lack of progress in engineering completion that Quadrex perceived (Taylor, ff. Tr. 14,846, at 50-52). The Bechtel witnesses testified that the STP design complied with applicable requirements and the finding did not identify a significant breakdown in any portion of the QA program for the STP (Bernsen/Lopez, ff. Tr. 13,441, at 104). Other reviews also concluded that the finding was not reportable (Staff Exh. 136 at 336; *cf. id.* at 19-20; Appl. Exh. 63 at B-152; Appl. Exh. 77, Enclosure at 10). CCANP neither produced evidence to the contrary nor presented arguments to the contrary in its proposed findings. We find that the matter was not reportable.

QUADREX REPORT FINDING 4.8.2.1(d)

543. Quadrex Report finding 4.8.2.1(d) states:

B&R's position that shielding calculations are not-safety-related needs to be re-examined (see Question R-7). Several shielding analyses were performed by NUS; however, there is no indication that B&R has verified this work. Standard models and codes have been used in analyses performed by B&R, yet B&R exhibited a lack of familiarity with and understanding of the codes. A re-review of plant shielding is necessary to ensure that analysis results are properly reflected in design (see Questions R-11, R-12, and R-14).

Appl. Exh. 60 at p. 4-86.

544. Although B&R's assessment of May 8, 1981, concluded that this item was not reportable, the HL&P team reported it to NRC (Appl. Exh. 62, Enclosure (1), Item 4.8.2.1(d); Goldberg, ff. Tr. 11,491, at 35-36; CCANP Exh. 132; Bernsen/Lopez, ff. Tr. 13,441, at 50).

Subsequent analysis led HL&P to the conclusion that it was not reportable. Shielding calculations are not generally considered safety-related in the industry, but B&R was processing those calculations as if they were safety-related, nonetheless. Goldberg, ff. Tr. 11,491, at 35-36; Bernsen/Lopez, ff. Tr. 13,441, at 50; CCANP Exh. 132. Mr. Taylor also testified that the matter was not reportable (Taylor, ff. Tr. 14,846, at 50-51).

No contrary evidence was educed. We find the matter not reportable and find HL&P's behavior in reporting it as a potential deficiency reflects positively on HL&P's character and competence.

QUADREX REPORT FINDING 4.8.2.1(e)

545. Quadrex Report finding 4.8.2.1(e) states:

B&R has not correlated radiation zones to the shielding design and shielding design has not adequately considered ISI [In-Service Inspection] requirements or the potential locations for temporary shielding (see Question R-10).

Appl. Exh. 60 at p. 4-86.

546. Mr. Goldberg testified that this finding was not potentially reportable because it identified a requirement for future work and not a deficiency in design (Goldberg, ff. Tr. 11,491, at 47). The NRC Staff also testified that this finding was not potentially reportable on the same basis (Taylor, ff. Tr. 14,846, at 50-52). The Bechtel witnesses explained that the finding related to activities that had not yet been performed and it did not identify a significant breakdown in any portion of the QA program for STP (Bernsen/Lopez, ff. Tr. 13,441, at 105-06.) CCANP ad-

duced no evidence to the contrary. We find this finding not to be reportable under § 50.55(e).

QUADREX REPORT FINDING 4.8.2.1(f)

547. Quadrex Report finding 4.8.2.1(f) states:

Radiation zone drawings based on accident conditions have not been prepared (see Question R-30).

Appl. Exh. 60 at p. 4-87.

548. All the expert witnesses testified that, in their respective opinions, this finding was not reportable. It represented only work still to be done, not a deficiency in design or a quality assurance breakdown. Goldberg, ff. Tr. 11,491, at 47-48; Tr. 12,273-74 (Goldberg); Taylor, ff. Tr. 14,846, at 50-52; Bernsen/Lopez, ff. Tr. 13,441, at 106. Reviews of the Quadrex Report by other experts also found this item to be not reportable (Appl. Exh. 62, Enclosure (1), Item 4.8.2.1(f); Staff Exh. 136 at 19-20; Appl. Exh. 63, Appendix B at B-155). CCANP neither adduced evidence to the contrary nor presented argument to the contrary in proposed findings.

549. We find that Quadrex finding 4.8.2.1(f) was not reportable under § 50.55(e).

QUADREX REPORT FINDING 4.8.2.1(g)

550. Quadrex Report finding 4.8.2.1(g) states:

A design basis governing removable concrete block walls was not evident (see Question R-11).

Appl. Exh. 60 at p. 4-87.

551. All the expert witnesses testified that this matter merely represented an activity as yet unperformed rather than a design deficiency or a quality assurance breakdown (Goldberg, ff. Tr. 11,491, at 48; Taylor, ff. Tr. 14,838, at 106-07; Bernsen/Lopez, ff. Tr. 13,441, at 106-07). Other analyses also concluded it was not reportable (Appl. Exh. 62, Enclosure (1), Item 4.8.2.1(g); Staff Exh. 136 at 19-20).

552. CCANP presented no evidence to the effect that this item was reportable. CCANP does argue, however, that a contradiction exists between Mr. Goldberg's testimony on the one hand and the Quadrex finding, taken with B&R's response, on the other (CCANP FOF-II, PF

III.66.) We see no contradiction. Mr. Goldberg says the finding represents “concern for an activity to be performed in the future” (Goldberg, ff. Tr. 11,491, at 48). The finding is based on Quadrex Question R-11, the analysis section of which concludes “additional review and analysis is (*sic*) necessary” (Appl. Exh. 60, Vol. 3, at Question R-11). B&R’s analysis says “the design basis . . . is being developed” (Appl. Exh. 62, Enclosure (1), Item 4.8.2.1(g)). Mr. Goldberg explained under cross-examination just what portion of the work had been done and what had not. Criteria governing seismic and radiation design for normal conditions were in place, but criteria governing conditions when removable walls had been removed were not (Tr. 12,274-84 (Goldberg)).

553. We find this item was not reportable under § 50.55(e). It merely identified work still to be done.

e. Reportability of the Generic Findings of the Quadrex Report

554. In LBP-85-6, *supra*, 21 NRC at 456, as modified by our Sixth Prehearing Conference Order, *supra*, we accepted for litigation the ten most serious generic findings of the Quadrex Report, numbered 3.1(a) through 3.1(j) inclusive.⁴¹ As we explained in LBP-85-6, the mere fact that the generic findings of Quadrex were based on the individual discipline findings does not, in itself, ensure that evaluation of the discipline findings for reportability under § 50.55(e) will obviate the necessity for evaluation of the generic findings. The whole may well, as we then opined, be greater than the sum of its parts. For § 50.55(e)(1)(i), the portion related to quality assurance breakdown, a number of relatively small lapses, pervading a large number of disciplines, may have a common thread that bears reporting.

555. As with the individual discipline findings, CCANP’s proposed findings dealt with only a few (3.1(a), 3.1(g), 3.1(i), and 3.1(j)) of the ten generic items we accepted for litigation. Indeed, CCANP states that “a detailed examination of each generic finding is simply unnecessary” and that “anyone with common sense reading these findings . . . would have no doubt that such findings should be supplied to the NRC immediately” (CCANP FOF-II, PF III.38, III.51). We do not believe “common sense” (a rather uncommon attribute) compels any such sweeping conclusion. We treat each generic finding below. Because of the lengthy text of each finding, we are here setting forth summaries

⁴¹ A typographical error in the original Quadrex Report led to one of these findings, 3.1(i), being mis-numbered 3.1(j); our original order had thus considered the substance of two findings numbered 3.1(j). That error was corrected in our Sixth Prehearing Conference Order of May 17, 1985, which renumbered one finding as 3.1(i).

rather than repeating each in full. These summaries represent the Board's own distillation, taking careful account of the analyses by various expert witnesses.

QUADREX REPORT GENERIC FINDING 3.1(a)

556. Finding 3.1(a) (Appl. Exh. 60 at 3-1 to 3-2) faults B&R for lacking certain aspects of interdisciplinary communication and standardization. The Staff witness, Mr. Taylor, perceived the lack as fourfold: ineffective interdisciplinary interfaces; lack of overall standards for separation of systems and components; no overall interpretation of the single-failure criterion; and (from the analysis of Question H-6) a failure to produce a control document based on fire hazard analysis (Taylor, ff. Tr. 14,846, at 3; Appl. Exh. 60, Vol. II, Question H-6). Dr. Bernsen and Mr. Lopez saw the problem as a two-pronged one: Effective systems integration, overview, and engineering functions may not exist at B&R; and multidisciplinary design guidance for system separation and the single-failure criterion was lacking (Bernsen/Lopez, ff. Tr. 13,441, at 14).

557. Mr. Taylor testified that his evaluation showed no violation of any of the criteria of 10 C.F.R. Part 50, Appendix B, concerning quality assurance and that he used American National Standards Institute (ANSI) Document N45.2.11 (Staff Exh. 138) as an aid in this evaluation (Taylor, ff. Tr. 14,846, at 3-4). He saw no requirement in either Appendix B or N45.2.11 that would make an integrated systems level review a necessity (*id.* at 4). As to the matters of ineffective interfaces and a lack of an overall single-failure criterion, he saw no reference in the report supporting these assertions. The lack of separation criteria and the failure to produce a fire hazard control document, he noted, seemed to come from Question H-6 (*id.*). He stated that "the lack of factual support for the assertions has made it difficult to determine if a violation exists" (*id.* at 4-5).

558. With respect to this item, CCANP argues that it shows a lack of interdisciplinary coordination and that interdisciplinary coordination is a fundamental requirement of 10 C.F.R. Part 50, Appendix B, Criterion III. That regulation states, in pertinent part:

Measures shall be established for the identification and control of design interfaces and for coordination among participating design organizations.

Thus CCANP would presumably consider this finding reportable under § 50.55(e)(1)(i), as a quality assurance breakdown (CCANP FOF-II, PF

III.52). The Intervenor cites a passage from the transcript as evidence that “quite a few” Quadrex findings support generic finding 3.1(a), presumably evidence of the widespread nature of this supposed quality assurance breakdown. Unfortunately, at the place cited (Tr. 13,092-94 (Stanley)), the person in charge of the Quadrex review, Mr. Loren Stanley, when specifically asked, “Would that reach the level of a significant QA breakdown in design?” answered “Not in my opinion . . .” (Tr. 13,094 (Stanley)).

559. Dr. Bernsen and Mr. Lopez testified that, although Criterion III of 10 C.F.R. Part 50, Appendix B, requires control of design interfaces, it does not specify the exact manner in which such control should be achieved. In their view, B&R did have appropriate procedures to control such interfaces. Further, B&R had systems integration and systems engineering functions; and, at the time of the Quadrex review, had taken action to strengthen these functions by establishing a Systems Design Assurance Group (SDAG), the activities of which Quadrex did not review (Bernsen/Lopez, ff. Tr. 13,441, at 23-25). Mr. Stanley confirms that, although Quadrex had “some exposure” to SDAG it did not specifically review that group (Tr. 13,200 (Stanley)). In sum, Dr. Bernsen and Mr. Lopez opined that the concerns expressed by Quadrex in this finding simply did not identify a significant breakdown in any portion of the quality assurance program for the STP (Bernsen/Lopez, ff. Tr. 13,441, at 26, 28-29).

560. Mr. Cloin Robertson, one of the members of the HL&P team that reviewed the Quadrex Report for reportability under § 50.55(e), appearing as a witness upon subpoena by CCANP, noted that, in his view, B&R had a very rigorous interdisciplinary control process, so rigorous that it was “almost a hindrance to getting work done.” What he saw as lacking was the sort of informal interdisciplinary communication that could ensure that the formal process would not become a stumbling block. Tr. 14,730-31 (Robertson).

561. The Board sees this finding as another rather close call. Clearly, since the QA regulations require “coordination among participating design organizations” and the Quadrex Report questioned the existence of an “effective systems integration . . . and overview function” (Appl. Exh. 60 at 3-1, 3-2), one might, on the face of the matter, elect to report at least a potential item. But we note that Quadrex had not reviewed the SDAG, that the review team was aware of the SDAG, and one member, at least, of the review team knew the situation was not exactly as portrayed by the Quadrex Report (Finding 560, *supra*). For that reason, we do not believe that, from the standpoint of the review

team, this item was potentially reportable. In any event, we do not believe that the failure to have reported finding 3.1(a) reflects adversely on the character or competence of HL&P.

QUADREX REPORT GENERIC FINDING 3.1(b)

562. Quadrex generic finding 3.1(b) asserts that its generic concern is in three parts:

1. Input data to technical groups are not checked by those groups for reasonableness, nor do groups supplying such data check to see that their output is correctly used.

2. Calculations containing errors are reviewed and verified as correct with a higher frequency than should be.

3. B&R review of vendor reports is not consistent; sometimes the reviews are well done, sometimes they are poorly done.

In addition to the three numbered items, we discern at least a fourth concern: B&R's policy of relying on work by major subcontractors to be correct without B&R review for acceptability and consistency. What may be viewed as a fifth matter is also mentioned: B&R's failure to provide vendors with adequate guidance concerning analysis and testing methods. Appl. Exh. 60 at 3-3, 3-4. The Staff's and Applicants' witnesses enumerated the concerns in varying ways but dealt with all of them ultimately (Taylor, ff. Tr. 14,846, at 6 *et seq.*; Bernsen/Lopez, ff. Tr. 13,441, at 29 *et seq.*). CCANP, in its proposed findings, addressed a "Quadrex generic finding 3.1(g)" which, from its nature and the citations covering it, we take to be finding 3.1(b), or at least a part of it (CCANP FOF-II, PF III.53).

563. As to the matter numbered 1 above, Dr. Bernsen and Mr. Lopez pointed out that it is not normal industry practice to require a supplier of data to conduct a review of the way a recipient uses such data. Although it is good practice for the recipient to review the data for reasonableness, in many cases the recipient may not have the requisite knowledge or experience to conduct such reviews. Instead, the adequacy of data provided across interfaces is ensured by such measures as interdisciplinary document review and design verification. Bernsen/Lopez, ff. Tr. 13,441, at 33-34, 39-41. In response to Board questions, these witnesses asserted that it would be a good practice for a receiving group to review data for reasonableness and a supplying group to know how its data were to be used; that variations in knowledge and experience mean that such informal processes cannot be relied upon; and, thus, that formal methods (such as interdisciplinary meetings, coordination reviews, and design reviews) are used. Tr. 13,888-94 (Bernsen, Lopez).

B&R did have in place procedures for conducting these activities, and Quadrex did not identify any significant deficiencies that had not been reported to NRC (Bernsen/Lopez, ff. Tr. 13,441, at 33-34).

564. Mr. Taylor agreed. After a review of finding 3.1(b) and the direct and indirect references applying to it he found no violation of 10 C.F.R. Part 50, Appendix B. He noted several portions of Appendix B that, in his view, recognize that all the necessary expertise to review a given design output may well lie in the group that produced it, and he found nothing in Appendix B that would imply that a group that provides data must monitor how those data are used. Taylor, ff. Tr. 14,846, at 6-7, 9.

565. The witnesses also dealt with the excessive error rate noted in material that had been checked (Finding 562, item 2). Dr. Bernsen and Mr. Lopez testified that the Quadrex statement regarding errors in verified calculations did not indicate a significant breakdown in quality assurance. Of the four questions cited in support of the statement, one referred to an error previously reported to NRC, one identified an error that was conservative, one did not involve an error at all, and the last mentioned a "significant number" of mistakes but did not identify the mistakes, their number, or the number of calculations reviewed. Bernsen/Lopez, ff. Tr. 13,441, at 30-32. They noted that it is unreasonable to expect a quality assurance program to eliminate all errors (*id.* at 32).

566. Mr. Taylor testified that ANSI Standard N45.2.11 recognizes that some errors will reside in designs throughout the life of the design work. He pointed out that Quadrex neither quantified the error rates found nor stated what error rate is acceptable. He did not view the statement as indicating any violation of the requirements of 10 C.F.R. Part 50, Appendix B. Taylor, ff. Tr. 14,846, at 8.

567. Similarly, other witnesses saw no reportable item here. Mr. Goldberg pointed out that of four possible errors identified, only two were really errors and one of those was on the conservative side (Tr. 12,627-29 (Goldberg)). Mr. Stanley said that he did not view the error rate his company mentioned as being potentially reportable. Quadrex, he said, had looked at 80 to 100 calculations and found only a 4 or 5% error rate, including conservative errors. He saw no quality assurance problem. Tr. 13,353-55 (Stanley).

568. CCANP's treatment of finding 3.1(b) focussed on the matter of error rate in verified calculations. CCANP argues that this finding, taken in conjunction with finding 3.1(j), discussed below, and with Bechtel's recommendation of a "detailed audit," constitutes a potentially reportable item. CCANP FOF-II, PF III.53. We cannot follow the leap of logic. Even CCANP cites the fact that Quadrex itself did not think of the

matter as a quality assurance breakdown (*id.*; Tr. 13,353-55 (Stanley)). We see no reportable matter here.

569. Dr. Bernsen and Mr. Lopez testified that none of the Quadrex concerns regarding B&R-vendor relationships constituted breakdowns of quality assurance. Criterion VII of 10 C.F.R. Part 50, Appendix B, requires that measures be established to assure that purchased services conform to procurement documents, but it does not identify specific measures. The purchaser may select measures it deems appropriate. Criterion VII does not require that a purchaser verify design work performed by vendors. Indeed, in many cases it would not be possible for a purchaser to verify work performed by the vendor, since the vendors often possess specialized knowledge or expertise that the purchaser lacks. Bernsen/Lopez, ff. Tr. 13,441, at 37-38. Nor does Appendix B require purchasers to review and approve analysis methods used by vendors (*id.* at 38). As to the absence of guidance on analysis and testing methods, the witnesses noted that purchasers need only include in their procurement documents "applicable regulatory requirements, design bases, and other requirements necessary to assure adequate quality" under Appendix B. Guidance on analysis and testing methods may be, but is not required to be, included. *Id.* at 34-35. Finally, the witnesses also noted that B&R did, in fact, have documented procedures governing the review of vendor reports. While the witnesses agreed with Quadrex that additional guidance in this respect might be desirable, the procedure was, in their view, adequate to satisfy the requirements of Appendix B. *Id.* at 39.

570. Mr. Taylor asserted that the degree to which B&R would review vendor designs would depend on the contractual arrangements involved (a matter of which he had no specific knowledge) and that B&R would review such designs only if directed to do so by HL&P. He saw no evidence in the Quadrex Report that that had been done. ANSI Standard N45.2.11 holds each group responsible for its own work. He, like the Bechtel witnesses, observed that architect-engineering firms, as purchasers, often lack the specialized design expertise that vendors have. He saw no violations of Appendix B in the matters addressed in finding 3.1(b). Taylor, ff. Tr. 14,846, at 8-9.

571. On the basis of the foregoing, we find generic finding 3.1(b) not to be reportable.

QUADREX REPORT GENERIC FINDING 3.1(c)

572. According to the Applicants' witnesses, Quadrex Report finding 3.1(c) expresses three primary concerns:

1. That there was a lack of overall consistency in the operating modes and environmental conditions considered by B&R designers and an absence of written guidance to designers concerning the combinations of events and operating modes they were to deal with.

2. That the STP design criteria seemed to reflect industry practice in the 1973-75 period, ignoring more recent developments.

3. That analyses of certain specific systems did not reflect appropriate plant operating modes and environmental conditions.

Bernsen/Lopez, ff. Tr. 13,441, at 43-44; Appl. Exh. 60 at 3-4 through 3-5; *see also* Taylor, ff. Tr. 14,846, at 11-12. We ourselves note also a statement, not obviously subsumed by the three concerns above, to the effect that “[c]onsideration of degraded equipment performance was also not evident” (Appl. Exh. 60 at p. 3-4).

573. Dr. Bernsen and Mr. Lopez testified that the first concern above was apparently predicated upon the lack of project-wide documented bases for plant operating and environmental conditions, as noted in discipline finding 4.3.2.1 (i). They stated that there is no Appendix B requirement that plant operating and environmental conditions be specified for designers in a project-wide document. At STP, the design bases for individual systems were provided by System Design Descriptions (SSD) and Technical Reference Documents (TRD). Further, B&R procedures required SSDs to address off-normal and postaccident conditions and to list the casualty events to be considered in the design of the systems. This, they said, was sufficient to satisfy NRC requirements under Appendix B. Bernsen/Lopez, ff. Tr. 13,441, at 44. From both the Quadrex Report and Bechtel’s own review of B&R work during the transition period, Dr. Bernsen and Mr. Lopez determined that B&R was reviewing industry developments since 1975, but had not, at least in some cases, revised its design criteria. They considered this a productivity and scheduling matter. *Id.* at 45. As to the concern that certain systems did not, in fact, reflect appropriate plant operating modes and environmental conditions, these witnesses pointed out that Quadrex had relied upon three examples for this conclusion: First, Quadrex pointed to deficiencies in the HVAC design basis. These deficiencies were reported to NRC under § 50.55(e). The other examples involved a failure to consider the worst-case conditions in designing the essential cooling pond (ECP) and the failure to consider postulated line cracks and breaks outside containment. However, design of the ECP actually did consider the required conditions — and B&R simply had not started work on the pipeline cracks and breaks. *Id.* at 46.

574. Mr. Taylor gave a paragraph-by-paragraph analysis of finding 3.1(c). (He counted only six paragraphs and we count seven, presumably because he ignored the first paragraph as being merely a summary). He considers that the matters of the failure to provide design bases to designers and the failure to consider degraded equipment performance were “moderated” by their proximity to the mention of failure to update requirements. In other words, we presume that, in his view, Quadrex put forth the criticisms regarding design bases and modes considered only to indicate failures to use the *latest* design practices. He addressed these matters only against that backdrop, pointing out that the Staff has not, in general, required continual upgrading of design bases for facilities under construction. Taylor, ff. Tr. 14,846, at 11-12. He, too, pointed out that the HVAC problem was duly reported, and that the ECP problem was (in his view) potentially reportable (*see supra* Finding 520), but he saw them as simple instances of error in engineering judgment, not quality assurance breakdowns. The failure to consider pipeline cracks and breaks he viewed as another instance of the use of dated standards by B&R, standards the voluntary updating of which was not necessarily required (*id.* at 13-14). He saw no violation of Appendix B and no requirement to report the generic finding (*id.* at 14-15).

575. CCANP neither presented witnesses nor made argument about finding 3.1(c) in its proposed findings. We see nothing reportable in finding 3.1(c) that was not reported as a separate matter.

QUADREX REPORT GENERIC FINDING 3.1(d)

576. Quadrex Report finding 3.1(d) states that B&R drew a sharp distinction between safety-related and nonsafety-related equipment, omitting design verification for nonsafety-related items, and that in several instances design activities that affected plant safety were designated nonsafety-related (Appl. Exh. 60 at 3-5, 3-6). It then lists seven cases in which the B&R position was felt to be either inaccurate or questionable with respect to safety classification (*id.* at p. 3-6). Quadrex also noted that “[i]t was frequently stated during the review that *only NRC requirements must be met* whether or not those requirements are accurate, reasonable, or even meet the intent of the regulations” (*id.*, emphasis in original) and that there had been no planned effort on B&R’s part to review new NRC requirements other than those new requirements stemming from the Three Mile Island accident (*id.*).

577. The Applicants’ witnesses reviewed the seven listed instances of alleged misclassification. Of the seven only three seemed to them to involve safety classification: Two of these were related to the HVAC

deficiency (which had already been reported); the third, to possible uncertainty about the safety class of computer codes, which also had been reported. One example, the safety class of shielding calculations, later turned out indeed to be nonsafety-related. The other instances, in their view, had nothing to do with safety classification. None of these matters represented a significant breakdown in the safety classification system. The examples involving the HVAC system were isolated instances. The entire finding did not, in their view, identify a significant breakdown in quality assurance. Bernsen/Lopez, ff. Tr. 13,441, at 49-53.

578. Mr. Taylor testified that licensees are required to develop a list of structures, systems, and components having a direct impact on safety. Such lists are included in Safety Analysis Reports (SAR). Further, piping and instrumentation diagrams generally mark items to show safety classifications. Taylor, ff. Tr. 14,846, at 16-17. He found neither the generic finding nor any of the seven sub-items (other than items already reported) to be reportable (*id.* at 18).

579. Mr. Stanley testified that the statement saying that B&R believed “only NRC requirements must be met” was meant by Quadrex to call HL&P’s attention to the fact that, built that way, the plant might be licensable but would not be of optimum design (Tr. 13,241-42 (Stanley)). The design might not meet operating, maintenance, and test requirements, but there would be no safety issue neglected (Tr. 13,243 (Stanley)). We shall accept Mr. Stanley’s explanation of his own work as valid, although clearly another reading of this part of the finding is possible when the words are taken in context.

580. CCANP produced no witnesses and offered no argument in its proposed findings on this point. We see nothing reportable in Quadrex finding 3.1(d) that was not already reported.

QUADREX REPORT GENERIC FINDING 3.1(e)

581. Quadrex Report finding 3.1(e) states that there are no written guidelines for failure mode and effects analyses (FMEA); that the only such analyses available were those in the FSAR, analyses Quadrex deemed “superficial”; that there was no documented evidence that the single-failure criterion had been satisfied; and that the individual disciplines could not supply lists of the single failures for which they were designing their systems. Quadrex reviewers pointed out one instance (in instrumentation and control of HVAC) in which the single-failure criterion was not satisfied. Appl. Exh. 60 at p. 3-7.

582. Mr. Taylor testified that the essential purpose of failure analysis is to demonstrate that the single-failure criterion of 10 C.F.R. Part 50,

Appendix A, has been met. He also noted that the only real requirement for failure analyses was a requirement for inclusion in the FSAR. Taylor, ff. Tr. 14,846, at 19-20. He saw no regulatory requirement for separate identified FMEA as such, and he saw no reason to report this finding under § 50.55(e) (*id.* at 20-21).

583. The Bechtel witnesses testified that the type of project-wide guidance and documentation that Quadrex found lacking was not necessary. They further stated that the one violation of the single-failure criterion that Quadrex found did not represent a quality assurance breakdown. They noted that B&R had not yet begun to perform FMEA for key systems (other than the single-failure tables presented in the FSAR). Bernsen/Lopez, ff. Tr. 13,441, at 56-57. B&R, indeed, had not started the more sophisticated analyses needed to elaborate on the single-failure analyses of the FSAR (Tr. 13,555 (Lopez)).

584. A separate review by the Staff concluded that this finding was not reportable (Staff Exh. 136 at 23, 404-05).

585. CCANP offered no witnesses and presented no argument on this point in its proposed findings. We do not find any reportable matter in finding 3.1(e).

QUADREX REPORT GENERIC FINDING 3.1(f)

586. The principal thrust of Quadrex Report finding 3.1(f) is that B&R had no systematic way of assuring that designs for STP would meet FSAR commitments, and that there were inconsistencies between design and the FSAR. The finding noted that there was no method to assure timely updating of the FSAR. It also faulted B&R for lack of a consistent interpretation of codes and standards, the American Society of Mechanical Engineers Boiler and Pressure Vessel Code in particular. Appl. Exh. 60 at 3-7, 3-8.

587. Dr. Bernsen and Mr. Lopez testified that B&R actually did have methods to ensure that FSAR commitments were implemented. These methods included a review-and-comment process for design documents, review by SDAG, and design verification. These witnesses, looking at the relevant Quadrex discipline findings and the question on which they were based, could find no support for Quadrex's statement. Bernsen/Lopez, ff. Tr. 13,441, at 58-60, 64. As to inconsistencies between design and the FSAR, they pointed out that, on many projects, the FSAR does not control design; rather, as the design evolves, the FSAR is amended to incorporate the changes. Since that involves some delay, there are often inconsistencies (*id.* at 60). As long as such differences are identified and controlled, such inconsistencies do not pose a quality assurance

problem (*id.* at 61). As to timely updating of the FSAR, B&R had a formal procedure for doing so (*id.* at 61-62).

588. Mr. Taylor's testimony appeared at first blush to take issue with the Quadrex Report's position regarding the use of the FSAR as a design document (Taylor, ff. Tr. 14,846, at 22-23). The matter was resolved during examination of Mr. Stanley, in which Mr. Stanley, in essence, simply said that Quadrex's position was very similar to Mr. Taylor's but had been misinterpreted (Tr. 13,246-47 (Stanley)). Both these witnesses stressed the difficulty of revising the FSAR to stay abreast of design development (*id.*; Taylor, ff. Tr. 14,846, at 23).

589. Mr. Taylor noted that, although an applicant is required to update the FSAR periodically, there is no requirement that it be kept current at all times (Taylor, ff. Tr. 14,846, at 23). A failure to keep the FSAR up to date does not generally constitute a violation of Appendix B (*id.* at 23-24). Since Quadrex did not cite specific examples of such failures, Mr. Taylor could not say for certain whether such a violation might have existed (*id.* at 24).

590. The Bechtel witnesses pointed out that, where Quadrex actually identified differences between the designs and the FSAR, the designs were adequate and the differences would not have adversely affected the safety of plant operations (Bernsen/Lopez, ff. Tr. 13,441, at 65).

591. Mr. Taylor noted that the portion of the finding that deals with a lack of consistent, centralized interpretation of codes and standards does not relate to the issue of differences from the FSAR. In his understanding of the NRC regulations, there is no requirement for a centralized interpretation, and the lack of such interpretations does not violate requirements. Whether the particular code cited was misinterpreted he could not decide without further information. He saw nothing reportable in the finding. Taylor, ff. Tr. 14,846, at 24.

592. CCANP produced no testimony and made no argument on finding 3.1(f) in its proposed findings. The separate review by the Staff concluded that this finding was not reportable (Staff Exh. 136 at 23, 404-05). We see nothing reportable in the finding.

QUADREX REPORT GENERIC FINDING 3.1(g)

593. Quadrex Report finding 3.1(g), captioned "Plant Design Basis," is a long, and in some measure diffuse, finding (Appl. Exh. 60 at 3-8 to 3-10). The Applicants' witnesses interpreted it as primarily a finding that Quadrex saw little evidence of a well-thought-out, consistent basis for design, and found much of the design basis rooted in engineering judgment with little documented rationale for that judgment. These

witnesses saw most of the observations mentioned in the finding as support for the concerns above. Bernsen/Lopez, ff. Tr. 13,441, at 65-66. The Staff's witness saw the finding as ten "more-or-less separate" issues (Taylor, ff. Tr. 14,846, at 26-27). It is clear that the finding seems to repeat some concerns dealt with elsewhere; e.g., it faults B&R for a lack of interface design information between disciplines (Bernsen/Lopez, ff. Tr. 13,441, at 66; Taylor, ff. Tr. 14,846, at 26; Appl. Exh. 60 at p. 3-9) and for a failure to require subcontractor reviews of B&R (and other subcontractor) designs (Bernsen/Lopez, ff. Tr. 13,441, at 65-66; Taylor, ff. Tr. 14,846, at 26; Appl. Exh. 60 at 3-9 to 3-10). These concerns are very similar to some of those expressed in findings 3.1(a) and 3.1(b) and certain discipline findings (*cf.* Quadrex findings 4.1.2.1(b) and 4.5.2.1(b); Findings 490, 513, *supra*). Quadrex found, *inter alia*, that B&R was late in developing a safety classification document (*cf.* Findings 576-578, *supra*) and TRDs for inservice inspection and environmental qualification (Appl. Exh. 60 at p. 3-9). Quadrex also criticized the "quality variations" it found in design review comments for B&R internal documents and noted that the B&R Materials Group did not review subcontractor material selections (*id.*).

594. Dr. Bernsen and Mr. Lopez noted the Quadrex concern that each discipline seemed to be establishing its own design basis. They referred to their earlier testimony on findings 3.1(a), 3.1(b), and 3.1(c) to the effect that this is acceptable practice. Further, they deemed the use of engineering judgment appropriate and saw no need for documenting that judgment, provided the design itself is documented Bernsen/Lopez, ff. Tr. 13,441, at 66-67. These witnesses went through the supporting statements in the finding and found none to represent a quality assurance breakdown, either individually or in aggregate (*id.* at 67-76).

595. Mr. Taylor found insufficient information in finding 3.1(g) to reach a real conclusion on the validity of Quadrex's concerns for seven of the ten sub-items he discerned. One item he thought "much stronger than the cited facts seem to warrant." The other two he saw as a repeat of finding 3.1(a) and a display of Quadrex's own philosophy, respectively. He saw no violation of Appendix B and no reason to report the finding under § 50.55(e). Taylor, ff. Tr. 14,846, at 27-28.

596. We note also that Mr. Stanley, in discussing B&R's failure to produce overall design bases at an early date, suggested that such failure resulted primarily in an overbuilt rather than inadequate design (Tr. 13,129-33 (Stanley)).

597. CCANP presented no witnesses on this point, but mentioned finding 3.1(g) in its proposed findings (CCANP FOF-II, PF III.53,

III.54).⁴² At III.54, CCANP argues essentially as follows: Mr. Stanley testified that lack of some of the documents found missing in finding 3.1(g) could create a safety problem if “strong technical leadership” was lacking in each discipline (Tr. 13,278-79 (Stanley)). CCANP then asserts that lack of these documents is, *ipso facto*, indicative of a lack of such leadership. (The circular nature of this reasoning is evident.) CCANP also cites certain other portions of the record as evidence of “absence of strong technical leadership.” We do not find the citations convincing.

598. The Staff’s separate review of the Quadrex report concluded that this finding was not reportable (Staff Exh. 136 at 23, 405). We concur.

QUADREX REPORT GENERIC FINDING 3.1(h)

599. Quadrex Report finding 3.1(h) concerns reliability of equipment. It notes that specific reliability requirements have not been established, citing Quadrex Questions E-7 and E-8 which concern the engineered safety feature (ESF) sequencer. It also mentions an absence of reliability requirements in both electrical and mechanical safety-related specifications and a lack of “specifications to constrain spurious operation.” Appl. Exh. 60 at p. 3-11. Both these latter assertions are without supporting citations.

600. Mr. Taylor testified that the two questions cited, and their replies, only partially support the finding. Question E-7 indicates that some parts of Quadrex’s inquiry were satisfactorily answered and others were not, apparently because the B&R design work was incomplete. Question E-8 does deal with the concept of reliability, in part by criticizing the lack of a formal FMEA. Taylor, ff. Tr. 14,846, at 29. The last part of Quadrex’s analysis of this question notes directly that there are no reliability criteria for the ESF sequencer (*id.*; Appl. Exh. 60, Vol. II, at Question E-8). Mr. Taylor saw no requirement in NRC regulations for a reliability acceptance standard other than the single-failure criterion and a special requirement for diesel generators. He saw no need to report the finding to NRC. Taylor, ff. Tr. 14,846, at 30.

601. Dr. Bernsen and Mr. Lopez explained that Appendix B does not require that procurement documents for equipment specify reliability, nor is it general industry practice to do so. Instead it was B&R’s practice (consistent with that of the industry) to specify a level of quality consistent with the equipment’s intended function, to rely on historical data and experience, and to perform qualification tests and analysis. In

⁴² The mention at III.53 is apparently in error (*cf.* Finding 562, *supra*).

addition, reliability analyses or tests may be specified (and B&R had done that for the ESF sequencer). Bernsen/Lopez, ff. Tr. 13,441, at 76-77. These witnesses saw no quality assurance breakdown in finding 3.1(h) (*id.* at 78).

602. CCANP introduced no evidence and made no argument on this matter in its proposed findings. The Staff's separate review concluded the finding was not reportable (Staff Exh. 136 at 23, 404-05). We find finding 3.1(h) was not reportable under § 50.55(e).

QUADREX REPORT GENERIC FINDING 3.1(i)

603. Quadrex finding 3.1(i) (erroneously numbered 3.1(j) in the Quadrex Report, *see* Finding 554, note 41, *supra*) is captioned "Nuclear Analysis." Its thrust is that, although B&R's analytical methods were adequate in more conventional disciplines, they were much less adequate in disciplines of the sorts peculiar to nuclear power plant design. Quadrex noted that insufficient work had been accomplished, that the error rate in calculations was abnormally high, that a large amount of work was being contracted out and that B&R did not provide adequate guidance or review for these contractors. Quadrex gave four examples to support these assertions. Appl. Exh. 60 at 3-11, 3-12.

604. Dr. Bernsen and Mr. Lopez saw two main concerns here:

1. Quadrex was concerned about the failure of B&R to complete nuclear-related analyses, about the technical inadequacy of B&R's analytic methods and assumptions, and about the high error rate in these calculations; and
2. Quadrex was concerned that a large amount of nuclear-related analysis was contracted out with inadequate guidance to the subcontractor and inadequate review of the work.

Bernsen/Lopez, ff. Tr. 13,441, at 78-79.

The witnesses saw primarily a productivity and scheduling problem in the first concern. As to the inadequate techniques and high error rate, they reviewed the findings cited as support for this one and, with the exception of deficiencies already reported, they found no safety-related significant deficiencies. The witnesses believed that Quadrex's concern was actually founded primarily on a general impression that B&R personnel were not as knowledgeable as Quadrex thought they should have been, not on specific errors. *Id.* at 80-81. The witnesses noted that, since the actual errors involved were of limited scope or of no safety significance, the concern did not represent a quality assurance breakdown (*id.* at 80). As to the second main concern, the witnesses noted that nothing in Appendix B prohibits subcontracting. They also referred to their testimony

on finding 3.1(b) (*see* Findings 563, 569) in which they asserted that technical guidance to subcontractors and review of subcontractor analysis were not necessarily required by Appendix B (Bernsen/Lopez, ff. Tr. 13,441, at 38-39, 83).

605. Mr. Taylor found the exact thrust of finding 3.1(i) "difficult to grasp" (Taylor, ff. Tr. 14,846, at 31). He believed the finding was meant to point out that B&R lacked expertise in those areas that are uniquely nuclear. He felt that the finding was simply a caution to HL&P that delays in licensing and design might occur in areas the licensee was unaware of. *Id.* at 31-32. He believed it would be "very difficult" to see the finding as a quality assurance violation (*id.* at 32). Without further references, he did not believe the finding suggested any reportable deficiency (*id.* at 33).

606. In its proposed findings CCANP characterizes finding 3.1(i) as "[p]erhaps the most striking generic finding," because it addresses nuclear analysis (CCANP FOF-II, PF III.55). CCANP notes that witness Cloin Robertson testified that he, a member of HL&P's reportability review team, thought at first reading that this section might present a reportable deficiency (CCANP FOF-II, PF III.53; Tr. 14,639-40 (Robertson)). Mr. Robertson also testified that, after reading the report more completely, he changed his mind. Further, he testified that the change was his own idea and resulted from the fact that he discovered that B&R's nuclear analysis group was not putting out a defective product but was, in fact, putting out no product at all (Tr. 14,640-41 (Robertson)). CCANP would have us accept Mr. Robertson's first impression and reject his considered opinion. CCANP gives no sound reason why.

607. The Staff's separate review of finding 3.1(i) noted that one matter dealt with in this finding had been reported to NRC on August 25, 1980, before the Quadrex review, and concluded the remainder of the Quadrex finding was not reportable (Staff Exh. 136 at 51-52). So do we.

QUADREX REPORT GENERIC FINDING 3.1(j)

608. Quadrex Report finding 3.1(j) expresses four concerns: (1) that B&R's design verification process permitted the use of preliminary data up to the point of fuel loading, (2) that there were no documented standards regarding the minimum qualifications for a design verifier, (3) that the only evidence of a completed design verification was a signature, and (4) that errors were not detected by design verifiers (Appl. Exh. 60 at p. 3-13; Bernsen/Lopez, ff. Tr. 13,441, at 85; Taylor, ff. Tr. 14,846, at 34). Quadrex considered the matter mentioned as number (3) above,

i.e., simple sign-off by the verifier without use of checklists, to be evidence that key design verification questions were not being adequately considered (Appl. Exh. 60 at p. 3-13).

609. Dr. Bernsen and Mr. Lopez testified that B&R's procedures did require a check of preliminary design prior to release for construction or procurement. Further, although Criterion III of Appendix B does require design verification, it does not include specific requirements regarding the timing of verification. It is good practice, when possible, to require verification before release for construction or procurement, but it is not uncommon to defer verification until construction is well under way or even complete. Plant structures are often built in accordance with conservative preliminary estimates of loads, and the design is verified after the structure is completed. Bernsen/Lopez, ff. Tr. 13,441 at 85-86. The generally accepted nature of this procedure was affirmed by Mr. Goldberg (Goldberg, ff. Tr. 11,491, at 41) and Mr. Stanley (Tr. 13,122 (Stanley)).

610. Mr. Taylor saw no requirement in either Appendix B or ANSI Standard N45.2.11 that verification of design be accomplished at a specific time. He noted that it would seem prudent to accomplish the verification before releasing the design for use but saw many factors that might bear on the risk of using a preliminary design and its benefits. Taylor, ff. Tr. 14,846, at 3. Mr. Stanley, we note, saw those risks as involving economic and licensability considerations (Tr. 13,122-23 (Stanley)).

611. Dr. Bernsen and Messrs. Lopez and Taylor all agreed that the absence of documented standards for qualification of design verifiers was not a violation of Appendix B. Mr. Taylor testified that ANSI Standard N45.2.11 had no such requirement either. Bernsen/Lopez, ff. Tr. 13,441, at 87; Taylor, ff. Tr. 14,846, at 34.

612. Dr. Bernsen and Mr. Lopez testified that Appendix B had no requirements for verification checklists. There are many means available for design verification control, including means mentioned in B&R's documented procedure. Bernsen/Lopez, ff. Tr. 13,441, at 87-88. As to the high error rate noted, the witnesses connected that with Quadrex finding 3.1(b) (Finding 565, *supra*). They did not think it sufficient to support a determination that a quality assurance breakdown had taken place. Bernsen/Lopez, ff. Tr. 13,441, at 88-89.

613. Mr. Taylor and the Bechtel witnesses all concluded that generic finding 3.1(j) was not reportable under § 50.55(e) (Bernsen/Lopez, ff. Tr. 13,441, at 89-91; Taylor, ff. Tr. 14,846, at 34-35). The separate Staff review reached the same conclusion (Staff Exh. 136 at 23, 404-05). CCANP presented no evidence to the contrary and offered no argument in its proposed findings. We find that the item was not reportable.

f. Conclusion with Respect to Contention 9

614. We have found one additional Quadrex Report item where, in our opinion as well as that of the Staff, HL&P should have informed NRC of a potentially reportable matter. That item was a close call, where informed professional judgment might vary. Moreover, that item later proved not to be reportable under § 50.55(e). In these circumstances, and in light of the plethora of findings where HL&P's determination to report or not report appears to have been correct, we conclude that the failure to notify the NRC (Region IV) of the Quadrex Report, and of many findings beyond those actually reported, within 24 hours from the time HL&P became aware of the findings or prospective findings, does not reflect adversely on the character and competence of the Applicants or on their ability to manage the construction and operation of a nuclear power plant.

2. Contention 10

615. Contention 10, as admitted in LBP-85-6, *supra*, 21 NRC at 463, states:

The Quadrex Report was relevant and material to issues of character and competence addressed in Phase I of this proceeding and should have been furnished to the Licensing Board and parties shortly after its receipt by HL&P, under obligations imposed by the *McGuire* line of decisions. Failure to have furnished this Report reflects adversely on the character and competence of the Applicants and on their ability to manage the construction and operation of a nuclear power plant.

616. The contention was thereafter determined by the Licensing Board to be broad enough to encompass CCANP's claim (set forth in its April 15, 1985 motion to reopen the Phase I record) that the Board and parties should have been notified before September 24, 1981, pursuant to obligations imposed by the *McGuire* doctrine, of the potential removal of B&R as architect-engineer and construction manager. The Board viewed the replacement of B&R in part as an outgrowth of the Quadrex Report. Sixth Prehearing Conference Order, *supra*, at 3-4; LBP-85-19, *supra*, 21 NRC at 1715.

617. Finally, in LBP-85-6, we raised questions concerning the consistency of certain testimony of HL&P witnesses in Phase I, presented prior to the Board notifications in late September 1981 of the Quadrex Report and the replacement of B&R, with the revelations of the Quadrex Report and the resulting concerns of HL&P officials with the adequacy of B&R's engineering services. The questions, which bear on the candor

of HL&P witnesses with this Board, will be discussed under the aegis of this contention.

a. *Quadrex Report*

618. The *McGuire* doctrine obligates applicants to advise licensing boards of new information that is "relevant and material" to issues pending before such boards. *See Opinion, supra* p. 623. The Applicants initially addressed various aspects of their obligation to have supplied this Board with the Quadrex Report before September 28, 1981, through the testimony of Messrs. Don Jordan, Jerome Goldberg, and George Oprea (Jordan, ff. Tr. 11,908, at 3-4; Goldberg, ff. Tr. 11,491, at 53-55; Oprea, ff. Tr. 14,095, at 11-13). During the reopened Phase II hearings, the Applicants presented additional testimony by Messrs. Jordan, Goldberg, and Oprea, together with the testimony of Dr. James R. Sumpter and Messrs. Charles G. Thrash, Jr., and David G. Barker (Tr. 15,398-401 (Jordan); Tr. 15,504-21 (Goldberg); Tr. 15,588-95 (Oprea); Tr. 15,695-99 (Sumpter); Tr. 15,437-55 (Thrash); Tr. 15,643-49 (Barker)). In response to a request by CCANP, which was sanctioned by the Board (Tr. 13,019-20), the NRC Staff presented testimony bearing on Contention 10 through Mr. John Collins (Tr. 15,286-353 (Collins)). CCANP presented no other witnesses in support of Contention 10 but identified several documents relevant to that contention.

619. In its finished form, the Quadrex Report was received by HL&P on May 7, 1981. It was not furnished to the Licensing Board and parties pursuant to *McGuire* obligations until September 28, 1981, almost 5 months later. Goldberg, ff. Tr. 15,491, at 17, 54-55; Letter from Applicants' Counsel to Licensing Board (with copies to all parties), dated September 28, 1981. During the interim period, evidentiary hearings in Phase I were held on 34 days: May 12-15, 18-22; June 1-4, 15-20, 22-26; July 20-24; and September 14-18, 1981 (official notice; *see also* PID-I, *supra*, 19 NRC at 726, Finding 12).

620. Witnesses testifying for the Applicants concerning the relevance and materiality of the Quadrex Report to Phase I issues or contentions focussed both on the content or findings of the report and HL&P's reasons for undertaking that review. The review, which was commissioned in January 1981, was particularly sought by Mr. Jerome Goldberg, who had joined HL&P as Vice-President, Nuclear Design and Construction, on October 20, 1980. The Applicants' witnesses uniformly testified that the purpose, or the primary purpose, of the review was to obtain an objective assessment of the status of B&R's nuclear engineering and

design activities. Goldberg, ff. Tr. 11,491, at 4-7; Tr. 11,574-77, 11,583-84, 12,600-02, 15,504 (Goldberg); Sumpter, ff. Tr. 12,699, at 5-10; Tr. 12,760-61 (Sumpter); Jordan, ff. Tr. 11,908, at 2-4; Tr. 11,921-23 (Jordan); Oprea, ff. Tr. 14,095, at 2-5; Tr. 14,383 (Oprea); *see also supra* Findings 452-453.

621. In elaborating on HL&P's reasons for commissioning the Quadrex review, Mr. Goldberg stated that the objective in hiring Quadrex was to gain a third-party assessment of B&R's nuclear engineering and design activities in order to judge what improvements were needed to complete the STP successfully, as well as to provide useful information regarding the status of the project for discussions with HL&P management, the other STP co-owners and "regulatory authorities." Those regulatory authorities included the NRC Staff and the Licensing Board. Goldberg, ff. Tr. 11,491, at 4-5; Tr. 11,582, 11,584, 15,556 (Goldberg); *see also* Tr. 12,763 (Sumpter).

622. The development of information for use at the Phase I hearings was not a primary or even a motivating purpose of the Quadrex review (Tr. 11,583, 15,507-08, 15,554, 15,560 (Goldberg)). Nonetheless, Mr. Goldberg recognized such a result as a "side benefit" of the review. He referred to that side benefit in discussions with co-owners and HL&P officials prior to the commissioning of the project and during the early stages of the review. Tr. 11,584, 15,507, 15,512-13, 15,553-56, 15,559-60 (Goldberg); Tr. 15,495-96 (Thrash); Tr. 15,589, 15,623-24 (Oprea); Tr. 15,647 (Barker); Tr. 15,697-98 (Sumpter); Appl. Exh. 79.

623. As it progressed, the Quadrex review turned out differently from its originally stated purpose. Among other matters, the review uncovered many details that were not "in the mainstream of the original premise or purpose of the review." Tr. 12,600-02 (Goldberg); *see also* Tr. 15,226-27 (Sells).

624. The Quadrex review was not commissioned as a review of the QA program for engineering; nor was it commissioned as a review of the implementation of that QA program (Goldberg, ff. Tr. 11,491, at 55; Tr. 12,536 (Goldberg); Stanley, ff. Tr. 13,047, at 4). Nonetheless, there were quality concerns addressed in the report. The three items that HL&P identified as potentially reportable are examples. Two of those items (findings 4.2.2.1(a) and 4.8.2.1(d)) were evaluated by HL&P as potentially constituting a significant breakdown in a portion of the QA program, within the meaning of § 50.55(e)(1)(i). Goldberg, ff. Tr. 11,491, at 28, 55; Tr. 12,536 (Goldberg).

625. Other findings of the Quadrex Report, although not reportable pursuant to § 50.55(e), nevertheless were relevant and material to the

QA program for design engineering, or the implementation of that program by B&R. Examples of such findings include (but are not limited to) the asserted failure of the common instrument air line to meet the single-failure criterion (findings 4.3.2.1(a) and 4.8.2.1(a)) and an instance where a system design document failed to identify or refer to a design temperature (finding 4.7.3.1(b)). Goldberg, ff. Tr. 11,491, at 39-40, 43-45; *see supra* Findings 495-499, 534-535, 526-528.

626. The issues considered in Phase I were broader in scope than the "quality control-related issues" that were raised by the NRC's April 30, 1980 Order to Show Cause and Notice of Violation or by Intervenor's Contentions 1 and 2. These Phase I issues were prescribed by the Commission to include "the broader ramifications of the charges" bearing upon whether operating licenses should be awarded, conditioned or denied. CLI-80-32, *supra*, 12 NRC at 291-92.

627. During Phase I, the Applicants sponsored testimony by Mr. Goldberg concerning HL&P's current (i.e., May 1981) management of the STP. That testimony discussed, *inter alia*, HL&P's organization for directing the engineering activities at STP and the means by which HL&P provided programmatic direction and review of B&R's engineering design and technical support effort. Included in this testimony were specific examples of action HL&P had "recently" taken as part of its direction of B&R design efforts. On cross-examination, Mr. Goldberg testified about "principal problem areas" in which B&R design activities had been found "lacking." Neither the testimony (including corrections made at the time of its introduction) nor the responses to questions on cross-examination mentioned either the Quadrex review or the Quadrex Report (which had been received by HL&P 5 days prior to the introduction and receipt into evidence of the direct testimony). Goldberg/Frazar, ff. Tr. 906, at 10-12; Tr. 2404-06 (Goldberg). This testimony was relevant and material to issues considered in Phase I. 10 C.F.R. § 2.743(c).

628. At the time of the Quadrex review, it was innovative for a utility to commission an independent review of the work of its architect-engineer. In Mr. Goldberg's view the commissioning of the Quadrex review (*inter alia*) demonstrated both competence and good character on the part of HL&P. Goldberg, ff. Tr. 11,491, at 68; Tr. 15,578 (Goldberg). At the reopened hearing, Mr. Goldberg acknowledged that the Quadrex review would "serve some end" in demonstrating (positively) that HL&P was fulfilling a licensee's responsibility to ensure that its contractors were performing acceptably (Tr. 15,560-61 (Goldberg)). We agree. We also find that the commissioning of the Quadrex review, as well as the resulting Quadrex Report, were relevant and material to

HL&P's management of the STP and to the character and competence demonstrated by HL&P in managing the STP.

629. Since the Quadrex review and the resulting Quadrex Report were relevant and material both to QA questions and to questions concerning HL&P's character and competence to manage the STP, we reiterate the conclusion we previously reached, that the Quadrex Report should have been provided to this Board shortly after its receipt by HL&P, pursuant to the *McGuire* line of decisions (LBP-85-6, *supra*, 21 NRC at 461-62).

630. Whether HL&P's failure to provide the Quadrex Report to this Board on a timely basis, as set forth *supra* in Finding 629, reflects a defect in character that must be taken into account in a licensing decision depends upon a consideration of other factors bearing on HL&P's decision not to provide the report to this Board during the pendency of hearings in the Spring and Summer of 1981.

631. Mr. Goldberg was the HL&P official who was responsible for determining whether to provide the Quadrex Report to this Board shortly after its receipt by HL&P. Mr. Oprea, who was Mr. Goldberg's supervisor at that time, was informed about matters that were reported (pursuant to § 50.55(e)) but was not consulted as to whether various matters should be submitted to NRC, including this Board (pursuant to § 50.55(e) or any other authority, including *McGuire*). Tr. 12,559-60 (Goldberg); Tr. 15,594 (Oprea).

632. Mr. Goldberg testified that, at the time the Quadrex Report was received by HL&P, he was aware of HL&P's obligation to provide the Licensing Board with newly developing information that was "relevant and material" to issues pending before the Board (Tr. 12,548-49 (Goldberg)). The *McGuire* obligations have never been prescribed by regulation but, rather, have been the product of Appeal Board and Commission decisions on discrete, *ad hoc* questions. Reflecting that circumstance, although the *McGuire* obligation was first enunciated in 1973, many of its facets had not been announced until after the May-September 1981 period. Thus, the scope of the obligation — and particularly the caveat that, in the event of reasonable doubt as to materiality, the information should be disclosed to the Licensing Board "for the board to decide its true worth" — was not defined with precision until 1984. *Metropolitan Edison Co.* (Three Mile Island Nuclear Station, Unit 1), ALAB-774, 19 NRC 1350, 1358 (1984).

633. HL&P has during the course of these proceedings forwarded to the Licensing Board (and parties) information beyond that which is strictly "relevant and material" to issues before us. For example, as we

understand it, HL&P has forwarded copies of virtually all reports submitted to the Staff pursuant to § 50.55(e), responses to notices of violation, and other correspondence regarding the STP. We do not construe the Applicants' delay in furnishing the Quadrex Report to this Board as suggesting a pattern of withholding "relevant and material" information from the Board.

634. Mr. Goldberg testified that, in terms of distribution outside HL&P, the Quadrex Report was treated like numerous other reports and studies on STP. It was distributed to individuals whom HL&P management regarded as having a need to use the information in it. Mr. Goldberg also testified that it was not HL&P's general practice to file consultant reports with the NRC. On the other hand, Mr. Goldberg stated that he regarded consultant reports as "just extensions of the day to day business of the licensee." Goldberg, ff. Tr. 11,491, at 52; Tr. 12,404-06, 12,554 (Goldberg); Tr. 12,885-88 (Sumpter).

635. Mr. Goldberg repeatedly expressed his belief that there was no regulatory requirement for HL&P to have submitted the Quadrex Report (as a whole) to NRC, either pursuant to § 50.55(e) or otherwise (Goldberg, ff. Tr. 11,541, at 52; Tr. 12,507-08, 12,612 (Goldberg); see Tr. 12,886 (Sumpter)). He also acknowledged that he did not wish to submit the Quadrex Report to the NRC gratuitously (Tr. 12,405, 12,605-06 (Goldberg)). Mr. Goldberg explained this position on the basis that, if the Quadrex Report were transmitted to the NRC, it would be sent, in the ordinary course of business, to the Public Document Room. He viewed the report as having been written rather hurriedly and, in some cases, on the basis of incomplete information; and as reflecting some judgments about acceptable engineering practice that he did not share. As a result, Mr. Goldberg foresaw a high likelihood that the report could be misread or quoted out of context, if it had been made publicly available without extensive explanatory materials. Goldberg, ff. Tr. 11,491, at 52; Tr. 12,603-05 (Goldberg); see also Oprea, ff. Tr. 14,095, at 6.

636. Mr. Goldberg acknowledged certain instances where HL&P had submitted documents or information to NRC without being required to do so (Tr. 12,410-12 (Goldberg)).

637. Although HL&P made no effort to provide copies of the Quadrex Report to NRC gratuitously, it informed certain NRC officials of the existence of the review and (when available) the report. NRC was first informed of the review in January or February 1981, when during a meeting, Mr. Goldberg advised Mr. Donald E. Sells, NRC Project Manager for STP, that the review had been authorized. Sells, ff. Tr.

15,190, at 1 and Typewritten Statement at 1; Tr. 15,229 (Sells); Goldberg, ff. Tr. 11,491, at 9; Tr. 12,498-99 (Goldberg); CCANP Exh. 138; CCANP Exh. 144, Enclosure 2. On April 21, 1981, Mr. Goldberg advised Mr. Sells by telephone that the Quadrex Report would be completed in early May 1981, that the review would likely result in some § 50.55(e) reports and that Mr. Sells could see the report once HL&P received it (Sells, ff. Tr. 11,491, Typewritten Statement at 1; Goldberg, ff. Tr. 11,491, at 49-50; CCANP Exh. 138; CCANP Exh. 144, Enclosure 2).

638. During the week of May 11, 1981, Mr. Goldberg briefed Mr. Sells on the general content reflected in the Quadrex Report, including the scope of its findings as well as a more detailed description of the three items that had been reported pursuant to § 50.55(e). The briefing took place at the Holiday Inn in Bay City, Texas, during a luncheon break at the Phase I hearings and lasted for about 15 to 20 minutes. At that briefing, Mr. Goldberg advised Mr. Sells that he (Sells) could look at the report at any time, but only within the confines of HL&P facilities. Apparently review of the report by other NRC officials was not discussed. Sells, ff. Tr. 15,190, Typewritten Statement at 2; Tr. 15,225-26 (Sells); Goldberg, ff. Tr. 11,491, at 49-50; Tr. 14,402-03 (Oprea).

639. The record is not clear whether Mr. Sells was shown the Quadrex Report during the May 1981 briefing by Mr. Goldberg. Mr. Goldberg recollects showing the report (or at least Volume I) to Mr. Sells at that meeting (Tr. 11,336-37, 12,532-35 (Goldberg)). On the other hand, Mr. Sells does not recall whether Mr. Goldberg had any notes or papers with him but states that Mr. Goldberg did "not" have a copy of the report with him and did "not" offer to allow Mr. Sells to see the report at that time (Sells, ff. Tr. 15,190, Typewritten Statement at 2). Given the size and bulk of the report (*see* Appl. Exh. 60), we believe that Mr. Sells would have remembered being shown the report if Mr. Goldberg had, in fact, done so. Given the predilection of Mr. Goldberg to limit any review of the report to the confines of HL&P facilities, we believe it likely that Mr. Goldberg did not have the report with him at the briefing, which took place off site. In any event, the scope, length, and complexity of the Quadrex Report would have precluded any meaningful review of the report during the 15- to 20-minute briefing. Moreover, as we found previously (*supra* Findings 473-474), whether or not Mr. Sells was shown the report at this briefing is of little, if any, significance to our evaluation of HL&P's character.

640. Although Mr. Goldberg did not voluntarily provide the report to the public, he did not attempt to conceal its existence. During the opening week of the Phase I hearings, Mr. Goldberg mentioned the

report in response to the inquiry of an Austin, Texas newspaperman. Tr. 12,557-59, 12,598-99 (Goldberg).

641. Subsequent to the May 1981 briefing, Mr. Sells advised Mr. H. Shannon Phillips, senior resident inspector at STP from September 1979 to January 1982, of the existence of the Quadrex Report and of the three § 50.55(e) items that HL&P had identified therein. On August 18, 1981, during the course of a new NRC Staff investigation of B&R Engineering, Mr. Phillips made a broad request for documents that could identify adverse conditions at B&R Engineering. On August 19, 1981, he was provided, *inter alia*, with the Quadrex Report; he was advised that the report was company confidential and strictly controlled, and that he could neither remove it from the offices nor reproduce any part of it. Mr. Phillips was unable to review the report at that time because of lack of time to do so, but he later received and reviewed the report at the site on August 25, 1981. Mr. Phillips advised Mr. Sells by telephone that he had seen the report and expressed some concern about the report to Mr. Sells. Phillips, ff. Tr. 15,192, at 3-4, and Professional Qualifications at 1; Sells, ff. Tr. 15,190, Typewritten Statement at 2.

642. On the morning of August 27, 1981, Mr. Phillips also informed Mr. John Collins, then Deputy-Director of Region IV, of the report. Later on August 27, 1981, Mr. Collins called Mr. Oprea (of HL&P) by telephone for the purpose of requesting that the Staff have unrestricted access to the report. At the same time, Mr. Collins advised and encouraged Mr. Oprea seriously to consider turning over the report to the Licensing Board. Mr. Collins indicated that if HL&P failed to follow this suggestion, the Staff would turn the report over to the Board. Mr. Collins did not remember Mr. Oprea's precise response to the request but recalls that the response was not negative. Tr. 15,288, 15,295, 15,344-45 (Collins); CCANP Exh. 138. Mr. Collins advised several NRC officials of his recommendation to Mr. Oprea and, at a later date, included a reference to the recommendation in a chronology that he prepared concerning the reporting of the Quadrex Report to NRC (Tr. 15,342 (Collins); CCANP Exh. 138). Although Mr. Oprea did not remember the August 27, 1981 conversation or recommendation (Tr. 14,300-04, 15,372-73 (Oprea)), we find that it likely took place as described by Mr. Collins, on the basis of his later-prepared chronology to that effect as well as his testimony before us.

643. Following the making available of the Quadrex Report to Mr. Phillips on August 19, 1981, Mr. Oprea called Mr. Karl Seyfrit, then Administrator of Region IV, to suggest a briefing of Region IV personnel by HL&P on the Quadrex Report. The briefing was to be held, and was held, at Region IV offices on September 8, 1981. The HL&P employees

who conducted the briefing included Messrs. Oprea and Goldberg. The HL&P officials did not bring a copy of the Quadrex Report with them and did not provide Region IV a copy. Region IV was not provided a copy until Mr. Sells did so in October 1981, subsequent to the date that the report was transmitted to the Board and parties. Tr. 13,311-12, 15,350-51 (Collins); Oprea, ff. Tr. 14,095, at 6-7; Tr. 15,372 (Oprea); Goldberg, ff. Tr. 11,491, at 53.

644. After Mr. Phillips advised Mr. Sells by telephone of his concerns with respect to the Quadrex Report (*supra* Finding 641), Mr. Sells informed his supervisors of Mr. Phillips' concerns and requested that he (Sells) go to Texas to examine the report. Mr. Sells was given the entire report in Houston, Texas, during the week of the September 1981 Phase I hearings (September 14-18, 1981). He reviewed Volume I (the Executive Summary), discussed his reaction with Staff counsel (Messrs. Reis and Gutierrez) and advised them that the Board should see the report. Mr. Reis agreed. Mr. Sells understood that Mr. Reis so advised the Applicants' lawyer, who within 2 weeks provided a copy of the report to the Board and all parties. Sells, ff. Tr. 15,190, Typewritten Statement at 3; Tr. 15,222, 15,254-55 (Sells); *see* Tr. 12,555-56 (Goldberg); Tr. 15,373 (Oprea).

b. Replacement of Brown & Root, Inc.

645. With respect to CCANP's claim that the Board (and parties) should have been notified earlier of the replacement or potential replacement of B&R as architect-engineer (*see supra* Finding 616), the Applicants presented testimony of the three HL&P management officials who had principal responsibility for the STP during 1981: Mr. Jordan (then President and Chief Executive Officer), Mr. Oprea (then Executive Vice President, Nuclear), and Mr. Goldberg (then Vice President, Nuclear Engineering and Construction). Jordan, ff. Tr. 11,908, at 4-14; Oprea, ff. Tr. 14,095, at 8-11, 14-16; Goldberg, ff. Tr. 11,491, at 56-58.

646. Mr. Jordan, as Chief Executive Officer of HL&P in the 1980-1981 period, was the responsible officer for initiating any exploration of the feasibility of replacing B&R as architect-engineer. In June 1980, he and Mr. Oprea questioned whether an experienced A-E alternative to B&R would be available. At that time, Mr. Jordan explored the feasibility of replacing B&R, when he contacted two other architect-engineers (Bechtel and Ebasco) to determine the feasibility of replacing B&R. Mr. Jordan abandoned efforts to replace B&R at that time, when he was advised that those architect-engineers would not consider taking the job and that the better course was for HL&P to attempt to improve

B&R's performance. Jordan, ff. Tr. 11,908, at 7; Tr. 11,970, 11,974 (Jordan); Oprea, ff. Tr. 14,095, at 9.

647. Shortly after his assumption of duties for HL&P, Mr. Goldberg began to raise questions concerning the adequacy of B&R's engineering services and, as early as January 1981, suggested to HL&P management that HL&P explore alternatives for completing the STP without B&R as architect-engineer. Messrs. Jordan and Oprea rejected that position at that time, since they felt the best option was to improve B&R's performance. Goldberg, ff. Tr. 11,491, at 58-59; Oprea, ff. Tr. 14,095, at 8-10; Jordan, ff. Tr. 11,908, at 8; Tr. 11,974 (Jordan); *see also* Tr. 10,518-20 (Goldberg).

648. On April 10, 1981, executives of the STP co-owners met with B&R in Corpus Christi, Texas, to discuss, *inter alia*, measures to improve B&R's engineering performance at STP, including the need to attract more experienced personnel. At that meeting, Mr. Goldberg conveyed the view that B&R needed to acquire a senior executive with nuclear experience to take complete charge of its STP activities. Subsequent to this meeting, Mr. Goldberg met with B&R executives to follow up on various suggestions. B&R resisted hiring a senior nuclear executive who would report directly to the President of B&R. Mr. Jordan then undertook to pursue this suggestion with higher levels of B&R management. Following a meeting of the STP co-owners with B&R at San Antonio, Texas, on June 26, 1981, HL&P officials became convinced that the prospects for sufficient improvement by B&R were poor. Immediately thereafter, on June 29, 1981, Mr. Jordan met with Messrs. Oprea, Goldberg, and David G. Barker (then HL&P Project Manager for the STP), and they agreed that HL&P should seriously investigate feasible alternatives for B&R as architect-engineer. Jordan, ff. Tr. 11,908, at 8-9; Tr. 11,950, 11,952 (Jordan); Goldberg, ff. Tr. 11,491, at 56, 59-60; Oprea, ff. Tr. 14,095, at 9-11.

649. Despite recommendations from Mr. Goldberg early in 1981 to consider alternatives to B&R as architect-engineer, Mr. Jordan did not authorize HL&P management officials actively to explore whether such alternatives were available until June 29, 1981 (Jordan, ff. Tr. 11,908, at 9-10; Tr. 11,999-12,000 (Jordan)).

650. In early July 1981, within 7 to 10 days of the June 29, 1981 decision to investigate alternatives, Messrs. Goldberg and Oprea contacted four prospective contractors and ascertained that each would be interested in undertaking the completion of the STP. Invitations to submit proposals were sent to them in late July, and all the proposals were received by mid-August 1981. After an evaluation process, Messrs. Oprea

and Goldberg made recommendations to the STP Management Committee, the HL&P Board of Directors, and the Chief Executive Officers of the project owners that HL&P enter into negotiation with Bechtel. Those approvals were received on September 12, 14, and 15, 1981, respectively. Negotiations with Bechtel resulted in an agreement in principle by September 24, 1981 (the day on which the Licensing Board was notified), and the actual preliminary agreement was executed on October 3, 1981. Goldberg, ff. Tr. 11,491, at 56-57; Tr. 12,607 (Goldberg); Oprea, ff. Tr. 14,095, at 11; Tr. 14,363 (Oprea).

c. Candor of HL&P's Phase I Testimony

651. As set forth *supra* Finding 617, in LBP-85-6 we raised questions about the candor of certain HL&P witnesses in Phase I, given their failure before late September 1981 to have mentioned either the Quadrex Report or their dissatisfaction with B&R's engineering services. The witnesses in question were Messrs. Goldberg, Jordan, Oprea, and Frazar. We supplemented the questions raised by LBP-85-6 with additional questions posed during Board questioning of those HL&P witnesses in Phase II. We here review HL&P's responses to the Board inquiries.

(1) QUADREX REPORT

(a) Testimony of Mr. Goldberg

652. At Tr. 1095-96, Mr. Goldberg was asked to identify "major" contractors at STP other than B&R and Westinghouse, and whether other contractors had responsibility for QA and QC. Mr. Goldberg did not mention the Quadrex Corporation or the Quadrex Report because he believed that Quadrex was not a "major" contractor and that it did not have any QA or QC responsibilities. Goldberg, ff. Tr. 11,491, at 61-62. Although the questions asked clearly included "contracts for consulting services" within their scope, we see no reason for doubting Mr. Goldberg's stated belief that he did not regard Quadrex as a "major" contractor to be equated with B&R or Westinghouse. Moreover, the Quadrex Corporation clearly did not have QA or QC responsibilities as those terms are normally understood.

653. At Tr. 1143-52, Mr. Goldberg was asked questions about the B&R basic design documents that were reviewed by HL&P and how such reviews were performed. Mr. Goldberg explained that he regarded the questions as directed at the normal type of HL&P review and that he did not regard the Quadrex review or report as an example of such a "normal" review. He added that the Quadrex Report did not address the

types of B&R design documents that would or should have been reviewed by HL&P and that the report did not focus on problems in the relationship between the HL&P and B&R engineering organizations. Goldberg, ff. Tr. 11,491, at 62. We find this explanation to be credible, although we do not subscribe in full to Mr. Goldberg's stated understanding of the import of the Quadrex Report.

654. At Tr. 1158-59, Mr. Goldberg was asked to describe his overall perception of the challenges he faced when he first joined HL&P (in October 1980). Given the time frame inherent in the question, as well as the generality of both the question and the response, we find no fault with Mr. Goldberg's failing to mention the Quadrex review or report in this context.

655. At Tr. 2404-06, Mr. Goldberg was asked to evaluate B&R's then-current management of design, and specifically to delineate the principal areas in which he found B&R to be lacking. Mr. Goldberg reiterated his previously expressed view that there is always room for improvement, and he outlined two design areas where he felt B&R could improve. Those areas represented two of the three areas that were the subject of § 50.55(e) reports initially arising from the Quadrex Report. Mr. Goldberg explained that he did not mention the third such area because he was interrupted for a clarification, after which the examiner changed topics. Goldberg, ff. Tr. 11,491, at 64. We accept that explanation for the omission of the third § 50.55(e) area. But Mr. Goldberg also explained his failure to mention or refer to the Quadrex review or report on the basis that knowledge of the Quadrex Report was not necessary to understand his answer (*id.* at 65).

656. Although the foregoing observation may be accurate, it misses the point with respect to the obligation of witnesses to provide not only understandable but also full and complete answers to questions. Full and complete answers to the questions on Tr. 2404-06 would have included references to the Quadrex review and report. Failure to have provided such references represents a character deficiency on the part of HL&P. However, we find no evidence of any intent to mislead or provide false testimony to this Board. We find that HL&P in this instance construed its obligation to provide full and complete answers to questions too narrowly and accordingly that it did not satisfy its obligation for candor fully.

657. As part of his direct testimony in Phase I, Mr. Goldberg reviewed HL&P's organization and methodology for providing programmatic direction to the B&R design effort. He described the function of HL&P's STP Project Engineering Group (which provided such programmatic direction) and the process by which HL&P performed its engineering review. He also provided "specific examples of action HL&P has re-

cently taken as part of its direction of B&R construction and design efforts.” That testimony was prepared and served on the parties before the Quadrex Report was issued; but it was updated and corrected and introduced into evidence on May 12, 1981, 5 days after HL&P’s receipt of the report. Goldberg/Frazar, ff. Tr. 906, at 10-12; Tr. 859 (Axelrad); Tr. 861-62 (Goldberg).

658. In describing HL&P’s direction of B&R’s engineering, the foregoing testimony referred neither to the Quadrex Report nor to HL&P’s May 6, 1981 direction to B&R (Appl. Exh. 61) to provide an analysis of Quadrex findings. The Board finds that the Quadrex Report and the May 6, 1981 letter to B&R were prime examples of the types of activities described by Mr. Goldberg in his direct testimony. That being so, the report and letter should have been mentioned, at the time the direct testimony was updated and introduced into evidence. As set forth in our Opinion (*supra* p. 628), we do not find Mr. Goldberg’s explanation for the omissions to be credible. Nonetheless, we also find that, although the omissions detract to some extent from HL&P’s managerial character, they do not do so to a degree that would warrant license denial.

(b) Testimony of Mr. Jordan

659. At Tr. 1269-70, Mr. Jordan was asked questions concerning the steps that HL&P was taking to ensure that quality was built into the project. He did not mention the Quadrex review or report. Mr. Jordan explained that he construed the questions as related to construction quality and as not encompassing the engineering matters to which the Quadrex Report related. Jordan, ff. Tr. 11,908, at 11-12. We find that response to be credible and reasonable.

660. At Tr. 1294, Mr. Jordan was responding to questions concerning blame for activities that resulted in the Show-Cause Order. His statement that the project was in “good order” was clearly in that context. We agree that he need not necessarily have mentioned the Quadrex Report in responding to those questions. Jordan, ff. Tr. 11,908, at 12.

661. At Tr. 1337, Mr. Jordan was asked questions concerning B&R’s nuclear experience during the period before the Show-Cause Order was issued. We agree with Mr. Jordan’s explanation that, given the time frame of the questions, there was no reason for him to have mentioned the Quadrex Report. Jordan, ff. Tr. 11,908, at 13.

662. At Tr. 1402-05, Mr. Jordan was asked to identify “major problem areas” at STP. His answer reflected changes that were made or were to be made in the QA/QC program and in the construction organization;

it made no reference either to design engineering or to the Quadrex Report. Mr. Jordan explained that he had in mind QA improvements resulting from the Show-Cause Order and additional changes relating to activities at the site, and that the questions asked did not bring to his mind the Quadrex Report or concerns regarding B&R engineering. Mr. Jordan added that the reference to “major problem areas” that he previously had mentioned referred (in his mind) to an earlier discussion of QA/QC problems. Jordan, ff. Tr. 11,908, at 13-14. Although we would not necessarily construe “major problem areas” as narrowly as did Mr. Jordan, given the context, and absent an explicit reference to engineering in the question, we find no reason for doubting the credibility of Mr. Jordan’s response.

663. At Tr. 1224-51, Mr. Jordan was asked questions that, he understood, focussed on whether, in light of the discovery of the error in B&R’s estimate of the percentage of engineering complete at the time the construction permit was issued, HL&P had subsequently conducted any studies of B&R’s integrity or the honesty of B&R’s reports to HL&P. Mr. Jordan responded negatively, to the best of his recollection, apparently believing this response completely covered the specific question asked (Tr. 1244, 1246-51). He explained his failure to mention the Quadrex review or report on the ground that he viewed the Quadrex Report as addressing B&R’s engineering performance, not its integrity or truthfulness (Tr. 12,139-41 (Jordan)). We agree that this explanation is satisfactory.

The Board notes, however, that it would not have been inappropriate for Mr. Jordan to have mentioned the Quadrex Report at this time. The Applicants had objected to the entire line of questioning at Tr. 1224-51, on the ground that the percentage completion of B&R’s engineering was outside the scope of Mr. Jordan’s testimony and, indeed, the proceeding itself (*e.g.*, Tr. 1224, 1226-27, 1229-30, 1232-33). When these objections were overruled, it should have become apparent that the degree of engineering completion was not outside the scope of Mr. Jordan’s testimony, much less the proceeding (Tr. 1233, 1234). Thus, even though Mr. Jordan properly viewed the Quadrex Report as not focussing on B&R’s integrity, a complete answer to the line of questions might well have engendered a reference to the Quadrex review or report.

(c) Testimony of Mr. Oprea

664. At Tr. 3469-70, Mr. Oprea was asked questions about an “engineering discrepancy” and whether it provoked any study or further analysis of the competence of B&R. We agree with Mr. Oprea that the ques-

tions related to a discrete time period before the Show-Cause Order was issued and, in that regard, would not have called for a mention of the Quadrex review or report. Oprea, ff. Tr. 14,095, at 20.

665. At Tr. 3485-86, Mr. Oprea was asked whether, in hindsight, he should have established a system for more careful review of B&R's engineering work. He conceded that HL&P might have performed additional engineering reviews of B&R, without mentioning the recently completed Quadrex review, which had in fact been performed. Mr. Oprea explained that the question was the last in a series of questions pertaining to whether B&R's lack of experience as an architect-engineer for a nuclear project contributed to construction delays, and that his earlier answers had related the entire series of questions to excessively complex construction procedures. He went on to state that, because of the nature and context of the question, he did not consider mentioning the Quadrex Report or the pending review of B&R engineering services. Oprea, ff. Tr. 14,095, at 17-18.

We are not persuaded by this explanation. It appears to be an attempt at after-the-fact reconciliation, which construed the question more narrowly than is reasonable. Indeed, at Tr. 3484, Mr. Oprea indicated the broad nature of the question and went on to mention B&R's recruitment efforts in "engineering design," as well as other areas. For that reason, not to have mentioned the Quadrex review or report at Tr. 3486 represented questionable judgment. However, these circumstances alone would not cause us to find that Mr. Oprea was consciously attempting to mislead this Board. He apparently viewed the scope of the hearing as narrower than was appropriate, and his answers to questions reflect that understanding. These responses, for reasons stated in the Opinion (*supra* pp. 652-53), would detract from HL&P's character but not to a degree sufficient to warrant the denial of operating licenses. In that connection, we note that Mr. Oprea is no longer an HL&P employee and does not appear to be likely to be involved in the management of STP operations. Oprea, ff. Tr. 14,095, at 1; Tr. 14,096 (Oprea).

666. We agree with Mr. Oprea that the Quadrex review or report would not have been called for in response to questions at Tr. 3527 (Oprea, ff. Tr. 14,095, at 19).

667. At Tr. 5458-74, Mr. Oprea was asked questions concerning the degree of responsibility left to B&R prior to the Show-Cause Order, as contrasted with HL&P's then-current (1981) supervision of B&R; the effect of the growing degree of supervision by HL&P on the working relationship between the companies; NRC's justification for the Show-Cause Order and the beneficial impact of the Order on the STP; and an allegation concerning construction at the STP and HL&P's efforts to resolve that and other incidents. We agree with Mr. Oprea (Oprea, ff.

Tr. 14,095, at 19-20) that these questions would not have called for mention of the Quadrex review or report, since they were asked in the context of the Show-Cause Order and Inspection Report 79-19 and did not explicitly refer to engineering activities.

(d) Testimony of Mr. Frazar

668. Mr. Frazar never attended any of the Quadrex briefings, and he did not review the Quadrex Report. At the time he testified in Phase I, he had only limited familiarity with B&R's engineering performance. To the extent he was aware of such performance, he knew that HL&P QA and the NRC had audited and inspected B&R's engineering activities and, although some deviations had been uncovered, he believed that applicable QA requirements were generally being observed. Frazar, ff. Tr. 14,412, at 4-5. Absent explicit questions, he could not have been expected to mention the Quadrex review or report.

669. At Tr. 3249-50, Mr. Frazar was asked about HL&P's "immediate needs." His response referred to the need for better training and staffing for both HL&P and B&R but did not mention the Quadrex Report or the potential for fundamental changes with regard to B&R. Mr. Frazar explained that at that point his testimony was focussing on the organizational structure for the STP QA function and improvements that had been made to that structure, and that in his opinion the Quadrex Report and engineering QA had no relationship to such matters. Mr. Frazar added that, even if he had thought that the questions encompassed engineering QA, he had no concerns to mention on those subjects. Frazar, ff. Tr. 14,412, at 6. Even though we may not share entirely Mr. Frazar's opinions, given the generality of the questions posed and Mr. Frazar's lack of detailed familiarity with the Quadrex Report, we have no reason to doubt the sincerity or veracity of Mr. Frazar's explanation.

670. Mr. Frazar explained, at Tr. 3527-28, that during the course of questioning of Mr. Oprea regarding a provision of the HL&P/B&R contract (CEU Exh. 1), he volunteered some information concerning implementation of the QA/QC program. In context, he viewed this information as bearing on QA and construction activities and as not involving significant problems in QA implementation beyond those already reported to the NRC. Frazar, ff. Tr. 14,412, at 7. Given Mr. Frazar's lack of detailed knowledge at that time of the Quadrex Report, this response is reasonable.

671. At Tr. 5419-22, Mr. Frazar was questioned concerning several documents prepared in 1978 and 1980 in which B&R's QA program was

discussed (Appl. Exhs. 44-46). Testimony on those documents (or the meetings reflected thereby) would not logically have mentioned the Quadrex review or report, particularly in the absence of an explicit reference by the questioner to design engineering activities. Frazar, ff. Tr. 14,412, at 7-8.

(2) TESTIMONY CONCERNING ADEQUACY OF B&R DESIGN ENGINEERING SERVICES

(a) *Testimony of Mr. Goldberg*

672. As set forth earlier (*supra* Finding 654), Mr. Goldberg reasonably interpreted the questions at Tr. 1158-59 to relate to the time period when he first joined HL&P (October 1980). Given that understanding, Mr. Goldberg would not have been called upon to mention his concerns about B&R's engineering performance, which developed during the Spring of 1981.

(b) *Testimony of Mr. Jordan*

673. At the time Mr. Jordan testified in May 1981, he had not yet determined to explore alternatives to B&R as design engineer. Earlier, in June 1980, he and Mr. Oprea had questioned whether alternatives were available, if necessary. *See supra* Finding 646.

674. Mr. Jordan's statement at Tr. 1294 that the project was in "good order" was in the context of activities that led to the Show-Cause Order (*see supra* Finding 660) and, in that context, need not have been qualified by the engineering difficulties that HL&P then perceived on the part of B&R.

(c) *Testimony of Mr. Oprea*

675. At Tr. 3470-72, Mr. Oprea was asked whether he and his staff had discussed removal of B&R during the period prior to the Show-Cause Order. He discussed several such occasions in 1978 and 1979. At Tr. 3473, he was asked whether, during the period after the Show-Cause Order, he had had discussions with his staff or other individuals concerning removal of B&R. His negative answer would be completely candid only if "removal" were narrowly construed to include only the formal steps requisite to removal. In answering questions at Tr. 3470-72, he had not construed removal in such a formalistic manner. At the very least, Mr. Oprea should have mentioned discussions he must have had

with Mr. Jordan in 1980 (*supra* Finding 646). Nonetheless, given then-current attempts to improve B&R's performance, we find no intent by Mr. Oprea to provide misleading testimony to the Board.

676. We have previously determined that Mr. Oprea should have mentioned the Quadrex review or report at Tr. 3485-86 (*supra* Finding 665). For the same reasons, he should have mentioned his concerns at that time about B&R engineering services. However, for reasons also set forth in Finding 665, we do not believe that Mr. Oprea was consciously attempting to mislead this Board or that his answers, although detracting from HL&P's character, form a sufficient basis for denial of operating licenses (either considered alone or in conjunction with other instances of less-than-complete candor of HL&P witnesses as set forth herein).

d. Conclusion with Respect to Contention 10

677. Although we have found several instances in Phase I where HL&P witnesses should have mentioned the Quadrex review or report, or HL&P's dissatisfaction with B&R design engineering services, we have found no instance where we could conclude that the witnesses were deliberately attempting to mislead the Board. We also have found no evidence of a conspiracy to withhold information from the Licensing Board, as alleged by CCANP (CCANP FOF-II at 28, 145). Although we do not regard HL&P's candor as highly as we did in PID-I, we do not find sufficient bases for concluding that HL&P's lack of candor in defined instances (as comprehended by Contention 10) is sufficient to demonstrate that HL&P lacks the character to complete or operate the STP.

C. Current Competence of HL&P and Its Contractors

1. Partial Summary Disposition

678. On December 21, 1984 (corrected and updated on January 24, 1985), the NRC Staff filed an affidavit on the current competence of HL&P and its new contractors, Bechtel and Ebasco (hereinafter "Staff Aff.").⁴³ Various paragraphs of that affidavit were executed by the following individuals:

- a. William A. Crossman, Chief, Reactor Projects Section B, Branch 1, Region IV, NRC, since May 1974. From that date

⁴³ The affidavit filed on December 21, 1984, was in unexecuted form. The executed copy of the affidavit was filed on January 4, 1985.

until April 1984, Mr. Crossman supervised the project inspectors who inspected the STP.

- b. Johns P. Jaudon, Chief, Reactor Projects Section A, Branch 1, Region IV, NRC, since April 1984. In that position, Mr. Jaudon has supervised project inspectors who inspected the STP.
- c. Dan Paul Tomlinson, Senior Resident Inspector, Reactor Projects Section B, Branch 1, Region IV, NRC, from September 1983 through February 1985. In that position, as well as that of itinerant inspector, Mr. Tomlinson has engaged in STP inspections from 1982 to the present and is a co-author of the SALP report (*see* Finding 758, *infra*) covering the period from December 1, 1982, through November 30, 1983 (I&E Rept. 83-26, June 22, 1984).

679. On February 25, 1985, the Applicants supplemented the Staff affidavit with a joint affidavit on HL&P's competence (hereinafter "Appl. Aff."), with various paragraphs executed by Mr. Mark R. Wisenburg, Manager, Nuclear Licensing, HL&P, and by Mr. James E. Geiger, P.E., Manager, Quality Assurance, HL&P.

680. As set forth in PID-I, 19 NRC at 725, Finding 10, we were advised on September 24, 1981, that B&R had been dismissed as architect-engineer and construction manager for the STP, and on November 5, 1981, that B&R would not continue as constructor. *See also* Staff Aff. (Crossman), ¶¶ 4-5. Following these announcements, all ongoing safety-related construction was brought to an orderly conclusion, and no new safety-related construction was commenced by B&R. B&R left STP by December 1, 1981, except for caretaking activities performed by B&R personnel under the surveillance of HL&P and Bechtel. HL&P halted all safety-related work on December 1, 1981. Staff Aff. (Crossman), ¶¶ 5-6; *see also* Memorandum and Order (Cancelling Evidentiary Hearing on Transition Period Construction Activities), dated November 13, 1981 (unpublished); Fourth Prehearing Conference Order, *supra*, at 2.

681. Prior to the restart of safety-related construction, HL&P developed a transition program to control or transfer engineering and construction management functions from B&R to Bechtel. In response to Staff-imposed requirements, HL&P supplied information to the Staff concerning (1) organizational structure and relationships between HL&P, Bechtel, and Ebasco with respect to QA, design review, and design verification; (2) HL&P's program for resuming safety-related work; and (3) corrective actions (or explanations for the lack of such actions) for substantive issues raised in the Quadrex Report. Incremental work packages were required to be submitted to the Staff 60 days prior

to the scheduled restart of particular safety-related work. Staff Aff. (Crossman), ¶¶ 6-7.

682. The NRC Staff developed an extensive program for the review and inspection of licensing activities associated with the change in contractors and the restart of safety-related construction. Primary review and inspection responsibilities for transition activities were vested in Region IV, but other NRC offices (particularly the Office of Nuclear Reactor Regulation (NRR)) also participated. (A further description of NRC's review efforts concerning the Quadrex Report appears in Findings 450, 481, *supra*.) Following detailed review and approval by the Staff, HL&P resumed safety-related construction activities in November 1982, when cadwelding in the Mechanical Electrical Auxiliary Building and concrete placement of the Unit 2 diesel generator building slab commenced. Thereafter, construction efforts and activities were increased incrementally, and the work force was fully staffed by July-September 1983. Staff Aff. (Crossman), ¶¶ 8-13. At the end of January 1985, the work force totalled 8277 persons, exclusive of HL&P personnel (Appl. Aff. (Wisenburg), ¶ 4).

683. Since the resumption of construction, considerable progress toward the completion of the STP has been achieved. In early 1982, when construction activities were halted, approximately 35% of STP (including Units 1 and 2 and balance-of-plant) had been completed. At the end of January 1985, approximately 65% of STP was complete (including approximately 75% of Unit 1). Appl. Aff. (Wisenburg), ¶ 4.

684. The period of more than 2 years of safety-related construction activities from November 1982 until the close of the Phase II record in August 1985, together with the substantial work accomplished, as set forth in Finding 683, *supra*, provides sufficient data for us to evaluate the current competence of HL&P and its new contractors and to complete our review of CLI-80-32 Issues B and D.

685. From July 1982 through December 1984, a total of forty-six inspection reports on the STP were issued by the NRC Staff. These reports included one SALP report and one report on a special nondestructive examination inspection. A total of ten violations and one deviation were documented in these reports. One violation was later withdrawn because it was determined not to be a valid violation. The violations and deviation were as follows:

Identifying Number	Severity Level	Brief Description
82-16-01	V	Record storage area requirements
83-02-01	V	Record retention requirements
83-11-01	V	Procedures for concrete placement
83-17-01	IV	Material control and identification
83-20-01	V	Record retention requirements
83-20-02	Deviation	Failure to perform onsite hardness tests
83-22-01	IV	Failure to take corrective action
83-22-02	IV	Failure to take corrective action
83-24-02	IV	Failure to follow standard test method
84-02-01	Withdrawn	
84-04-01	V	Procedures for material control
84-07-01	IV	Document control

The Applicants further called attention to two additional violations dealing with activities before mid-1982 but documented in inspection reports issued after the closing date for reports included in the Phase I record. These violations were identified as numbers 82-01-01 (Severity Level V) and 82-02-01 (Severity Level IV). Staff Aff. (Tomlinson), ¶¶ 15-18; Appl. Aff. (Wisenburg), ¶ 16.

686. The indicated severity levels for the foregoing violations conform to those set forth in 10 C.F.R. Part 2, Appendix C. As there set forth, the NRC considers violations of Severity Levels I, II, or III to be serious. 10 C.F.R. Part 2, Appendix C, § V.D. On the other hand, Severity Level IV violations are less serious but are of more than minor concern, and Severity Level V violations are of minor safety or environmental concern (*id.* § III). The latter severity levels become more significant where repetition over a period of time indicates a programmatic breakdown (Staff Aff. (Tomlinson), ¶¶ 18-19). A deviation represents a failure to satisfy a commitment which has not been made a legally binding requirement. 10 C.F.R. Part 2, Appendix C, § V.E(2). In general, civil penalties may be imposed for violations of Severity Levels I, II, and III. Civil penalties may be imposed for Severity Level IV violations that are similar to previous violations for which the licensee did not take effective corrective action. *Id.* § V.B. No civil penalties were sought from HL&P as a result of the foregoing violations and deviation (Staff Aff. (Tomlinson), ¶ 19).

687. The Staff indicated that HL&P acted promptly on each of the violations and deviation and that its responses appeared to be adequate with regard to corrective actions and recurrence controls. It further observed that HL&P has adopted a progressively more aggressive approach

to dealing with quality-related issues since mid-1982. The Staff correlated this approach with the addition of new management personnel at the corporate level and on site, and to the organizational shifting of other key personnel. The Staff evaluated these changes as greatly enhancing the positive attitude and direct management involvement at STP, notably in the construction and quality aspects of the project. Staff Aff. (Tomlinson), ¶ 19. The Applicants described several such additions of or shifts in personnel and identified new STP personnel with extensive nuclear experience — namely Mr. James T. Westermeier, Project Manager (25 years' nuclear experience); Mr. E.W. Dotson, P.E., Project Engineering Manager (18 years' nuclear-related experience); Mr. R.J. Daly, Startup Manager (27 years' nuclear-related experience); and Mr. Dennis J. Cody, Manager, Nuclear Training Department (16 years' nuclear-related experience). In addition, Mr. Wisenburg had joined HL&P in May 1982, shortly before the close of the Phase I record. His appointment as Manager, Nuclear Licensing, in September 1982, permitted the promotion of Mr. Cloin G. Robertson (with over 12 years' nuclear-related experience) to the position of General Manager, Nuclear Engineering. Appl. Aff. (Wisenburg), ¶¶ 5-12.

688. As set forth in Finding 685, *supra*, the Staff undertook one SALP report for the STP since mid-1982, covering the period from December 1, 1982, through November 30, 1983 (I&E Rept. 83-26). The previous SALP report (I&E Rept. 81-37, Staff Exh. 133, and CCANP Exh. 134) covered the period July 1, 1980, through June 30, 1981, before the replacement of B&R by Bechtel and Ebasco. No SALP evaluation was conducted for the period between June 30, 1981, and December 1, 1982, as a result of the limited engineering and construction activities carried out during the transition of project contractors. Staff Aff. (Tomlinson), ¶ 22; Appl. Aff. (Wisenburg), ¶ 13.⁴⁴

689. The December 1, 1982 - November 30, 1983 SALP report evaluated HL&P's performance in eleven functional areas. The three rating categories are defined as follows:

Category 1: Reduced NRC attention may be appropriate. Licensee management attention and involvement are aggressive and oriented toward nuclear safety; licensee resources are ample and effectively used such that a high level of performance with respect to operational safety or construction is being achieved.

Category 2: NRC attention should be maintained at normal levels. Licensee management attention and involvement are evident and are concerned with nuclear

⁴⁴ Subsequent to the close of the Phase II record, the Licensing Board and parties received a copy of the SALP report for the period December 1, 1983, through June 30, 1985 (I&E Rept. 85-12, September 12, 1985). We are giving no weight to this report, which has not been entered into evidence.

safety; licensee resources are adequate and are reasonably effective such that satisfactory performance with respect to operational safety or construction is being achieved.

Category 3: Both NRC and licensee attention should be increased. Licensee management attention or involvement is acceptable and considers nuclear safety, but weaknesses are evident; licensee resources appear to be strained or not effectively used such that minimally satisfactory performance with respect to operational safety or construction is being achieved.

Staff Aff. (Tomlinson), ¶¶ 22-23.

690. In three of the eleven rated areas (piping systems and supports, electrical power supply and distribution, and licensing activities), HL&P was given a "Category 1" rating. In five areas (containment and safety-related structures, safety-related components, design control, quality assurance, and management control), HL&P was given a "Category 2" rating. In three areas (soils and foundations, corrective action and reporting, and material control), HL&P was given a "Category 3" rating. HL&P was not rated in two other areas (support systems and information and control systems). There were only three areas in which HL&P was rated in both of the SALP reports, and in each case the rating was the same — one each in Categories "1," "2," and "3." The area in which HL&P was rated below average ("3") in both SALP reports was that of corrective action and reporting. Staff Aff. (Tomlinson), ¶ 22; Appl. Aff. (Wisenburg and Geiger), ¶¶ 14-15.

691. Of the three functional areas in which HL&P received a below-average SALP rating of "Category 3," two represented areas that were comprehended by issues or contentions dealt with extensively in PID-I. These two areas are (1) soils and foundations and (2) corrective action and reporting. In the soils and foundations area, HL&P had been charged with one violation (83-24-02). In addition, at the time of the SALP report, another item remained unresolved (83-24-01). Furthermore, HL&P had conducted an extensive programmatic audit of backfill activities that indicated several problem areas (Appl. Exh. 68). With respect to corrective action and reporting, HL&P had also been charged with two violations (83-22-01 and 83-22-02) and one deviation (83-20-02). Furthermore, questions had been raised concerning the adequacy of HL&P's reporting in conjunction with Quadrex Report issues accepted for litigation in LBP-85-6, *supra*. Although HL&P initiated corrective actions in both areas, and although the Staff acknowledged improvements with respect to corrective action and reporting, we determined, on the basis of the affidavits, that there were material facts about which there were genuine issues in dispute concerning the competence of HL&P and its contractors in these areas.

692. One of the major areas of concern dealt with in PID-I was that of alleged harassment of QC inspectors by construction personnel. We noted that HL&P had made progress in resolving questions of this type but that, as of the close of the Phase I record, instances of harassment were still being reported. PID-I, 19 NRC at 780, Finding 223.

693. Between mid-1982 and January 1985, NRC became aware of thirteen allegations involving activities at the STP. These allegations fell into the following categories:

- 1 – Lack of Qualification of QA/QC Personnel
- 1 – Efforts in Document Control
- 3 – QA/QC Deficiencies
- 1 – Pay and Status of QC Personnel
- 1 – Falsification of Records
- 1 – Terminated for Complaining About Safety Problem
- 1 – Office of Investigations
- 3 – Improper Construction Practices
- 1 – Intimidation of QC Inspectors

Staff Aff., ¶ 21.

694. Only one of the allegations concerned harassment or intimidation of QC inspectors. HL&P investigated this allegation, and the Staff monitored the investigation. That investigation has been closed. Although the allegation was not substantiated, it identified a construction worker whose rough and direct criticisms of the work of QC inspectors may have been interpreted as intimidating. That individual was cautioned appropriately. Staff Aff., ¶ 21; Appl. Aff. (Geiger), ¶ 17(1) (a).

695. Of the other twelve allegations, eight were closed as of February 1985. With respect to allegations that had some merit, the matter designated as “efforts in document control” resulted in a Severity Level IV violation (84-07-01) and was closed in I&E Rept. 84-14 at 4. That categorized as “falsification of records” involved a violation of procedures for control of weld filler material. No safety-related welding was involved. The individual’s welding certification was withdrawn and additional disciplinary action was taken. With respect to one of the matters designated as “improper construction practices,” HL&P put an immediate hold on the work involved when it received the unsubstantiated allegation. It found the allegation to be substantiated but not representative of broad poor practice. As a result, a foreman and a general foreman or superintendent were discharged. The matter was closed in I&E Rept. 84-08, at 10-11. Staff Aff. (Tomlinson/Jaudon), ¶¶ 21, 32, 33; Appl. Aff. (Geiger), ¶ 17.

696. In September 1984, HL&P established a “Safeteam” organization, the sole function of which is to identify, investigate, report, and

dispose of items that present, former, or exiting employees believe could affect plant safety. Provision has been made for employee reports to remain anonymous, if desired. Trained investigators were hired to form this group. As of early 1985, the supervisor reported directly to the HL&P Executive Vice President; currently the Manager, Safeteam, reports to the Manager, Nuclear Assurance, HL&P's top-ranking QA official. Safeteam constitutes an investigatory organization in addition to those previously maintained by HL&P, Bechtel, and Ebasco. Staff Aff. (Tomlinson), ¶ 20; Appl. Aff. (Geiger), ¶¶ 18-19; Crocker Aff. (3/12/86), advance SER § 13.1.1.2(7).

697. The Board finds, on the basis of the affidavits before us, that intimidation or harassment of QC inspectors by construction personnel no longer appears to constitute a significant problem area at STP, that HL&P is considering and disposing of various allegations in a professional and effective manner, and that there is no evidence of any lack of competence in the handling of allegations by HL&P or its contractors since the close of the Phase I record.

698. In PID-I, we reviewed Revision 3 to HL&P's QA program for the remaining design and construction activities at the STP, dated March 9, 1982. We concluded that it met the requirements of 10 C.F.R. Part 50, Appendix B. The program has since been periodically revised, Revision 9 being the current version as of February 1985. The Applicants served each version on the Board and parties. The Applicants state that the revisions involved no relaxation of QA commitments; that Region IV has completed its review through Revision 7; and that by letter dated August 14, 1984, Region IV found Revision 7 to be acceptable. Appl. Aff. (Geiger), ¶ 21. We are aware of no information to the contrary. On the basis of the record before us, we find no reason to alter the conclusions we earlier reached concerning the QA program or to question the standards governing the implementation practices that we are here reviewing.

699. Except with respect to (1) § 50.55(e) reporting and (2) soils and foundations, the affidavits of the Staff and Applicants provide reasonable assurance, as of February 1985, that HL&P remedied the competence deficiencies that were discussed in PID-I.

2. 10 C.F.R. § 50.55(e) Reporting

700. In LBP-85-6, *supra*, 21 NRC at 460, in the course of outlining matters for adjudicatory consideration in Phase II, we said:

HL&P's system for ascertaining § 50.55(e) deficiencies, including the level and competence of the persons charged with that responsibility, are matters appropriate for adjudicatory consideration in Phase II. Changes (if any) since 1981 would also be pertinent. In that connection, HL&P's current method for trending QA violations or deficiencies to ascertain their significance, including changes (if any) since 1981, would be a matter on which we would expect the Applicants (as well as other parties who wish to do so) to present testimony.

We further delineated that issue in our Sixth Prehearing Conference Order, dated May 17, 1985 (unpublished), at 8:

In connection with the § 50.55(e) issue, we would expect the witnesses to be able to explain in some detail the operation of procedures with regard to one or more incidents that presented "close questions" as to reportability (particularly where an incident was found to be not potentially reportable and hence was not reported). In this connection, the Board may ask questions about open item 8312-01 (I&E Inspection Report 83-12, at 10, paragraph 7) (see Tr. 11,127).

701. The Applicants presented Mr. Mark R. Wisenburg, HL&P's Manager, Nuclear Licensing, to testify on this issue (Wisenburg, ff. Tr. 14,514). Mr. Wisenburg has 10 years of commercial nuclear licensing experience with the Tennessee Valley Authority (TVA) and HL&P, including considerable experience with the requirements of § 50.55(e). He also has 11 years of naval nuclear experience. He currently reviews all reportability determinations under § 50.55(e), and he prepared Revision 1 of the current HL&P reporting procedure. He has supervised the preparation of subsequent revisions of that procedure and has participated in training HL&P personnel in reporting procedures and regulatory requirements. *Id.* at 1-3. We find him well qualified to prepare such procedures and review their operation. Applicants' Exhibit 66, HL&P's procedure number PLP-02 entitled "Reporting Design and Construction Deficiencies to NRC," and Exhibit 66a, a minor revision thereto, were admitted into evidence on this issue (Tr. 14,516).

702. The NRC Staff witnesses who addressed this issue were Mr. H. Shannon Phillips, Senior Resident Inspector at the STP site from September 1979 to January 1982 (Phillips, ff. Tr. 15,116) and Mr. Donald L. Garrison, currently the Resident Construction Inspector at STP (Garrison, ff. Tr. 15,110). During his tenure at STP, Mr. Phillips routinely inspected HL&P's system for reporting deficiencies (Phillips, ff. Tr. 15,116, at 2). Mr. Garrison has routinely inspected the present system and has recently performed a detailed study of the functioning of that system (Garrison, ff. Tr. 15,110, at 1-2, 4; Tr. 15,128, 15,167-68 (Garrison)). The Staff also presented as exhibits two Bechtel documents telling how that organization handles deficiency reporting, one entitled

“General Project Requirements Reporting Significant Deficiencies, Federal Regulation 10 C.F.R. Part 50.55(e)” (Staff Exh. 143) and the other entitled “Review of Nonconformance Reports for Deficiency Evaluation” (Staff Exh. 144).

703. Mr. Garrison summarized the procedures in Staff Exhibits 143 and 144 (Garrison, ff. Tr. 15,110, at 2-4). He testified that the process meets the requirements of § 50.55(e) and conforms to the requirements of Staff guidance contained in Staff Exhibit 137 (Garrison, ff. Tr. 15,110, at 4-5). There have been no deficiencies observed in the HL&P reporting system since 1983 (*id.* at 5).

704. Mr. Phillips testified that, during the period when he was Senior Resident Inspector at the STP, he found HL&P forthright in identifying deficiencies and reporting them to NRC (Phillips, ff. Tr. 15,116, at 3). The utility reported a large number of deficiencies even when it could have taken an approach that would have resulted in fewer reports (*id.*). He was impressed by HL&P’s sincere desire to do a good job even though its inexperience or oversight sometimes led to violations of § 50.55(e) reporting requirements (*id.* at 3-4). He has concluded that remedial steps taken since 1981 are adequate and reflect positively on HL&P’s character (*id.* at 4).

705. The present STP procedure governing reportability under § 50.55(e) vests the responsibility for evaluation and reporting in HL&P (Appl. Exh. 66; Wisenburg, ff. Tr. 14,514, at 3-4; Garrison, ff. Tr. 15,110, at 2-4). Procedures are also in effect defining the responsibilities of Bechtel and Ebasco personnel for identifying and evaluating deficiencies (*id.*).

706. Any HL&P employee who becomes aware of a condition that may constitute a deficiency is required promptly to prepare a Deficiency Evaluation Form (DEF) describing the condition (Appl. Exh. 66 at 8, 15-17). Once the DEF is prepared it is evaluated by HL&P Engineering. If Engineering determines that no deficiency exists, the basis for that determination is documented in the DEF; if a deficiency does exist, the DEF is transmitted to the chairman of the Incident Review Committee (IRC). A similar process for Bechtel employees provides for the initiation of a Deficiency Evaluation Report (DER) whenever a significant deficiency is identified, and HL&P is notified regardless of whether Bechtel’s evaluation determines that a reportable deficiency exists. Ebasco employees are responsible for bringing conditions that may represent significant deficiencies to Bechtel’s attention. Wisenburg, ff. Tr. 14,514, at 4-5. In the Bechtel procedure, even if the evaluation determines that a deficiency is insignificant (as well as nonreportable), it is in-

formally forwarded to HL&P (*id.* at 10; Tr. 14,517-18, 14,530-31, 14,576-77 (Wisenburg)).

707. The IRC is chaired by Mr. Michael Powell, HL&P's Supervisory Engineer, South Texas Project Licensing (Wisenburg, ff. Tr. 14,514, at 5). Mr. Wisenburg testified as to Mr. Powell's background and qualifications. Mr. Powell's education includes a B.S. degree in electrical engineering and an M.S. degree in nuclear engineering. He has 7 years of nuclear licensing experience. *Id.* at 6. Absent any evidence to the contrary, we find Mr. Powell qualified and competent to chair the IRC.

708. HL&P's Project QA Supervisor, Mr. Paul Ratter, also sits on the IRC. He has 14 years of commercial QA/QC experience, has participated as a utility representative in the development of performance objectives and criteria for construction evaluations for the Institute of Nuclear Power Operations (INPO) and holds certificates as an ANSI Level III Inspector in Procurement, a Lead Auditor, a Quality Inspector Mechanical and a Level II Inspector in a number of nondestructive examination techniques (*id.* at 7). We find him well qualified to sit on the IRC.

709. In addition, the IRC includes an engineering representative cognizant in the discipline affected by the condition being evaluated and other individuals familiar with the matters being evaluated who are designated by the chairman on a case-by-case basis (*id.* at 5). Both the chairman and the QA Supervisor may designate others to sit in their stead when they are not available during the 24-hour period allowed for a determination and notification to NRC (*id.*). The Group Vice President, Nuclear (Mr. Goldberg) may also convene an *ad hoc* committee to perform an evaluation under § 50.55(e) (*id.* at 6; Appl. Exh. 66 at 5; Tr. 14,550-52 (Wisenburg)).

710. When the IRC is notified of a significant deficiency, it conducts an initial evaluation to determine whether the deficiency is reportable (or at least potentially reportable) or not. If it is reportable, the IRC chairman is responsible for notifying the Group Vice-President, Nuclear, and the Manager, Nuclear Licensing, and notifying the NRC within 24 hours. Wisenburg, ff. Tr. 14,514, at 7-8; Appl. Exh. 66 at 7, 9. Either the Manager, Nuclear Licensing, or the Group Vice-President, Nuclear, concurs with the IRC determination and ensures that sufficient information is provided to the NRC. If neither of these officials is available, the chairman of the IRC notifies the NRC directly. The reason for this procedure is to provide for informing HL&P executive management so that management can respond to NRC inquiries immediately. Tr. 14,552-53 (Wisenburg). Messrs. Wisenburg, Goldberg, and Cloin Robertson (HL&P's former Licensing Manager) all testified that they had not, in any instance, overruled an IRC determination to notify the

NRC of a condition that IRC deemed either reportable or potentially reportable (Tr. 14,553-54 (Wisenburg); Tr. 12,288 (Goldberg); Tr. 14,721-24 (Robertson)).

711. After notifying the NRC of a reportable or potentially reportable condition, the IRC chairman initiates a technical evaluation to confirm the reportability of the condition. The technical evaluation is performed by a group with expertise as needed, designated on a case-by-case basis by the chairman. During both the initial evaluation and the technical evaluation, the chairman completes an IRC evaluation checklist documenting the determination with respect to the specific criteria of § 50.55(e). Wisenburg, ff. Tr. 14,514, at 8; Appl. Exh. 66 at 7, 10, 18-20. If the technical evaluation confirms that the deficiency is reportable, a written report is prepared and sent to NRC within 30 days. The Manager, Nuclear Licensing, reviews such reports and the Group Vice-President, Nuclear, signs them. Wisenburg, ff. Tr. 14,514, at 8-9; Appl. Exh. 66 at 11, 21. If the technical evaluation shows that the matter is not reportable, the finding of nonreportability is confirmed by the IRC, the justification for that finding is documented, and NRC is verbally notified within 30 days. A written report is subsequently prepared for NRC. Wisenburg, ff. Tr. 14,514, at 9; Appl. Exh. 66 at 11. If the technical evaluation cannot be completed in 30 days, an interim report is prepared and sent to NRC (Wisenburg, ff. Tr. 14,514, at 9-10).

712. To ensure that those matters that are not reviewed by IRC do not, in fact, include reportable deficiencies, the IRC chairman periodically convenes the IRC to review those DEFs that were previously deemed not to warrant IRC review. Further, Bechtel DERs that were determined not to represent significant deficiencies are informally reviewed by HL&P Licensing and Engineering. Wisenburg, ff. Tr. 14,514, at 10.

713. There have been some changes since May 1981 in HL&P's procedures for reporting deficiencies, but they have not been fundamental changes. In 1981 there was no requirement for preparation of a DEF, but procedures both then and now require that any individual becoming aware of a possible deficiency bring the matter to the attention of appropriate supervisory personnel, who will then initiate IRC review. Both procedures provide for IRC review and reporting within the time limits of § 50.55(e). Differences include changes in the individuals responsible for reviews and elimination of a previous requirement that the NRC Resident Reactor Inspector be notified when NRC Region IV is notified. (HL&P does, however, continue to keep the Resident Reactor Inspector informed of reportable items.) Wisenburg, ff. Tr. 14,514, at 10-11. The present system also provides greater detail in the documentation and

records of matters that are determined not to warrant reporting to NRC (Tr. 14,557-65 (Wisenburg)).

714. As requested in LBP-85-6 (*see* Finding 700, *supra*), the Applicants described the trending procedure that HL&P uses to ensure that a number of conditions, each nonreportable, will not constitute a quality assurance breakdown when taken together. The trending program provides for review of all deficiency documents, DERs and DEFs, against the criteria of § 50.55(e) to determine whether, taken together, they may be reportable. All deficiency documents generated by HL&P, Bechtel, and Ebasco are collected, coded, and analyzed to determine whether, taken together, they show a trend. Whenever a trend is identified, the condition is evaluated by HL&P Quality Assurance for reportability under § 50.55(e). If there appears to be a reportable condition a DEF is initiated and sent to the IRC. To determine whether a trend exists, deficiency reports are coded by company, organization, discipline or group, activity (such as soils, receiving, or cadwelding) and deficiency type (such as drafting deficiencies, fabrication errors, or interferences). Deficiencies are normalized against criteria such as person-hours, quantities installed, and hours of inspection time. A summary of trends identified is included in monthly reports distributed to HL&P's upper level management. Quarterly trend reports are maintained and controlled as QA records. Wisenburg, ff. Tr. 14,514, at 16-18.

715. In our Sixth Prehearing Conference Order, we noted that we would expect witnesses at this hearing to explain in some detail the operation of procedures concerning incidents that presented "close questions" as to reportability. In particular, we anticipated asking questions about open item 83-12-01 in I&E Report 83-12. *See* Finding 700, *supra*. Mr. Wisenburg addressed this matter for the Applicants (Wisenburg, ff. Tr. 14,514, at 13-16). The Staff presented the testimony of Messrs. Eric H. Johnson and George L. Constable (Johnson/Constable, ff. Tr. 14,846, at 12-13).

716. Item 83-12-01 concerned the apparent omission of proper references to certain QA standards in procurement documents issued by Bechtel. The matter had originally surfaced in two audit reports. An NRC inspector, noting reports of these omissions, suggested that the matter might be reportable under § 50.55(e) as a QA breakdown. Wisenburg, ff. Tr. 14,514, at 15; Johnson/Constable, ff. Tr. 14,846, at 12-13. A DEF was prepared and reviewed by the IRC, which concluded that there had been no QA breakdown (Wisenburg, ff. Tr. 14,514, at 15). Subsequent review by NRC indicated there was no breakdown in the Bechtel QA program (Johnson/Constable, ff. Tr. 14,846, at 13). It appears that, although HL&P's standard practice was different from Bech-

tel's and would have led to inclusion in the procurement documents of somewhat different standards, Bechtel had followed its own NRC-approved QA program (Wisenburg, ff. Tr. 14,514, at 16). NRC had based its original concern solely on review of the audit documents. Additional information, available but not reviewed by the NRC inspector, showed later that no QA breakdown had occurred. Johnson/Constable, ff. Tr. 14,846, at 13.

717. CCANP offered no evidence to contradict the conclusion that HL&P's current practices for identifying and reporting deficiencies under § 50.55(e) are in full compliance with both the letter and the spirit of the regulation. CCANP does, in its proposed findings, question Mr. Goldberg's competence in applying the regulation. CCANP also suggests that the handling of the Quadrex Report reflects badly upon HL&P's competence in these matters (CCANP FOF-II, PF III.213, III.215-III.216). We find no factual basis whatsoever for CCANP's position. The minor difference of opinion that we have with HL&P's reporting of one Quadrex Report finding (*see* Findings 518-522, *supra*) represents a difference of professional judgment on a close call and does not reflect adversely on the procedure utilized. The deficiency that we discuss in conjunction with the soils issue (Finding 735, *infra*) does not appear to be systemic but rather appears to represent an anomaly. Moreover, HL&P (and Bechtel) have proposed a remedy for the situation that caused the deficiency, one we believe should prove effective (*id.*). Both HL&P's present reporting procedures and the procedure utilized by HL&P for evaluating the Quadrex Report under § 50.55(e) reflect very positively upon HL&P's character and competence.

3. *Soils and Foundations*

718. In our Phase I decision on Issues B and D, we required the Staff to report to us in Phase II on the performance of HL&P and its new contractors (Bechtel and Ebasco) since the close of the Phase I record (LBP-84-13, *supra*, 19 NRC at 697, 700). Subsequently, we ordered a hearing in Phase II on HL&P's competence regarding soils questions, as raised in the Staff's 1984 Systematic Assessment of Licensee Performance (SALP) report and other HL&P and Staff documents described in LBP-85-9, *supra*, 21 NRC at 529-31. The soils questions were admitted as Issue B/D-1, stating more specifically:

Is there reasonable assurance that the backfill placed at STP by Ebasco is in conformity with the construction permits and the provisions of Commission regulations in light of the two violations in the area of "soils and foundation" discussed in I&E Rept. 83-26 (dated April 20, 1984) and findings 23 and 24 in the programmatic audit filed by HL&P on May 25, 1984 (ST-HL-AE-1095)?

Sixth Prehearing Conference Order (Further Definition of Phase II Issues), dated May 17, 1985 (unpublished), at 8.

719. The Applicants and NRC Staff each presented witnesses with direct testimony on Issue B/D-1 and submitted proposed findings of fact concerning matters covered by that issue (Jordan *et al.*, ff. Tr. 13,645; Tapia, ff. Tr. 13,752). CCANP offered neither direct testimony nor proposed findings of fact on Issue B/D-1. All witnesses were subjected to cross examination by the parties and the Board (Tr. 13,653-749 (Jordan *et al.*); Tr. 13,753-812 (Tapia)).

720. I&E Report 83-26 (dated April 20, 1984) describes NRC's SALP of the South Texas Project covering the period December 1, 1982, through November 30, 1983 (Crossman *et al.*, Joint Affidavit, dated December 31, 1984, as corrected January 24, 1985, at 10-11; Findings 688-691, *supra*). In that report, HL&P's activities in the area of soils and foundations were classified as "Category 3," the lowest of the three categories. Such classification indicates that, in this area, performance was only minimally satisfactory, that management's attention or involvement was acceptable but that weaknesses were evident that required increased NRC and HL&P attention (*see* Finding 689, *supra*). Although no violations or deviations were reported during the period covered by the SALP, the report states that two violations subsequently were identified relating to activities that had been ongoing during the appraisal period. Sixth Prehearing Conference Order, *supra*, at 8-9; Tapia, ff. Tr. 13,752, at 2; Jordan *et al.*, ff. Tr. 13,645, at 7, 10, 18. The nature and significance of these violations, as well as the reactions of HL&P management and other personnel to them, were addressed in detail by the witnesses for HL&P and the Staff (Finding 719, *supra*).

721. HL&P presented a panel of witnesses consisting of Mr. Thomas J. Jordan, HL&P's Project QA Manager; Mr. Alfredo Lopez, Bechtel's Civil/Structural Engineering Group Supervisor for the STP; and Mr. Walter R. Ferris, a geotechnical consultant to Bechtel Civil & Minerals, Inc. Mr. Jordan received a B.S. degree in Nuclear Engineering from Texas A&M University in 1975. Since 1976, he has worked for HL&P in several QA positions and in 1984 was promoted to his present one, with responsibility for ensuring proper planning, development, implementation, coordination, and administration of the STP QA program. Mr. Lopez received his B.S. degree in Civil Engineering in 1964 and his M.S. degree in Structural Engineering in 1966, both from the University of California, Berkeley. He worked as a senior structural engineer for Fluor Corporation from 1966 until he joined Bechtel in 1972 as an Engineering Group Leader at the San Onofre Nuclear Generating Station. His work

there included responsibility for seismic dynamic analysis, general structural analysis and design, and technical interface with fabricators and equipment suppliers. He was subsequently promoted to Civil/Structural Engineering Group Supervisor and, in 1982, was assigned to the STP site as Civil/Structural Engineering Group Supervisor. He is a Registered Professional Engineer in California. Mr. Ferris received a B.S. degree in Civil Engineering from Queens University, Belfast, Northern Ireland, in 1951, and the S.M. degree in Soil Mechanics from Harvard University in 1955. He has extensive experience in soil mechanics and the design of dams, foundations, airfields, and highways. He has consulted on and participated in the preparation of foundation reports and earthwork studies for many nuclear and fossil fuel plants in the United States and other countries. He is a Registered Professional Engineer in Minnesota and California and is a member of various professional organizations. Jordan *et al.*, ff. Tr. 13,645, at 1-6. We find that the three witnesses are qualified to testify on this issue.

722. The NRC Staff presented the testimony of Mr. Joseph I. Tapia, an NRC Reactor Inspector. He appeared before this Board during Phase I, and his qualifications were presented and accepted at that time. Tapia, ff. Tr. 13,752; Crossman *et al.*, ff. Tr. 10,010, Professional Qualifications of J.I. Tapia; Tr. 10,004 (Tapia). Mr. Tapia was responsible for identifying and documenting the violation and the unresolved item described in I&E Report 83-26 and for evaluating Findings 23 and 24 of the programmatic audit filed by HL&P on May 25, 1984, which are of special interest in Issue B/D-1 (Tapia, ff. Tr. 13,752, at 1-2). He is well qualified to testify on this issue.

723. Mr. Jordan explained the roles of the four organizations that participate in Category I backfill activities at the STP. As the licensee, HL&P is responsible for ensuring that those activities meet all applicable regulatory and project requirements. It exercises those responsibilities by providing direction and oversight to the project contractors and by performing QA audits, surveillance, and inspections. Bechtel issues design documents, approves working procedures of contractors, performs audits and surveillance of implementation, and verifies performance of the testing contractor in testing backfill material. Ebasco Constructors, Inc., and Ebasco Services, Inc. (Ebasco) place and inspect backfill; supervise construction work; conduct audits, inspections, and surveillance; and provide direction to the testing contractor concerning the number and location of tests to be performed. Pittsburgh Testing Laboratory (PTL) is the testing contractor and is responsible for performing field and laboratory tests of the backfill. Jordan *et al.*, ff. Tr. 13,645, at 7-8 (Jordan).

724. About 2,000,000 cubic yards of Category I backfill were placed by B&R and about 200,000 cubic yards have been placed by Ebasco. Most of the backfill placed by Ebasco has been in areas around the essential cooling water (ECW) intake and discharge structures, and small excavations for piping connections into buildings and for miscellaneous facilities within the power block. Virtually all of the backfill supporting Category I buildings within the power block was placed by B&R. As of July 1985, only about 106,000 cubic yards of Category I backfill remained to be placed, mostly in small amounts around various structures outside the power block. There is no single area in which future backfill work is expected to exceed 5000 cubic yards and no Category I backfill remains to be placed under a major structure in the power block. Jordan *et al.*, ff. Tr. 13,645, at 8-10 (Lopez).

725. The first violation was reported in Notice of Violation 83-24-02, derived from I&E Report 83-24, and was classified at Severity Level IV. It involved a failure to follow the standard laboratory test method for determining minimum density of backfill. The Bechtel specification for testing compaction of Category I backfill was based on the procedure specified in Standard D2049-69 of the American Society for Testing and Materials (ASTM), "Relative Density of Cohesionless Soils," which requires use of a funnel pouring device in the minimum density test for soil samples having a maximum soil particle size of 3/8 inch. Contrary to the requirement, backfill of that size was tested for minimum density using the scoop method. Jordan *et al.*, ff. Tr. 13,645, at 10 (Jordan, Lopez); Tapia, ff. Tr. 13,752, at 2-3; Appl. Exh. 67 at 1. PTL had been directed by Bechtel, in a letter dated April 6, 1983, to modify its test procedure to implement use of the scoop for all samples. That decision was based on Bechtel's evaluation that the scoop method was acceptable for determining soil minimum density of the STP backfill. The change violated required procedures because no corresponding change was made in the applicable construction specifications and no FSAR change was generated for review by HL&P. Appl. Exh. 67 at 1.

726. In response to the Notice of Violation, PTL was directed to perform future minimum density tests in strict conformance with ASTM D2049-69. Engineering evaluations were performed to determine the technical adequacy of using the scoop instead of the funnel for testing STP Category I backfill and the adequacy of STP backfill placed after the change in test procedure on April 6, 1983. Appl. Exh. 67 at 2; Jordan *et al.*, ff. Tr. 13,645, at 11 (Jordan). HL&P also initiated an investigation to determine whether similar improper changes in procedures through letters or memoranda, without corresponding changes in specifications,

had occurred in other instances. The review of Bechtel interoffice memoranda, requests for engineering action, meeting notes, and other correspondence, totalling about 2000 documents, disclosed that no other such instances occurred. Appl. Exh. 67 at 5-6. Further, HL&P management initiated a comprehensive programmatic/technical audit of Category I backfill activities at STP (see Finding 741, *infra*) (Appl. Exh. 67 at 6; Appl. Exh. 68; Jordan *et al.*, ff. Tr. 13,645, at 11-12 (Jordan)).

727. The geotechnical consultant to Bechtel (Mr. Ferris) testified that the minimum density of soil is the loosest possible state of density that it can achieve, with the particles in grain-to-grain contact and without segregation of particle sizes or arching (Jordan *et al.*, ff. Tr. 13,645, at 12 (Ferris); Tr. 13,687-89 (Ferris)). He stated that, accordingly, the laboratory method resulting in the lowest soil density should be judged as the one that is most representative of the actual minimum soil density. With the Category I backfill at the STP, the scoop method produces minimum density values that are 1.3 to 3.3 pounds per cubic foot (lb/ft³) lower than those produced by the funnel method. This suggests that values determined with the scoop more closely reflect actual minimum densities of the backfill, making that the method of choice. Jordan *et al.*, ff. Tr. 13,645, at 14-15 (Ferris). Further, an expert committee report submitted to this Board in Phase I concluded that "there is considerable evidence that the minimum density [of STP Category I backfill] may actually be somewhat lower than determined by the [scoop] method" (*id.* at 15; Appl. Exh. 6). Mr. Ferris concluded that, in his professional judgment, "the scoop method provides technically valid, consistent and more representative minimum density values than the funnel method" (Jordan, ff. Tr. 13,645, at 15, 18; Tr. 13,711-12 (Ferris)).

728. The minimum density, in-place density, and maximum density are determined and used to calculate "relative density" of the compacted backfill. This parameter is used to judge compaction in fills to evaluate their acceptability for bearing loads and preventing liquefaction during earthquakes. For the STP, the criteria governing Category I structural backfill are a minimum relative density of 80% and a running average (or moving average) relative density of at least 84%. The purpose is to provide a stable foundation support for Category I buildings under all loading conditions and to ensure their satisfactory performance during the life of the plant, including consideration of bearing capacity, settlement, and safe shutdown earthquake (SSE). For yard backfill outside the power block, the STP criterion is a minimum relative density of 70%, to provide a margin of safety against liquefaction during an SSE

event. Jordan *et al.*, ff. Tr. 13,645, at 12-13, 17 (Ferris); Tr. 13,687-89 (Ferris); Appl. Exh. 67 at 2; Tr. 13,730 (Lopez).

729. In calculating the relative density, lower minimum density values result in higher relative densities. Accordingly, use of the scoop method, which produced lower measured values of minimum densities, resulted in higher calculated values of relative density and made it easier to satisfy the design criteria than would have been the case had the funnel method been used. Jordan *et al.*, ff. Tr. 13,645, at 13-14 (Ferris); Tapia, ff. Tr. 13,752, at 3. Comparison of the two test procedures revealed that calculations using data based on the funnel method resulted in more conservative values for the relative density of STP backfill — generally about 4-6% lower than the relative densities calculated with data obtained by the scoop method (Appl. Exh. 67 at 2; Tapia, ff. Tr. 13,752, at 3).

730. The probable impact of using the scoop method was analyzed to assess its effect on calculated values of relative densities of STP backfill. The minimum density values obtained with the scoop method between April 6, 1983, and February 3, 1984, were increased by 3.3 lb/ft³ (see Finding 727, *supra*) and then used to calculate conservative estimates of relative densities that could have been obtained using the funnel method. The lower relative density values obtained in this fashion were compared with the STP criteria outlined in Finding 728, *supra*. Jordan *et al.*, ff. Tr. 13,645, at 16 (Ferris); Tapia, ff. Tr. 13,752, at 3; Appl. Exh. 67 at 2; Tr. 13,700 (Ferris). For structural backfill, this analysis produced 185 relative density values falling below the 80% criterion (4 of which were found to be below 70%) out of 1134 total determinations (Tr. 13,699-700 (Ferris); Tapia, ff. Tr. 13,752, at 3). With respect to the requirement for running average relative densities to exceed 84%, it was determined that 122 of the recalculated values fell below that criterion (Jordan *et al.*, ff. Tr. 13,645, at 16 (Ferris); Tr. 13,705-08 (Ferris)). Of the 2351 test values for Category I yard backfill, 255 were below the minimum relative density criterion (Jordan *et al.*, ff. Tr. 13,645, at 16 (Ferris)). Mr. Tapia, the NRC Staff witness, concurred with this method for re-evaluating the data (Tr. 13,773-74 (Tapia)).

731. Mr. Ferris conducted another analysis in which he determined the percent compaction, which is the relationship between in-place density and maximum density, using data for the 185 samples that were below 80% relative density. He found that, of the 185 tests, 1 resulted in a value of 94% compaction, 2 in 95%, 46 in 96%, and 136 in 97%. He then determined a correlation between percent compaction and relative density, using data for the 1 year in which the funnel method had been

used to measure minimum density. Using that correlation and the percent compaction results for the 185 low values in the period during which the scoop method had been used, he determined that 136 of those 185 values actually corresponded to 80% relative density based on use of the funnel method. Forty-six were 75% relative density and two were 70%. The one remaining test produced a value of 65%, but the in-place density of 116.1 lb/ft³ was, in his judgment, inconsistent with other fill data, leading him to suggest that the single 65% value probably was in error and should be discarded. He concluded that the fill "has 80% relative density with a small number of widely-distributed tests slightly less than that." Tr. 13,701-03 (Ferris). The other members of the panel and Mr. Tapia agreed with the method by which the data had been analyzed (Tr. 13,703 (Lopez, Jordan); Tr. 13,772-74 (Tapia)).

732. On July 30, 1985, HL&P reported to NRC that its initial response to Notice of Violation 83-24-02, dated March 23, 1984, contained errors in plotting the locations of backfill relative density tests (Tr. 13,647-51 (Jordan, Lopez); Tr. 13,668-69 (Lopez)). The corrected plots revealed that one relative density test value below 80% is for a backfill location below the bearing foundation of a Category I structure (Appl. Exh. 67, Cover Letter at 1, and Attachment at 3). That value (78.7% relative density) is for a location below the foundation of the Unit 2 Auxiliary Feedwater Storage Tank (AFST). This situation is viewed by HL&P as acceptable because (1) the AFST is a relatively light structure that produces very low soil-bearing pressure and (2) the in-place density of 120.4 lb/ft³ and the percentage compaction of 97% (in-place density divided by maximum density) for backfill at the test location both are representative of a relative density of 80%. Appl. Exh. 67 at 2-3. Mr. Ferris, in response to Board questions, stated that he does not regard the feedwater tank as a "building" but as a "structure." In any event, he is convinced that the low value obtained below the tank (78.7% based on calculation using the adjusted minimum density) actually represents a relative density of 80%. Tr. 13,703-04, 13,726-27 (Ferris). Furthermore, even if all of the soil below the tank had a relative density as low as 70%, he believes there should be no concern, because the ultimate bearing capacity of the soil would far exceed the applied loads. He judges that with 70% relative density there would be an increase in settlement of a fraction of an inch, but that would not affect performance of the tank and there would be no differential settling that could cause a structural problem. Tr. 13,726-28 (Ferris). In Mr. Tapia's judgment, the difference between the required value of 80% and the observed value of 78.7% is insignificant. In fact, he feels that a value of 75% would be satisfactory. He states that the value of 80% includes a very large margin of

safety against compaction or bearing failures and that the backfill material is good. Tr. 13,775-79 (Tapia). After careful review of the testimony and responses to questions posed by the parties and the Board, we concur that the single value of 78.7% relative density under the AFST provides no reason for concern about safety.

733. The plotting errors that were reported and corrected in Applicants' Exhibit 67 (see Finding 732, *supra*) also revealed that five relative density test values lower than 80% were for locations under the truck loading bay of the Unit 2 Mechanical Electrical Auxiliary Building (MEAB) (Appl. Exh. 67, Cover Letter at 1; Tr. 13,641 (Ferris)). Mr. Ferris stated that the bay should be considered as an appendage to the MEAB. It will be constructed as a slab supported on foundations that rest on compacted fill below the levels at which the lower relative density values were identified. Accordingly, the slab does not derive any support from compacted soil having a relative density less than 80%. In his judgment, based on evaluation of the reported degrees of soil compaction, the relative densities of three of the points are 75% and the remaining two are 80%. Tr. 13,696-97, 13,704, 13,710 (Ferris). Mr. Tapia testified that piers supporting the truck loading bay all derive their foundation bearing from levels below the elevation of the tests (Tr. 13,774, 13,779-84 (Tapia)). We conclude that no safety problem is indicated by the five observations that are below 80% relative density.

734. The locations for the remaining relative densities that are below specifications are random, and each is of very limited extent within a larger body of denser material (Appl. Exh. 67 at 3; Tapia, ff. Tr. 13,752, at 4; Tr. 13,708-11 (Lopez, Ferris); Tr. 13,718-19 (Ferris)). The four test values below 70%, which are the lowest ones, are located near the surface and away from any structure (Tapia, ff. Tr. 13,752, at 4). Mr. Tapia indicated that the factor of safety against liquefaction for all of the test locations, after adjustment to compensate for using the scoop method, is above 1.7 and that this is an acceptable margin of safety (Tapia, ff. Tr. 13,752, at 4). Mr. Ferris stated that the factor of safety against liquefaction for all tests exceeds 1.6, and that 99% of the values exceed 1.7. These factors of safety are viewed by both Mr. Ferris and Mr. Tapia as providing an ample margin above the conservative value of 1.5, which is well-established in the nuclear industry. Jordan *et al.*, ff. Tr. 13,645, at 17 (Ferris); Tr. 13,695 (Ferris); Tapia, ff. Tr. 13,752, at 4. We concur and find that the deviation from the ASTM method described in this violation and the compaction attained in the backfill do not adversely reflect on safety of the facility against failures in bearing, differential settling, or liquefaction.

735. The HL&P witnesses attributed the plotting error to a failure to use controlled drawings in responding to the Notice of Violation and acknowledged that their procedures should have prevented it from occurring. They indicated that Bechtel's engineering judgment was that drawings and other documentation used in responding to a notice of violation should be subject to the same controls and checks as are those used for construction and that Bechtel management has decided to take steps in that direction. Tr. 13,722-24 (Lopez). The Staff also viewed as a problem the failure to use controlled drawings in responding to the Notice of Violation (Tr. 13,786-88 (Tapia)). We agree. The requirement for this change in procedure had not been implemented at the time of hearing (Tr. 13,724 (Lopez)). Although we have not found systematic deficiencies in the overall methodology used by HL&P in reporting or responding to notices of violation, we strongly recommend that the planned change in procedure be put into effect. *See* Opinion, *supra* p. 645.

736. On the basis of the testimony presented before us, including the results of cross- and Board examinations, we conclude that this violation does not result in any safety problem and that there is reasonable assurance that the backfill conforms with the requirements of the construction permits and NRC regulations.

737. The second violation referred to in I&E Report 83-26 concerned Ebasco's procedure for QC inspections of the backfill operations. A specific concern was that the procedure only required daily monitoring of backfill operations and that this could leave too much potential for inadequate QC inspections. In addition, the one inspection form required for each day was inadequate because the specific locations of the QC inspections could not be determined. This was viewed as representing a failure by HL&P to rectify issues raised in the April 30, 1980 Show-Cause Order concerning adequacy of backfill operations. Tapia, ff. Tr. 13,752, at 4. Actually this was not classified as a violation, in the final analysis, but as Unresolved Item 83-24-01 (Jordan *et al.*, ff. Tr. 13,645, at 18-19 (Jordan)).

738. Although the QC procedure only required daily monitoring, Ebasco QC personnel had, in fact, been inspecting virtually every significant lift on every work shift during the time that Ebasco had been placing safety-related backfill at STP. The QC staff was adequately monitoring placement activities. Jordan *et al.*, ff. Tr. 13,645, at 19; Tapia, ff. Tr. 13,752, at 5; Tr. 13,653-54 (Jordan); Tr. 13,689-93 (Jordan, Lopez).

739. In response to this unresolved item, the Ebasco QC procedure was changed to provide increased inspection verification and documentation. This made it conform more closely with Ebasco's actual practice by requiring that inspection of backfill placement be conducted on at least

one lift per area, per work shift. The NRC Resident Inspector reviewed the changes and closed this unresolved item in Inspection Report 85-04. Tapia, ff. Tr. 13,752, at 4-5; Jordan *et al.*, ff. Tr. 13,645, at 19-20 (Jordan).

740. Mr. Tapia stated that the technical significance of his observation was minor because QC inspection had been occurring, although the procedure was weak; and that, more importantly, the acceptance of backfill material was based on in-situ testing of the compacted backfill. Test locations were selected in an unbiased manner and gave representative samples of field conditions. He concluded that the backfill placement had been systematic, considering the properties of the backfill material, the construction process, and the results of in-place density tests. Tapia, ff. Tr. 13,752, at 5. No question was raised as to the adequacy of the backfill resulting from this situation (Jordan *et al.*, ff. Tr. 13,645, at 19-20; Tapia, ff. Tr. 13,752, at 5-6).

741. Violation 83-24-02 and Unresolved Item 83-24-01 were similar, generically, to deficiencies reported in the 1980 Show-Cause Order, leading to a decision by HL&P management to perform a comprehensive programmatic audit of licensing and criteria documents, FSAR commitments, specifications, testing procedures, test data results, and QC procedures of all organizations associated with Category I backfill activities. The audit was completed on April 3, 1984, and submitted to NRC under letter of May 25, 1984. Jordan *et al.*, ff. Tr. 13,645, at 11-12 (Jordan); Appl. Exh. 68.

742. Finding 23 of the programmatic audit states:

The Soils Inspection Procedure does not provide criteria on density variation with depth to enable QC to determine the correct location for testing as required by Specification 3Y069YS0043 and the FSAR. Therefore, the field test elevation selection process does not give representative density information for all depth intervals within the lift.

Appl. Exh. 68 at 8; Jordan *et al.*, ff. Tr. 13,645, at 20-23 (Jordan); Tapia, ff. Tr. 13,752, at 5-6.

743. Finding 24 of the programmatic audit states:

The Soils Inspection Procedure does not require test depths to be recorded and thus no evidence, in general, can be provided to demonstrate backfill installed by Ebasco has been tested at the required depth. Specifically, no evidence exists to demonstrate tests below the 30-inch diameter ECW pipes are taken at a depth of 7 inches below the invert. Additionally, test depth information has not been provided by PTL.

Appl. Exh. 68 at 9; Jordan *et al.*, ff. Tr. 13,645, at 24 (Jordan); Tapia, ff. Tr. 13,752, at 5-6.

744. The FSAR required that testing depths be selected to provide representative density information for all depth intervals within the lifts. The Bechtel specifications, in turn, required that test depths be distributed to obtain the true condition of the backfill. The QC inspection procedure stated simply that testing should be performed in accordance with the specification. The concern of HL&P, reflected by audit finding 23, was that the inspection procedure did not provide sufficient instruction to QC inspectors as to the depth within a lift at which testing of soil density should be performed to ensure representative in-place density data for depth intervals within the lifts. Jordan *et al.*, ff. Tr. 13,645, at 21-22 (Jordan). HL&P's concern with audit finding 24 was that the Ebasco procedure did not require that the test depths be recorded, and that test depth information was not being provided to PTL for inclusion in the test reports. Actually, however, Ebasco was recording the elevation of the lift in which the sample was taken. Jordan *et al.*, ff. Tr. 13,645, at 23-24 (Jordan); Tapia, ff. Tr. 13,752, at 5-6.

745. The witnesses testified that variations of in-place density within backfill lifts are so small when the lift is overlaid by another lift that soil density determined at any depth within a lift will be representative of that lift. This has been confirmed through tests run at different depths within lifts at the STP. Also, QC inspectors vary the depths at which the density tests are performed, providing further assurance that the information obtained is representative. Jordan *et al.*, ff. Tr. 13,645, at 22-23 (Ferris); Tr. 13,725-26 (Ferris); Tr. 13,790-95 (Tapia). Further, the adequacy of STP backfill is evaluated on the basis of the overall horizontal and vertical distribution of test sample locations and a failure to obtain information on the depth of samples within each lift would not raise doubts about the adequacy of the backfill (Jordan *et al.*, ff. Tr. 13,645, at 23 (Ferris); Tr. 13,790-95 (Tapia)).

746. Because the requirement to obtain density information at all depth intervals within each lift was deemed to be overconservative, the response to finding 23 was to change the FSAR to state that testing must be done so that representative density information is obtained for all lifts within the fill, instead of for various depth intervals within each lift. Also, the specification was modified correspondingly and to require that test locations be selected to ensure that their lateral and vertical distributions provide information on the true condition of the backfill. Jordan *et al.*, ff. Tr. 13,645, at 23 (Lopez, Jordan); Tapia, ff. Tr. 13,752, at 5. This requirement left the selection of depth to the judgment of the inspector. The specified testing technique was observed by Mr. Tapia, who found it satisfactory. Tapia, ff. Tr. 13,645, at 5.

747. Ebasco had been recording the elevation of lifts within which samples were taken, giving sufficient information to permit judging the quality of the fill. Accordingly, the response to finding 24 consisted simply of changing the specification and inspection procedure to require that the test depths be recorded and that Ebasco provide that information to PTL for inclusion in the test reports. Jordan *et al.*, ff. Tr. 13,645, at 25 (Jordan).

748. With respect to findings 23 and 24, Mr. Tapia stated that the fact that depth criteria did not exist and documentation was not occurring, as noted in findings 23 and 24, was of minor significance. This was in agreement with his conclusion in an earlier report reviewing the response to Noncompliance No. 4 in NRC I&E Report 79-19, which he closed out in NRC I&E Report 80-17. Tapia, ff. Tr. 13,752, at 5-6.

749. The panel of Applicants' witnesses concluded that the Category I backfill placed at STP by Ebasco is "more than adequate to perform its intended structural function and there is reasonable assurance that such backfill conforms to applicable regulatory requirements." Further, they concluded that there is reasonable assurance that future Category I backfill activities will comply with applicable requirements and that the backfill will be adequate to perform its intended structural function. Jordan *et al.*, ff. Tr. 13,645, at 25-26.

750. Mr. Tapia testified that his review of the responses to the violations and audit findings led him to conclude that they "represent minor conditions that have not impacted the adequacy of the backfill material" and that there is reasonable assurance that the backfill placed at STP by Ebasco conforms with the design requirements of the construction permits and Commission regulations (Tapia, ff. Tr. 13,752, at 6). In response to Board questions, he stated that actions taken by HL&P since Phase I speak for its character in a positive sense. Also, he felt that every engineer with whom he had dealt had been very competent. Tr. 13,795-96 (Tapia). Further, he did not feel that any of the problems or violations in the soils area reflected an unwillingness by HL&P to abide by the regulatory requirements of the NRC or an abdication of authority or refusal to accept responsibility to protect the public health and safety (Tr. 13,797 (Tapia)).

751. On the basis of the testimony presented before us and summarized in Findings 718-750, *supra*, and the lack of evidence to the contrary, we find that there is reasonable assurance that the backfill placed by Ebasco conforms with the requirements of the construction permits and Commission regulations. Also, we find that the deficiencies in backfill activities, and their handling by HL&P, do not reflect unfavorably on

the competence of HL&P. To the contrary, in reporting (with one limited exception) and resolving these deficiencies, HL&P has continued to display candor, promptness, and effectiveness similar to its performance in earlier matters, as noted favorably by us in our Phase I decision. HL&P's error in responding to Notice of Violation 83-24-02 does not represent a systemic deficiency in such responses nor an intent to avoid responsibilities; and procedures have been proposed (which we encourage) to remedy the particular problem.

4. General Update on Current Competence of HL&P and Its Contractors

752. We earlier evaluated the competence of HL&P and its contractors on the basis of affidavits filed during December 1984 and January-February 1985 (*supra* Findings 678-699), together with the adjudicatory record compiled with respect to § 50.55(e) reporting and soils (*supra* Findings 700-717 and 718-751). In our Sixth Prehearing Conference Order, *supra* at 9, we directed the Staff additionally to evaluate the competence of HL&P and its contractors in general, as compared with their competence in 1981. We envisaged a general updating of the SALP evaluation set forth in I&E Report 83-26. This updating was accomplished in portions of testimony by several Staff witnesses and in cross-examination and Board questions during the hearing.

753. Messrs. Eric H. Johnson and George L. (Les) Constable presented joint direct testimony for the Staff (Johnson/Constable, ff. Tr. 14,846). Mr. Johnson is the Acting Deputy Director of the Division of Reactor Safety and Projects and Branch Chief of Reactor Project Branch I, Region IV, NRC. He has been Chief of Reactor Project Branch I since 1983 and was responsible for directing NRC employees who inspected the STP from that time until the hearing. *Id.* at 1. The STP is assigned to that branch. Since his promotion to his current position in May 1985, he has coordinated the development of Region IV preparation for the Phase II hearings, reviewed filings before the Board, and discussed previous Region IV activities with those persons who were involved at the time, three of whom are now retired (*id.* at 3). The professional qualifications of these two witnesses are summarized in attachments to their testimony (*id.* attached professional qualifications of Eric H. Johnson and George L. (Les) Constable).

754. In updating the general conclusions of the SALP report (I&E Rept. 83-26), the witnesses testified that "[t]he current views of the NRC Region IV staff indicate that the [A]pplicant continues to improve

in performance since the last SALP period, and the performance is indicative of a high degree of management involvement in all site activities." Discussions of those witnesses with inspectors involved in preparing a new SALP report covering the period December 1, 1983, to June 30, 1985, support that conclusion. Johnson/Constable, ff. Tr. 14,846, at 11-12; see note 44, *supra*.

755. Mr. Donald Garrison is an NRC Resident Construction Inspector who has been assigned to the STP since March 3, 1985. His professional qualifications are attached to his direct testimony. Garrison, ff. Tr. 15,110, at 1 and attached professional qualifications. He testified that HL&P began trending deficiencies in July of 1980 and has revised its trending procedures three times since then. Since January 1, 1984, the HL&P QA group has been responsible for all trending, and quarterly reports are sent to the HL&P Group Vice President, Nuclear, and other management personnel. Current trending procedures were reviewed and described by Mr. Garrison, who concluded that the program is satisfactory, broad enough to identify occurring trends, and similar to trending methods used by other projects of this type. Garrison, ff. Tr. 15,110, at 5-6; Tr. 15,164 (Garrison). In response to a Board question, and on the basis of his observations, he testified that he viewed HL&P as a competent organization (Tr. 15,164 (Garrison)).

756. Mr. Danny Carpenter is an NRC Resident Inspector who was assigned to the STP from December 1983 to the time of the hearing. His professional qualifications are attached to his direct testimony. Carpenter, ff. Tr. 15,114, at 1 and attached professional qualifications. He conducted the inspection and enforcement program and met regularly with HL&P and contractor supervision and management (*id.* at 1). He testified that he had reviewed the joint affidavit filed by Messrs. Crossman, Tomlinson, and Jaudon of the NRC Staff and had first-hand knowledge of and supported the positions or information stated in several paragraphs of it, which were identified by him. Those included statements that (1) since mid-1982, HL&P had adopted a progressively more aggressive approach in dealing with quality-related issues; (2) much improvement had been noticed during the past 18 months with regard to causes of reportable deficiencies and tracking of corrective actions; (3) certain specific HL&P actions, cited by him, illustrated that HL&P was aggressive and thorough in resolving problems or allegations with respect to quality assurance; and (4) HL&P implemented a rather innovative program for design verification by retaining Stone and Webster, an architect-engineer itself, to verify Bechtel design work. *Id.* at 2.

757. Since his assignment to the STP in 1983, Mr. Carpenter observed a steady increase in HL&P involvement in most of the activities

associated with design, construction, and preparation for startup and operation of the STP. Experienced key people have been added to the management and supervision team. Carpenter, ff. Tr. 15,114, at 3. In April 1985, HL&P established a Project Compliance Group to serve as the primary interface between HL&P, Bechtel, Ebasco, Westinghouse, and NRC inspectors in closing open items relating to construction and startup before issuance of the operating licenses. This is not a legal requirement but was regarded by Mr. Carpenter as an example of HL&P's commitment and increased attention to construction and safety of the STP. *Id.* at 3-4; Tr. 15,181 (Carpenter). He stated that HL&P corrective actions with respect to materials control, an area that was rated in the SALP report as "Category 3" (satisfactory but needing more attention), were appropriate. He did not witness any areas in which HL&P or its contractors were deficient to the point of being a problem and concluded that "[t]he applicant and its contractors are performing competently with due regard for any safety-related issues or concerns." Carpenter, ff. Tr. 15,114, at 4; Tr. 15,180-81 (Carpenter).

758. Mr. Dan Tomlinson is a Reactor Inspector, Engineering Section, Reactor Safety Branch, in Region IV of the NRC. From September 1983, through February 1985, he was the Senior Resident Inspector for construction activities at the STP and was responsible for conducting the inspection and enforcement program. He met regularly with the management and supervisory personnel of HL&P and its contractors to discuss inspection results and construction status. He also was one of those filing the NRC affidavit of December 21, 1984 (as amended January 24, 1985), and was a co-author of the SALP report. His professional qualifications are attached to his December 21, 1984 affidavit. Tomlinson, ff. Tr. 15,112, at 1-2.

759. Mr. Tomlinson had read the testimony of Mr. Carpenter (*supra* Findings 756-757) and agreed with it. He also reaffirmed his testimony in the affidavit of December 24, 1984 (as amended January 24, 1985) and stated that the actions of HL&P and its contractors in response to violations and concerns were accomplished in an expeditious manner. Tomlinson, ff. Tr. 15,112, at 2-3; Tr. 15,170 (Tomlinson). In response to a Board question, he stated that the people with whom he dealt at the STP were very open and pursued problems aggressively and promptly (Tr. 15,164-65 (Tomlinson)). He had observed a trend toward improvement in competence during the time that he was at the STP and had concluded that "[t]he applicant and its contractors performed competently with due regard for safety-related issues or concerns" (Tomlinson, ff. Tr. 15,112, at 2).

760. Mr. Claude Johnson is a Senior Resident Inspector in Region IV, NRC, assigned to the STP since March 1985. His professional qualifications are summarized in an attachment to his direct testimony. C. Johnson, ff. Tr. 15,118, at 1 and attached summary of professional qualifications. From February 1983 to July 1984, he performed about five inspections at the STP as a regional inspector. He observed that HL&P's participation in activities with its new contractors increased during that period. He opined that HL&P stays fully informed and maintains effective control and responsibility for design and construction. He stated that during his tenure at the STP the competence of HL&P, Bechtel, and Ebasco had improved over that which he had observed during earlier inspections as a regional inspector. HL&P had increased its staff, and its management was more involved in the day-to-day decision-making activities at the site. He characterized HL&P's establishment of the Project Compliance Group (*supra* Finding 757) as a good example of that Applicant's increased involvement and commitment to public health and safety. C. Johnson, ff. Tr. 15,118, at 2; Tr. 15,179-80 (C. Johnson).

761. In response to Board questions, Mr. Johnson testified that HL&P is very competent and compares favorably with utilities at the other sites that he has seen. He sees no faults in their competence. Tr. 15,165, 15,175 (C. Johnson). When pressed further, he responded that on an overall basis he would rate HL&P as better than a "2" in competence on the scale used in SALP reports (Tr. 15,174, 15,185 (C. Johnson)). In completing his direct testimony, he concluded that his perception of the competence of HL&P, Bechtel, and Ebasco was that they were satisfactory and had constantly improved since he first went on site as a regional inspector (C. Johnson, ff. Tr. 15,118, at 3).

762. To summarize this series of findings, several Staff witnesses have updated NRC's views of the competence of HL&P and its contractors, both in direct testimony and in responses to questions of parties and the Board during the hearing. The witnesses appearing before us were NRC managers and inspectors who have had close contact with STP and were in excellent positions to observe activities at the site and judge the competence of the participants in those activities. They have presented a uniform perception of continued improvement in competence since the conclusion of the Phase I hearing. No testimony to the contrary was presented and no supported proposed findings challenging those perceptions have been filed by CCANP. Accordingly, we conclude that our preliminary findings concerning improvement in competence in the Phase I PID can be considered as substantiated by information presented to us in Phase II. On the basis of the total record amassed in Phases I and II, we conclude with respect to Issues B and D that the

competence of HL&P and its contractors since the close of the Phase I record has significantly improved and that it meets the requirements of NRC regulations and provides reasonable assurance that the STP will be completed in conformance with the terms of the construction permits and other applicable requirements.

D. Contention 4: Hurricane Design and Construction

763. Contention 4 was originally introduced by CEU, the Intervenor that withdrew from the proceeding during Phase I (Memorandum and Order, August 3, 1979, Attachment at 3). In our Memorandum and Order of October 15, 1982, we permitted CCANP to adopt this contention (LBP-82-91, 16 NRC 1364). It states:

The South Texas Project (STP) Category I structures and equipment are inadequately designed and constructed with respect to wind loadings as demonstrated by the fact that actual wind velocities associated with hurricanes which have occurred along the Texas Gulf Coast have exceeded wind loadings for which STP structures have been designed and evaluated. Further, there are non-Category 1 structures containing equipment which if destroyed or damaged would jeopardize the safe operation of STP. These non-Category 1 buildings are not designed to withstand winds generated by hurricanes and if damaged would provide missile type projectiles which could penetrate Category I structures which are inadequately protected.

Subsequently, we ordered that this contention be litigated in Phase II (Fourth Prehearing Conference Order (December 16, 1981), at 5-6).

764. The principal basis for the contention was that there have been hurricane wind speeds reported in the Gulf coastal area in excess of the 125-mph operating-basis wind speed (OBW) used for design purposes, as specified in § 3.3.1.1 of the FSAR for the STP. Also, although the contention does not address directly the effects of heavy rainfall and storm surge accompanying hurricanes, some of these effects were referred to in the Intervenor's discovery responses. The hurricane wind loads, other potential effects, and questions raised by the Board are addressed in HL&P and Staff affidavits in support of summary disposition. See Findings 765 and 767, *infra*.

765. On March 12, 1985, the Applicants moved for summary disposition of this contention, claiming that there were no material facts as to which there were genuine issues to be heard (Applicants' Motion for Summary Disposition on CCANP Contention Four, and attached affidavits (March 12, 1985)). The affidavit of Mr. Dale E. Wolfe addresses the adequacy of the OBW for the STP, in light of historical data on wind

speeds in the Texas Gulf Coast region. Mr. Wolfe, who practices as a private consultant, received the B.S. degree in Meteorology from Pennsylvania State University in 1964 and had 23 years' experience in various aspects of meteorology, including 11 years' experience with nuclear plants. Wolfe Aff., Attachment I. The affidavit of Mr. R. Bruce Linderman describes how Category I structures and equipment for the STP are designed to withstand hurricane wind loads and hurricane-generated missiles. Mr. Linderman received the B.S. degree in Civil Engineering from Utah State University in 1949, the M.S. degree in Civil Engineering from California Institute of Technology in 1950, and the M.S.A. degree from Golden Gate University in 1974. He is a Registered Professional Engineer in California. His experience includes over 30 years with Bechtel Corporation, specializing in seismic and dynamic force considerations in designing nuclear and fossil power plants, dams, missile sites, and industrial complexes. Linderman Aff., Attachment I. We find that both affiants are professionally qualified in the areas of their testimony.

766. CCANP responded on April 8, 1985, opposing the Applicants' motion and contending that there were several material facts as to which there was a genuine issue to be heard (CCANP Response to Applicants' Motion for Summary Disposition of CCANP Contention Four (CCANP Response)). No supporting affidavits were included with the CCANP Response.

767. The Staff response of April 15, 1985, supported the Applicants' motion and included four affidavits (NRC Staff Response in Support of Applicant's Motion for Summary Disposition of CCANP Contention Four). Mr. James E. Fairbent is a meteorologist employed by the NRC in Washington. He received the B.S. and M.S. degrees in Meteorology from the University of Michigan in 1970 and 1972, respectively, and his NRC duties include evaluation of the meteorological aspects of nuclear reactor siting and operation. His affidavit addresses the matter of wind speeds used in the design of STP structures. Fairbent Aff. and attached Professional Qualifications. Dr. John S. Ma is a structural engineer employed by the NRC in Washington. He received the B.S. degree in Civil Engineering from Taiwan Christian College in 1962, the M.S. degree in Civil Engineering from the University of Missouri at Rolla in 1966, and the Ph.D. degree in Civil Engineering from the University of Texas at Austin in 1971. His 21 years of experience include 2 years of structural concrete design for nuclear power structures with Bechtel and 11 years as a structural engineer in licensing review and standards development with the NRC. His affidavit addresses the acceptability of the design process for hurricane protection of Category I structures at STP. Ma Aff.

and attached Professional Qualifications. Mr. Jerry N. Wilson is a Section Leader in the Auxiliary Systems Branch (ASB) of the Division of Systems Integration, Office of Nuclear Reactor Regulation, NRC. He received the B.S. degree in Physics and Mathematics from the University of Puget Sound in 1970 and the M.S. degree in Nuclear Engineering from the University of Washington in 1972. His prior experience includes 3 years as a nuclear engineer with the Navy, 6 years as Project Manager in the Office of Nuclear Reactor Regulation, NRC, and 2 years as Senior Policy Analyst in the NRC Office of Policy Evaluation. The purpose of his affidavit was to review missile protection for the isolation valve cubicles (IVCs) at STP. Wilson Aff. Mr. Gary B. Staley is a hydraulic engineer, employed by the NRC, Environmental and Hydrological Engineering Branch, Materials and Qualifications Engineering Group, Division of Engineering. He received the B.S. degree in Civil Engineering from South Dakota State University in 1960 and completed 18 hours of graduate work in water resources engineering at the University of Nebraska in 1965-1973. His present employment at NRC dates from 1974. From 1960 to 1973, he worked as a hydraulic engineer with the Corps of Engineers on flood control and various other types of projects. His affidavit addresses hurricane water level effects at the STP. Staley Aff. and attached Professional Qualifications. We find each Staff affiant to be professionally qualified in the areas that he addresses.

768. Category I structures must be capable of performing their safety functions under various load combinations, which form the bases for their design. Plant elements that are necessary for continued operation must be designed to remain functional under severe conditions without posing undue risk to the public health and safety. The OBW is used to calculate wind loadings that are used in combination with other specified loadings to determine structural stresses that must be withstood while the plant continues in operation (operating-basis conditions). Under more extreme load combinations, the plant may not continue in operation, but safety-related elements must be designed to ensure that no undue risk occurs to the public health and safety under those conditions. The design-basis tornado (DBT) provides the design-basis wind speed (DBW) that is combined with other specified loadings to permit the calculating of structural stresses that must be withstood under extreme conditions without undue risk to public health or safety. Linderman Aff. at 2-4; Fairmont Aff. at 3; 10 C.F.R. Part 50, Appendix A, GDC 2; SRP § 3.3.1; NRC Reg. Guide 1.76.

769. The "fastest mile of wind" is defined as the greatest average wind velocity associated with the passage of 1 linear mile of air past a

measurement point. It represents a sustained wind, rather than an instantaneous gust, and is measured using a standardized procedure. It is commonly recorded hourly and reported daily at major National Weather Service (NWS) stations. Wolfe Aff. at 2; Fairobent Aff. at 4. The OBW is defined as the “fastest mile of wind” that is expected to occur with a frequency of once in 100 years. This wind velocity is used to calculate loads on Category I structures in accordance with appropriate sections of the SRP. Wolfe Aff. at 2; SRP §§ 2.3.1, 3.3.1, 3.8.1, 3.8.4; Linderman Aff. at 3, 5; Fairobent Aff. at 4.

770. “Gusts” are rapid fluctuations in wind speed with a variation of at least 10 knots (12 mph) between peaks and lulls. The reported value for a gust is the absolute maximum wind speed, often having only 1 or 2 seconds’ duration. “Peak winds” represent the maximum wind speed observed and may be a gust or simply the greatest instantaneous wind velocity. Wolfe Aff. at 2-3. Gust and peak wind data are not used directly in establishing design criteria but are taken into consideration by applying design factors to loads calculated for the fastest-mile-of-wind data (*id.* at 4; Linderman Aff. at 3, 5; Fairobent Aff. at 6; SRP §§ 2.3.1, 3.3.1).

771. The SRP provides that wind speed data should be based on meteorological records from nearby representative NWS, military, or other stations recognized as standard installations with long periods of record (Wolfe Aff. at 3; SRP § 2.3.1). The OBW was determined through statistical analyses of historical data for four NWS Texas coastal weather stations having the longest record of representative and reliable data in the region (30-111 years). The stations — Port Arthur, Galveston, Corpus Christi, and Brownsville, Texas — all are within 10 miles of the Gulf and are 150, 80, 105, and 220 miles from the STP site, respectively. Wolfe Aff. at 5; FSAR, Table 2.3-40; Tr. 10,915. The analyses produced a 100-year fastest-mile wind of 116 mph at a standard height of 10 meters (Wolfe Aff. at 4-6). Also, a composite data set was prepared using the highest annual fastest-mile wind speeds at any of the stations for the 30 years during which records were compiled at all of them. These data were used in a confirmatory analysis, producing a more conservative value of 118 mph for the 100-year fastest-mile wind at a 10-meter height. Adjustment of those values from a 10-meter height to the 30-foot height specified in design criteria would result in slightly lower wind speed values. *Id.* at 5-6. On the basis of these and other analyses, a conservative value of OBW for the STP was established at 125 mph, measured at a standard reference height of 30 feet above the ground (Wolfe Aff. at 3, 6-7; Linderman Aff. at 5; FSAR § 3.3-1).

772. CCANP (or, previously, CEU) cited several reported wind speeds over the 125-mph OBW as a basis for its contention that the STP was not adequately designed with respect to wind loadings. Mr. Wolfe emphasized that § 2.3.1 of the SRP requires use of standard meteorological data in evaluating severe weather phenomena and calculating fastest-mile wind speed values. His affidavit considers each reported wind speed over 125 mph cited by the parties and the Board and concludes that, with one exception, they do not meet the reliability requirements of the SRP. Specific reasons for discounting those wind speeds are identified for each and include one or more of the following: Observation height was unknown, location was not representative of the STP site, the quality of observer training and equipment was indeterminate, the wind speed was not a fastest-mile wind speed, or the observation was an estimate. Wolfe Aff. at 7-11. The Staff made an independent examination of hurricane wind speeds over 125 mph in the North Atlantic Ocean and the Gulf of Mexico and concluded that the Applicants' concerns about the quality of many of the measurements were legitimate. They concluded that the Applicants "made a reasoned consideration of observations of extreme wind speeds . . ." Fairobent Aff. at 4-7.

773. The one fastest-mile wind speed over 125 mph that was the exception was for the Corpus Christi station during hurricane Celia. The actual NWS measurement was 120 mph at 23 feet, which was extrapolated to 125 mph at 30 feet and 128 mph at 10 meters. That value was included in the STP data base. Wolfe Aff. at 7, 11.

774. Mr. Wolfe concluded that the data showing wind speeds over 125 mph are inappropriate for use in calculating fastest-mile wind speeds for the STP. Use of reliable wind speed data and the most current statistical methods confirm the validity of the 125-mph OBW. Wolfe Aff. at 12.

775. The Staff reviewed material in the FSAR and data for hurricane wind speeds and agreed with the affidavit of Mr. Wolfe with respect to methods for examining extreme wind speeds and calculating the OBW for the STP. The Staff agreed with the value of 125 mph selected for the OBW. Fairobent Aff. at 2, 7.

776. In its response to the Applicants' motion for summary disposition, CCANP presented no affidavits or other credible evidence contravening the affidavits of the Applicants and Staff with respect to the methods used in determining the 125-mph OBW or the validity of that figure. The Intervenor's response consisted principally of unsubstantiated arguments or bald statements to the effect that reported wind speeds in excess of 125 mph should have been used in determining the OBW. The key theory that CCANP employs in developing its argument is that

reported wind speeds that do not meet the measurement criteria required for acceptance under NRC guidelines nevertheless must be used in design unless they can be affirmatively proven to be in error. CCANP Response at 2-6. As we have summarized earlier, the Applicants and Staff have explained why those measurements or estimates were not viewed as reliable and appropriate for design purposes and hence were not used. See Findings 769-775, *supra*. CCANP has presented no factual grounds for us to disregard or reject those statements and conclusions in affidavits by the Applicants' and Staff's affiants. Accordingly, we conclude that CCANP has not identified any unresolved material factual issue with respect to the OBW or met the requirements for prevailing against the motion for summary disposition.

777. The plant design must also take into account a design basis tornado (DBT), as defined in Regulatory Guide 1.76, in combination with other appropriate loads. For the geographic region in which the STP is located, the maximum wind speed is specified as 360 mph, comprised of a rotational element of 290 mph and a translational element of 70 mph, with a pressure drop of 3.0 psi and a pressure drop rate of 2.0 psi per second. Protection against wind-generated missiles also must be provided, as specified in 10 C.F.R. Part 50, Appendix A, GDC 4, and the SRP. Linderman Aff. at 4-6; Fairobent Aff. at 7-8; Regulatory Guide 1.76; SRP § 3.5.1.4. The Staff reports that no tornado associated with any hurricane has exceeded a maximum wind speed of 260 mph, translational plus rotational. Also, the combination of an OWB and DBT at the STP would have a probability of less than 10^{-9} per year. Fairobent Aff. at 7-8.

778. The Category I structures at STP have been designed to withstand the combined loads imposed by the DBT wind, pressure differential, and (except for the IVC roof, certain MEAB HVAC openings and the diesel generator exhaust stack openings) postulated tornado missiles, in combination with other design-basis conditions (Linderman Aff. at 4, 6-7, 9-11; Fairobent Aff. at 4, 7-8; Findings 785, 786, *infra*). These load combinations are far greater than those resulting from the load combinations associated with the OBW. Accordingly, the STP Category I structures (except for the missile resistance of three structures) are designed to withstand loads far in excess of any that would be generated by hurricanes. Linderman Aff. at 7-8. The Category I structures also have been designed to ensure safety against the effects of failures of non-Category I structures at the plant (*id.* at 8-9). In response to Board questions, we were assured that designs for the high, but relatively short-lived, loads associated with the tornado-based DBW are applicable to the lower but longer-duration loadings that accompany hurricane winds. Further, we

were advised that the STP Category I structures were designed to withstand hurricane winds over 200 mph, which is higher than any reported wind speeds on which CCANP was relying in support of its contention. *Id.* at 7-10; Tr. 10,922-23. The Staff concurred that the STP was designed to withstand a 200-mph wind speed (Tr. 10,929-30).

779. The Staff agrees with the reasoning of Mr. Linderman that the STP Category I structures will withstand hurricanes and (except for structures set forth in Finding 778, *supra*) missiles generated by them because they are designed for a tornado wind speed of 360 mph, including tornado-generated missiles. The design process described by Mr. Linderman is viewed as acceptable under applicable NRC guidance and regulations. Ma Aff. at 2.

780. The STP Category I structures also have been designed to withstand a spectrum of missiles that might be generated by a DBT, in accordance with the SRP, except for three “nonconforming” structures. The first of these is the roof of the IVC (Linderman Aff. at 9; SRP § 3.4.1.4). Instead of designing the IVC roof to withstand DBT-generated missiles, the Applicants elected to demonstrate, in accordance with SRP § 3.5.1.4 and Regulatory Guide 1.117, that the probability of such a missile striking the IVC roof is sufficiently low (median value of 2×10^{-10} per year) that the design need not consider the possibility of that happening. The probability of a hurricane-generated missile striking the IVC roof was calculated to be lower (1.2×10^{-10} per year). Linderman Aff. at 10-11, and attachments. The Staff reviewed that matter and concluded that the probability of a tornado- or hurricane-generated missile damaging the IVCs and associated essential equipment was about 3×10^{-9} per year, within one order of magnitude. Because both the Applicants’ and Staff’s calculated probability figures were less than the Staff acceptance criterion of 1×10^{-7} , the Staff concurred that additional missile protection need not be provided for the IVCs. Wilson Aff. at 2-3. In response to Board questions, both the Applicants and Staff opined that this approach did not reduce safety standards for the STP because the probabilities of damage by natural phenomena to the few portions of the plant not meeting design criteria were summed and determined to be below the acceptance criterion of 1×10^{-7} per year in total (Tr. 10,924-29, 10,940).

781. In its response to the motion for summary disposition, CCANP argues against methods used by the Applicants in selecting and using the DBT wind speed of 360 mph in designing for protection against extreme wind loads and missiles. The arguments propose that the wind speeds used for design purposes should be based on the sum of the OBW and DBT winds, which assumes that the OBW and DBT occur

together. No affidavits are included to substantiate those arguments. CCANP Response at 6-8. As we have summarized earlier, the Applicants' witnesses described the basis on which the DBT wind was selected and used in design, consistent with NRC guidelines. See Findings 776-779, *supra*. Those statements and conclusions were not refuted by CCANP. We conclude that CCANP has failed to identify any unresolved material factual issue with respect to the DBW or OBW as required for rejection of the motion for summary disposition with respect to design wind speeds.

782. In designing for protection against potential high water induced by storm surge accompanying hurricanes and the effects of heavy rains, calculations indicated that the probable maximum hurricane storm surge, combined with the 100-year flood level in the Colorado River, would produce a water surface elevation of 26.74 feet. That is below the grade level of 28.0 feet in the power block area, where Category I structures are located, and below the elevation of roads bounding the power block (30.0 feet). It was concluded that the Category I structures will not be jeopardized by the potential rise in water level. Linderman Aff. at 11. The Staff agrees with that analysis and points out further that the STP site is some 15 miles from the coast and that surge effects that far inland would be greatly reduced and that shallow depths would limit velocities to essentially nonerosive values. Also, the STP Category I structures are designed to withstand failure of the main cooling reservoir, with water depths of 22 feet and the associated flood wave. Staley Aff. at 1-2.

783. CCANP, in its response, contends that the power of a storm surge is so immense that the roads could be overtopped and breached, putting the base of the power block at risk (CCANP Response at 8-9). No affidavit was presented to substantiate those arguments. The Staff addressed that question and concluded that erosion of the roads and plant fill are hydraulically infeasible, as envisioned by CCANP. Staley Aff. at 2. We conclude that CCANP has failed to identify any unresolved material fact or to present a substantiated reason why the Applicants are not entitled to prevail as a matter of law with respect to the storm surge question.

784. On January 10, 1986, the Applicants submitted to the Staff (with copies to the Board and parties) a document concerning STP design for tornado depressurization effects near the MEAB HVAC louvers that, in the Board's view, raised a question concerning the validity of some of the affidavits submitted earlier. In a telephone conference call, the Applicants indicated that yet another structure also should be covered by a revised affidavit. The Board asked the Applicants and Staff to

update the earlier affidavits in light of the new information and asked both to respond to the following inquiry:

We have found that the fact that the IVC [] roof does not meet deterministic tornado criteria is acceptable because the probability of a serious release by this mechanism is low. We are now confronted with a similar argument with respect to certain MEAB HVAC louvers. Are two or three such failures to meet deterministic requirements permissible, provided the sum of the probabilities does not exceed 1×10^{-7} ?

Memorandum (Telephone Conference Call — January 28, 1986), dated January 29, 1986 (unpublished).

785. In response, the Applicants filed the supplementary affidavit of Mr. Linderman, with attachment, on February 18, 1986, indicating that, in addition to the IVC roof, certain MEAB HVAC openings and diesel generator exhaust stack openings also had not been designed to withstand the impact of tornado missiles (Linderman Supp. Aff. at 2). An analysis was made of the probability of a tornado missile striking the MEAB HVAC dampers, producing a calculated median value of 2×10^{-10} per year. A calculation of the probability of a missile striking or entering into a diesel generator exhaust stack opening produced a median value of 1.2×10^{-12} per year. The median probability of a tornado missile entering the stack openings, or striking the IVC roof area, or striking the MEAB HVAC dampers was calculated as about 4.012×10^{-10} per year. The median probability of a hurricane-generated missile striking any of those targets was calculated to be about 2×10^{-10} per year. The total calculated probability of a tornado or hurricane missile striking any of these targets was calculated at about 6×10^{-10} per year, well below the NRC acceptance criterion. The probability of a release of radioactivity exceeding 10 C.F.R. Part 100 limits as a result of such an event would be even lower. Linderman Supp. Aff. at 2-4. Mr. Linderman concluded that, as a result of the low probabilities, no physical barriers are necessary to protect any of those Category I structures from hurricane or tornado missiles.

786. On February 28, 1986, the Staff filed a second affidavit by Mr. Wilson, addressing the Board question referred to *supra* Finding 784. He acknowledged that the MEAB HVAC louvers and the diesel generator exhaust pipe openings were not protected from externally generated missiles (Wilson Supp. Aff. at 3-4). He stated that the number of locations where barriers are not provided to protect against tornado-generated missiles is not a critical factor in the Staff review. The important consideration was said to be whether the overall probability of the

missiles striking those locations meets the Staff's criteria (*id.* at 2). The position of the Staff in this matter, based on guidance in SRP § 3.5.1.4 and Regulatory Guide 1.117, is:

The probability of significant damage to structures, systems and components required to prevent a release of radioactivity in excess of 10 C.F.R. Part 100 following a missile strike, assuming loss of offsite power, shall be less than or equal to a median value of 10^{-7} per year or a mean value of 10^{-6} per year. Significant damage is damage that would prevent meeting the design basis safety function.

Wilson Supp. Aff. at 3.

787. At the March 28, 1986, Seventh Prehearing Conference, CCANP advised the Board that it had not filed, and did not intend to file, any response to the additional Applicants and Staff Affidavits (Tr. 15,905; Seventh Prehearing Conference Order, *supra*, 23 NRC at 189).

788. After the Applicants revised their calculations of probabilities to take into consideration the additional units not protected from missiles, described *supra*, the Staff prepared § 3.5.2 of the STP SER, under the supervision of Mr. Wilson. In that document, the Staff concluded that the probability of tornado- and hurricane-borne missile damage to the IVCs, HVAC louvers, and diesel exhausts is "much less than 10^{-7} per year." Wilson Supp. Aff at 4; *see also* SER at 3-11 and 3-12.

789. For reasons set forth in this Opinion, pp. 652-53, *supra*, the Board does not accept the legal position of the Staff in its entirety. Nonetheless, were the probabilities of missile strike to be shown to be as low as calculated by the Applicants or Staff for the three "nonconforming" structures, we would regard the failure to be designed to resist missiles as a *de minimis* departure from legally required design practices.

790. There are significant unresolved questions concerning the probability calculations of the Applicants and Staff with respect to the source of missiles used in those calculations. It appears that a spectrum of design-basis missiles as set forth in SRP § 3.5.1.4 was utilized. Such spectra are appropriate for evaluating the missile resistance of Category I structures but may be unsuitable for calculating the likelihood of missile damage to Category I structures not appropriately designed to withstand missiles. For that reason, the standards for granting summary disposition (*see* Opinion, *supra* pp. 632-33) have not been satisfied at this time with respect to the IVC roof, certain MEAB HVAC openings, and the diesel generator exhaust stack openings.

791. Two doors in the MEAB also are not designed to withstand a tornado missile, but other internal barriers protect safety-related equipment and components in the MEAB (Linderman Supp. Aff. at 2 n.*). That design appears satisfactory insofar as tornado- or hurricane-missile protection is involved.

792. The Staff expressed the opinion that it could not comment on the construction aspects of Contention 4 before the issuance of its SER. The Applicants did not address the construction questions in their affidavits. Pending the potential submission by CCANP of claims concerning construction to withstand hurricanes, we cannot consider summary disposition of the construction aspects of Contention 4.

793. During the Seventh Prehearing Conference, we noted that CCANP had forwarded to us and the other parties a newspaper article indicating that an alleged deficiency in the construction of the HVAC system could affect its protection against tornadoes (Tr. 15,907-09; Article from *Houston Post* of June 18, 1985, forwarded by letter from CCANP dated June 26, 1985). We requested that the Applicants and/or Staff advise us of specific details of the HVAC construction problem (if any) to which the article referred, and their resolution of it. By letter dated April 25, 1986, the Applicants informed us that this matter was the same as that addressed by the supplementary affidavits concerning the design of HVAC dampers (*see supra* Findings 784-785). We accordingly shall deal with this matter in that context, as a design rather than a construction question.

E. Issue C

794. Issue C reads:

In light of (1) HL&P's planned organization for operation of the STP; and (2) the alleged deficiencies in HL&P's management of construction of the STP (including its past actions or lack of action, revised programs for monitoring the activities of its architect-engineer-constructor and those matters set out in Issues A and B), is there reasonable assurance that HL&P will have the competence and commitment to safely operate the STP?

Second Prehearing Conference Order, dated December 2, 1980 (unpublished), Attachment at 2; *see also* LBP-84-13, *supra*, 19 NRC at 781, Finding 227.

795. In Findings 227-249, 19 NRC at 781-87, we reviewed this issue and concluded that, as of the time of issuance of PID-I, there was reasonable assurance that HL&P will have the competence and commitment to operate the STP safely. Because of the preliminary nature of the testimony on which those findings were based, however, we conditioned our conclusion upon an updating of that testimony prior to the issuance of any decision authorizing facility operation. 19 NRC at 787, Finding 249. We anticipated that such updating would take place in Phase III (19 NRC at 699).

796. On February 18, 1986, the Applicants submitted an affidavit, dated February 14, 1986, of Mr. Jerrold G. Dewease, Vice President, Nuclear Plant Operations, of HL&P. This affidavit, which included portions of the FSAR, updated testimony previously provided by Mr. Dewease and Mr. Jerome H. Goldberg on HL&P's organization for operation of the STP. By letter dated May 19, 1986, the Applicants provided additional information concerning Mr. Dewease's affidavit.

797. On March 14, 1986, the NRC Staff submitted an affidavit, dated March 12, 1986, of Mr. Lawrence P. Crocker, Section Leader, Facility Operations Branch, Division of PWR Licensing-A, Office of Nuclear Reactor Regulation. This affidavit updated the Phase I testimony of two panels, each including Mr. Crocker. (This testimony had been entered into the record by stipulation. LBP-84-13, *supra*, 19 NRC at 786 n.50.) On May 16, 1986, the Staff submitted a supplemental affidavit of Mr. Crocker (dated May 15, 1986).

798. The organizational structure reviewed in PID-I was that set forth in the FSAR, as revised through Amendment 25 (Appl. Exh. 56). The organizational structure reviewed in Mr. Dewease's current affidavit is that set forth in the FSAR, as revised through Amendment 52, together with changes to HL&P's program not reflected (as of February 13, 1986) in an FSAR amendment (Dewease Aff., ¶ 29). The Applicants' May 19, 1986 letter advised that these changes were included in Amendment 53 to the FSAR. The organizational structure reviewed by the Staff affidavit is that set forth in the FSAR, as revised through Amendment 51, together with the information set forth in Mr. Dewease's affidavit (Crocker Aff., ¶¶ 3, 5). (The Board notes that certain of the organizational charts appended to the Staff's advance SER are designated as being derived from Amendment 53 of the FSAR. *See* advance SER, Figures 13.2 and 13.3. We further note that the SER (NUREG-0781), which was dated April 1986, analyzes the organizational structure as revised through Amendment 51 of the FSAR. SER, ¶ 13.1.1.1, at 13-1.) Mr. Crocker's supplemental affidavit generally described the differences in staffing and organization submitted by the Applicants in FSAR Amendment 53.

799. There have been a number of organizational changes adopted by HL&P since the Phase I hearings. In 1982, the nuclear plant operations staff was overseen by the Vice President, Nuclear Plant Operations, who was to report directly to the Executive Vice President. The Manager of QA for Operations and the Director, Nuclear Fuels, also were to report to the Executive Vice President. The organization for plant operations was to be divided into four functional operating areas (operating,

technical, maintenance, and training) together with two additional organizations, the radiation protection group and an administrative group. The reporting chain for these groups ran through the Assistant Plant Superintendent and the Plant Superintendent to the Vice President, Nuclear Plant Operations. LBP-84-13, 19 NRC at 782, Findings 230-231; Appl. Exh. 56, Figs. 13.1-1 and 13.1-2.

800. Currently, the senior corporate officer in charge of nuclear matters is the Group Vice President, Nuclear, who reports directly to the Chairman of the Board and Chief Executive Officer of HL&P. SER § 13.1.1.2 and Fig. 13.1. The position of Group Vice President, Nuclear, is equivalent in organizational stature to the former position of Executive Vice President (although the former position included certain nonnuclear responsibilities) (Tr. 11,913-14 (Jordan)). Reporting to the Group Vice President, Nuclear, are the Vice President, Nuclear Plant Operations; and the managers of Special Projects, Nuclear Assurance, Nuclear Licensing, Nuclear Engineering, Engineering Assurance, and STP Project (Dewease Aff., ¶ 4).

801. Reporting to the Vice President, Nuclear Plant Operations, are the Managers of Nuclear Training and Nuclear Security and the Plant Manager, STP. Reporting to the Plant Manager, STP is a Plant Superintendent who supervises four functional areas (reactor operations, chemical operations and analysis, technical support, and maintenance). Also reporting to the Plant Manager, STP, are the Managers of Management Services, Health/Safety Services, and Outage, and the Facilities Services Supervisor. Dewease Aff., ¶¶ 3, 5, and Fig. 1.

802. The Applicants explain that the functions mentioned in the 1982 organizational description are all addressed in the revised organization, and that a "few more" staff functions have been added and the organization realigned "to provide . . . improved lines of management authority." The current Plant Manager has replaced the 1982 Plant Superintendent as the official responsible for plant management. The Plant Superintendent, who now reports to the Plant Manager, has been freed from a number of administrative functions previously exercised by that position and devotes his entire energies to plant operation and maintenance. Dewease Aff., ¶ 5. The net effect, however, results in a longer avenue of supervision between functions reporting to the Plant Superintendent and the Vice President, Nuclear Plant Operations.

803. In 1982, HL&P planned to provide the requisite expertise on shift through its Shift Supervisors, who were to have had Senior Reactor Operator (SRO) licenses (LBP-84-13, *supra*, 19 NRC at 785-86, Finding 244). Currently HL&P plans to provide such expertise through Shift

Technical Advisors (STAs). Dewease Aff., ¶ 11. The STA program resulted in an open item for further Staff review. See *infra* Finding 805, and Opinion, pp. 662-64, *supra*.

804. The Staff has found the Applicants' organizational structure for plant operations acceptable, with adequate provisions made for review and audit and for administrative controls, all in accordance with SRP requirements (see SRP § 13.1). The Staff notes a number of "minor items" for later Staff verification. Crocker Aff., ¶ 7. With respect to organizational structure, we find one "open" item to be significant. The Staff states that it has not yet examined the procedures governing the responsibilities of the onsite and offsite groups to coordinate their activities, but plans to explore this subject during a visit to the corporate office and the plant site and to report on interface matters in an SER supplement. Advance SER §§ 13.1.1.2 ("Interface with South Texas Plant Organization") and 13.1.1.3. See Opinion, *supra* pp. 660-61, for further comments on this open item.

805. The Applicants have provided the qualifications of a large number of the managerial personnel who will have STP operational responsibilities (Dewease Aff., FSAR §§ 13.1.1.4, 13.1.3.2, and Table 13.1-1, together with applicable changes). The Staff has reviewed plant staffing for operation and has found it acceptable, subject to several open items (Crocker Aff., ¶ 7; Advance SER § 13.1.1.2). Three of these we find to be significant. First, the SER notes that "there is little previous experience at the corporate level in nuclear plant operations" (Advance SER § 13.1.1.2 ("Personnel Qualifications")). Second, the Staff has indicated that it will confirm compliance with the shift crew operating experience guidelines of Generic Letter 84-16. Third, the Staff indicates the Applicants will "not meet the desires of the Commission as expressed in Generic Letter 86-04, 'Policy Statement on Engineering Expertise on Shift.'" The Staff finds the Applicants' program for engineering expertise on shift to be acceptable but adds that "[t]he applicant may wish to revise the STA program in light of the new policy statement." By letter to the Staff dated May 8, 1986 (ST-HL-AE-1659, File No: G3.8), the Applicants have submitted further information concerning the STA program. For reasons set forth in our Opinion (*supra* pp. 661-64), we find that satisfactory resolution of these open items is important. Our resolution of Issue C is specifically conditioned on a Staff finding that the Applicants' program for shift expertise meets the intent of the Policy Statement.

806. In the circumstances of this proceeding, we find that the open items identified *supra* in Findings 804 and 805, as well as others bearing

on organizational structure and qualifications identified in Chapter 13 of the SER, may appropriately be resolved by the NRC Staff.

807. We conclude that, subject to the resolution of various open items in a manner satisfactory to the NRC Staff, and in particular the open item concerning conformance with Generic Letter 86-04, the Applicants have satisfied applicable regulatory requirements regarding their organization and staffing for operation. Subject to resolution satisfactory to the Staff of those open items, we have reasonable assurance that HL&P has the competence and commitment to operate the STP safely.

F. Issue F (Summary Disposition)

808. Issue F, as admitted for litigation by this Board in the Second Prehearing Conference Order of December 2, 1980, states:

Will HL&P's Quality Assurance Program for Operation of the STP meet the requirements of 10 C.F.R. Part 50, Appendix B?

809. This issue was scheduled for litigation in Phase III (Finding 427, *supra*). Following completion of discovery, on March 12, 1986,, the Applicants filed a Motion for Summary Disposition o[f] Issue F.

810. In CCANP's Answers to Applicants' Eighth Set of Interrogatories (answer 5) and during the Seventh Prehearing Conference (Tr. 15,783-85), CCANP indicated that the sole matter it intended to raise under Issue F was the allegedly inequitable enforcement of HL&P's drug detection program. In the course of the Seventh Prehearing Conference, we ruled that that matter did not fall under Issue F (Tr. 15,888-89). We explained that ruling in our Seventh Prehearing Conference Order, *supra*, 23 NRC at 186, 187.⁴⁵

811. Since CCANP's drug claims were the only matter it wished to raise under Issue F, it did not respond to the Applicants' motion (*see* Seventh Prehearing Conference Order, *supra*, 23 NRC at 187 n.4). Indeed, concerning other matters bearing on whether the Applicants' QA program conforms to 10 C.F.R. Part 50, Appendix B, CCANP stated in its Answers to Applicants' Eighth Set of Interrogatories, dated February 12, 1986, at 1:

CCANP does not contend that the Quality Assurance Program for the South Texas Nuclear Project, as amended through Amendment 52 (November 15, 1985) and

⁴⁵ For reasons unrelated to the alleged nexus to Issue F, we also denied further consideration of the drug issue under Issue C or as a late-filed contention (23 NRC at 189).

HL&P's letters to the NRC staff through January 10, 1986, will not fully satisfy the requirements of 10 C.F.R. Part 50, Appendix B or that any revisions or additions to such QA program are necessary in order to satisfy the requirement of 10 C.F.R. Part 50.

812. Inasmuch as CCANP did not reply to the Applicants' motion, we did not require a reply from the Staff (Tr. 15,910-11; Seventh Pre-hearing Conference Order, *supra*, 23 NRC at 187 n.4; *see* p. 658, *supra*). We have, however, stayed our hand in ruling on the Applicants' motion, awaiting receipt of the Staff's SER (NUREG-0781). We did this in order to have the benefit of the Staff's opinion of the QA program for operation, which appears in Chapter 17 ("Quality Assurance") of the SER. By doing so, we sought to make certain that there would be no matter cognizable under the very general terms of Issue F that could be viewed as calling into question the adequacy of the QA program for operation. In fact, the Staff's report concludes (at 17-3) that:

- (1) The organizations and persons performing QA functions have the required independence and authority to effectively carry out the QA program without undue influence from those directly responsible for cost and schedule.
- (2) The QA program describes requirements, procedures, and controls that, when properly implemented, comply with Appendix B to 10 CFR 50 and with SRP Section 17.2 (NUREG-75/087, Revision 0).

813. The Applicants' motion is supported by the affidavit of James E. Geiger on Issue F, dated March 10, 1986, which bears, as attachments, § 17.2 of the FSAR (Attachment A), a list of planned changes to § 17.2 (Attachment B), and an organization chart for HL&P's Nuclear Assurance Department (Attachment C). Mr. Geiger is the Manager, Nuclear Assurance, for HL&P. He previously testified during Phase I, and his educational background and professional qualifications are included in that testimony. Geiger Aff., ¶ 1; Geiger *et al.*, ff. Tr. 10,580, at 1-3. We find Mr. Geiger to be qualified to address the matters dealt with in his present affidavit.

814. As required by 10 C.F.R. § 2.749(a), the motion is also accompanied by a list of "Material Facts as to Which There Is No Genuine Issue to Be Heard." These are asserted to be:

1. HL&P's QA program for the operation of STP (the STP operations QA program) is described in Attachments A, B, and C to the March 10, 1986 affidavit of Mr. James E. Geiger.
2. The STP operations QA program includes appropriate plans for inspections, audits, surveillance, documenting, tracking, and trending of deficiencies; review of vendor quality programs;

- and other monitoring of STP quality-related programs (Affidavit of Mr. James E. Geiger, ¶¶ 5-9).
3. The STP operations QA program includes appropriate requirements for personnel qualification, experience, and training (*id.*, ¶¶ 11-13).
 4. The STP operations QA organization will have a staff and organization sufficient to perform its function in compliance with Appendix B, 10 C.F.R. Part 50 (Affidavit of Mr. James E. Geiger, ¶¶ 5-10 and Attachment C).
 5. The STP operations QA organization is structured to provide organizational independence in the performance of its functions (*id.*, ¶ 3).
 6. The STP operations QA program satisfactorily addresses each of the eighteen criteria of Appendix B, 10 C.F.R. Part 50 (Affidavit of Mr. James E. Geiger, ¶ 15 and Attachments A and B).

We find no reason for disagreeing with these facts or for concluding that they do not adequately address all matters in question under Issue F.

815. The standards for summary disposition are well-known and are set forth *supra*, at pp. 632-33. Having carefully considered the motion in the light of those standards, having noted the position of CCANP as expressed in its answer to the Applicants' interrogatories (Finding 811, *supra*), and having noted the Staff's position as expressed in NUREG-0781 (Finding 812, *supra*), we find that there is no genuine issue as to any material fact; that the Applicants are entitled to a decision in their favor as a matter of law; and that, accordingly, the granting of summary disposition of Issue F is indeed appropriate.

II. CONCLUSIONS OF LAW

Based upon the foregoing Findings of Fact and upon consideration of the entire evidentiary record in this proceeding, the Board makes the following conclusions of law:

1. In its handling of the Quadrex Report, HL&P complied with the requirements of 10 C.F.R. § 50.55(e). Although we conclude that one additional finding of the Quadrex Report should have been furnished to NRC as a "potentially reportable" item, failure to have done so does not constitute a violation of § 50.55(e), since the item later proved to be not reportable under that section.

2. HL&P's handling of the Quadrex Report under § 50.55(e) does not detract from our earlier favorable evaluation of HL&P's character and competence.

3. HL&P's failure to furnish the Quadrex Report to the Licensing Board shortly after its release, and HL&P's failure to acknowledge the existence of the Quadrex Report in Phase I testimony or on cross-examination, violate the *McGuire* doctrine and, in addition, constitute less-than-full disclosure and, to some extent, less-than-desirable candor, which detracts somewhat from our earlier favorable evaluation of HL&P's character. The instances of less-than-full disclosure, taken individually or collectively, are not significant enough to conclude that HL&P lacks character to a degree sufficient to warrant denial of operating licenses.

4. HL&P's organization and staffing for operation satisfy all applicable regulatory requirements. This conclusion is subject to specified findings to be made by the NRC Staff.

5. HL&P's QA program for operation satisfies the requirements of 10 C.F.R. Part 50, Appendix B.

6. The Applicants have demonstrated managerial competence sufficient to permit them to complete construction of and to operate the STP.

7. On the basis of the foregoing, and subject to the specified Staff findings, we have reasonable assurance that HL&P has the necessary managerial competence and character (including commitment to safety) to complete construction of and to operate the STP safely, in compliance with all applicable NRC requirements.

8. Structures, systems, and components important to safety, except as indicated below, have been adequately designed to withstand hurricanes and hurricane-generated missiles, as required by General Design Criteria 2 and 4. This conclusion does not apply to the design to withstand hurricane missiles of the IVC roof, certain MEAB HVAC openings, and diesel exhaust stack openings (as identified in Part II.C of this Opinion).

Order

On the basis of the foregoing Findings of Fact, Conclusions of Law, and Opinion, and the entire record, it is, this 13th day of June 1986,

ORDERED:

1. CLI-80-32 Issues A, B, C, and D (to the extent not previously resolved in LBP-84-13) and CCANP Contentions 9 and 10 are *resolved* as described in this Decision, subject to the terms and conditions set forth

herein (including further review and findings by the Staff, where applicable).

2. The Applicants' Motion for Summary Disposition of CCANP Contention 4, dated March 12, 1985, is hereby *granted* to the extent it relates to the adequacy of design of all safety structures to withstand hurricanes and hurricane missiles, except with respect to the design to withstand hurricane missiles of the IVC roof, certain MEAB HVAC openings and diesel generator exhaust stack openings. Further development of the record is necessary with respect to the design of those structures, as well as the construction of safety structures to withstand hurricanes and hurricane missiles.

3. The Applicants' Motion for Summary Disposition of Issue F, dated March 12, 1986, is hereby *granted*.

4. CCANP's fourth and fifth motions to reopen the Phase II record, dated January 17, 1986, and February 28, 1986, respectively, are *denied*.

5. In accordance with 10 C.F.R. §§ 2.760, 2.762, 2.764, 2.785, and 2.786, as amended, this Partial Initial Decision shall become effective immediately and will constitute, with respect to the matters resolved herein, the final decision of the Commission thirty (30) days after issuance hereof, subject to any review pursuant to the above-cited Rules of Practice. Any party may take an appeal from this Partial Initial Decision by filing a Notice of Appeal within ten (10) days after service of this Decision. Each appellant must file a brief supporting its position on appeal within thirty (30) days after filing its Notice of Appeal (forty (40) days if the Staff is the appellant). Within thirty (30) days after the period has expired for the filing and service of the briefs of all appellants (forty (40) days in the case of the Staff), a party who is not an appellant may

file a brief in support of, or in opposition to, any such appeal(s). A responding party shall file a single, responsive brief *only*, regardless of the number of appellants' briefs filed.

**THE ATOMIC SAFETY AND
LICENSING BOARD**

**Charles Bechhoefer, Chairman
ADMINISTRATIVE JUDGE**

**Dr. James C. Lamb
ADMINISTRATIVE JUDGE**

**Frederick J. Shon
ADMINISTRATIVE JUDGE**

**Dated at Bethesda, Maryland,
this 13th day of June 1986.**

[The appendices have been omitted from this publication but can be found in the NRC Public Document Room, 1717 H Street, NW, Washington, DC 20555.]

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

**Ivan W. Smith, Chairman
Gustave A. Linenberger, Jr.
Dr. Oscar H. Paris**

In the Matter of

**Docket Nos. 50-546-OL
50-547-OL
(ASLBP No. 83-487-02-OL)**

**PUBLIC SERVICE COMPANY OF
INDIANA, INC.
WABASH VALLEY POWER
ASSOCIATION, INC.
(Marble Hill Nuclear Generating
Station, Units 1 and 2)**

June 18, 1986

MEMORANDUM AND ORDER

The recent and relevant history of this matter is set out in our May 30, 1986 Memorandum and Order Directing Briefs. LBP-86-14A, 23 NRC 565. There we noted that none of the intervenors in this proceeding had commented on the Applicants' Motion to Terminate Proceeding dated April 4, 1985. Consequently, no provision was made for any filing by the intervenors in the schedule for additional briefing required by the order.

By letter dated June 11, 1986, the Indiana Sassafras Audubon Society requests that the Marble Hill site be restored as completely as possible to farmland, timber land, and wildlife habitat. The Audubon Society states that it felt that there was nothing to comment on at the time of

the 1985 motion to terminate since the NRC Staff then sought an opportunity to review and to approve a site restoration plan. See NRC Staff's Response, April 24, 1985. To the extent that the Audubon Society now seeks to address the initial motion to terminate the proceeding, it is late. Any answer by Audubon to the motion to terminate was due within 10 days after service of the motion. The Staff exercised its prerogative to answer the motion 15 days after its service. 10 C.F.R. § 2.730(c). Audubon has not demonstrated good cause for failing to address the motion to terminate at the time an answer was due in 1985.

However the Board is not aware of any law or regulation which would *per se* bar the Audubon Society from answering the Applicants' supplement to the motion to terminate which supplement will be filed in obedience to our May 30, 1986 order. Accordingly, the Board amends its May 30, 1986 order as follows:

- (1) The Indiana Sassafras Audubon Society and any other intervenor in this proceeding may file an answer to the Applicant's supplement to the motion to terminate within 10 days after service of the supplement;
- (2) Or the Audubon Society may rest on its letter of June 11, 1986, which the Board will consider in light of the entire record, provided;
- (3) That any other party may argue that any intervenors' position on the supplement, on the grounds of tardiness or on other grounds, should not be considered. The Applicants and NRC Staff may address issues relating to intervenors in their respective forthcoming responses to the Board order of May 30, 1986, or they may seek other relief to do so.

The Audubon Society also requests that it be provided with a copy of the Applicants' supplement and the NRC Staff's response to the supplement. A random check of the more recent filings by the Staff and Applicants indicates that the intervenors have been served with documents in this proceeding as provided by regulation. We expect that that will also be the case in the future. On the other hand, the Audubon Society did not provide service of its June 11, 1986 letter to each of the other parties to the proceeding as required by the regulations. The Board calls to the attention of the Audubon Society the provisions of 10 C.F.R. § 2.701(b) requiring that documents offered for filing in NRC proceedings be served on all parties or their attorneys and that there be proof of such service accompanying any filed document. In this instance the Board

will cause the Audubon Society's June 11, 1986 letter to be served by attaching it to this order.

**FOR THE ATOMIC SAFETY AND
LICENSING BOARD**

**Ivan W. Smith, Chairman
ADMINISTRATIVE LAW JUDGE**

**Bethesda, Maryland
June 18, 1986**

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

**Sheldon J. Wolfe, Chairman
Frederick J. Shon
Dr. Oscar H. Paris**

In the Matter of

**Docket Nos. 50-289-OLA-1
50-289-OLA-2
(Steam Generator
Plugging Criteria)**

**GENERAL PUBLIC UTILITIES
NUCLEAR CORPORATION
(Three Mile Island Nuclear
Station, Unit 1)**

June 18, 1986

The Licensing Board denies Licensee's motion to the extent that it requests reconsideration of scheduling as set forth in the Memorandum and Order issued on May 19, 1986 (LBP-86-14, 23 NRC 553). To preclude the filing of a frivolous motion to reopen the record, the Board partially grants the motion by ordering that any party must indicate in such a motion to reopen that the Licensee's test data and the analyses thereof in the Staff's SSER are so significant as to change the result of the prior hearing.

MEMORANDUM AND ORDER
(Partially Denying Licensee's Motion for Reconsideration)

Memorandum

I. DISCUSSION

On May 23, 1986, the Licensee filed a Motion for Reconsideration of the Memorandum and Order (M&O) issued on May 19, 1986 (LBP-86-14, 23 NRC 553). Our M&O memorialized the May 7, 1986 conference, denied in part Intervenor Three Mile Island Alert's (TMIA) motion for a 6-month extension of time from May 12, 1986, to November 12, 1986, within which to complete discovery,¹ and established a schedule for proceeding in this case. The Licensee advises that it has notified the NRC Staff and TMIA of the instant motion and the proposed alternative schedule, and that the Staff does not object to the proposed schedule. TMIA filed an opposing response on June 2, 1986, and on June 9, the Staff filed a response in support of the Licensee's motion.

A. Re the Request for Reconsideration of the Board's Schedule

In Column 1 below, the Board's schedule, as established in its M&O of May 19, is set forth and, in Column 2, the Licensee's proposed alternative schedule is set forth:

	1	2
Begin discovery	August 15, 1986	July 7, 1986
End discovery	September 29, 1986	August 21, 1986
Motions for summary disposition to be filed by express mail or hand service	October 15, 1986	August 27, 1986

¹ At page 2 of its motion, the Licensee asserts that, during the May 7 conference, TMIA modified "its request to a delay of about four and one-half months," and that the Board granted the requested delay. This is an erroneous assertion because, while stating that it could begin discovery on August 15, 1986, TMIA reaffirmed that it would need the originally requested 6-month extension of time to November 12, 1986, within which to complete discovery (Tr. 139-40). Paragraph 1, 23 NRC at 563, of the M&O reflects that, in ruling that discovery should be completed by September 29, 1986, the Board partially denied TMIA's motion for a 6-month extension of time to complete discovery.

Answers to summary disposition motions to be filed by express mail or hand service	October 31, 1986	September 12, 1986
Board conference call ruling on summary disposition motions	November 10, 1986	September 22, 1986
File written direct testimony by express mail or hand service	November 28, 1986	October 10, 1986
Begin hearing	December 15, 1986	October 27, 1986
Complete hearing	December 19, 1986	October 31, 1986
Proposed findings of fact ²		
Reply ³		

At 23 NRC 562-63 of the M&O of May 19, 1986, the Board concluded as follows:

Finally, we are aware that our schedule will delay the Licensee's implementation during the next refueling outage of the 70% throughwall amendment. Our decision, upon a record which may be reopened, will not be issued by January 15, 1987, which is the date upon which Licensee states it would need a decision in order to implement TSCR 148 during the currently scheduled outage period of November 3, 1986, to March 13, 1987. However, Licensee's counsel also recognizes that the Staff's SSER will not be issued until the end of January 1987 and thus, if possible, the Licensee would have to get its testing results to the Staff at an earlier time (Tr. 200-03).¹⁰ Thus, while there is only a possibility that the Licensee could accelerate its testing and the submission of the results to the Staff, there is no possibility that the Board could issue its decision before January 15, 1987. We must balance the consequences of delay to the Licensee against our obligations to protect public health and safety. Obviously, we conclude that public health and safety are paramount considerations.

¹⁰ We note that, as Licensee's counsel apparently concedes, even if no hearing at all were held in this case, the Staff's reluctance to permit TSCR 148 to become effective before completion of both the Licensee's confirmatory tests and the Staff's analyses would make it difficult to assure that the change could be implemented in time to benefit Licensee during the scheduled refueling outage.

² The Board's schedule for the filing of proposed findings was based upon the times set forth in 10 C.F.R. § 2.754(a). The Licensee's motion proposes simultaneous filings of proposed findings on December 1, 1986 (by express mail or by hand service).

³ The Board's schedule provided that Licensee could file a reply pursuant to the time set forth in § 2.754(a). The Licensee's motion proposes simultaneous filings of replies on December 8, 1986 (by express mail or by hand service).

Nothing that the Licensee advances in support of its request for modification of the Board's schedule is new or reflects a departure from the positions that Licensee made known during the May 7 conference. Thus, our conclusion, *supra*, remains unchanged. Once again, at pages 2 and 4 and in footnote 1 of the motion, Licensee speaks only of the "possibility" and of "a fighting chance" that, if its proposed modified schedule is adopted by the Board, the Board's decision could be issued in time to permit Licensee's implementation of OLA-1 during the next refueling outage.⁴ Noting that the Staff has already stated that it probably could not issue the amendment before January 30, 1987, the Licensee asserts that it has been and is "attempting" to revise the refueling outage activities (currently scheduled for the period November 3, 1986-March 13, 1987) or to accelerate the submission of its test data to the Staff. We are not blind to the fact that proposed timetables are oft-times not met, and we will not be ramrodded into foreshortening the proceeding and into rushing to an earlier decision on a matter that is so important to the public health and safety. Further, we note that the Licensee's response of April 17, 1986, inflexibly opposed the granting of TMIA's motion for a 6-month extension of time without suggesting, as it now does, some modicum of compromise. Then it was and now it is of concern to the Board that the Licensee apparently was and is seeking the withdrawal of the sole intervenor (whose representative will not be available and prepared prior to August 15, 1986) in order that its request for the 70% throughwall amendment would be uncontroverted.⁵ Finally,

⁴ In asserting that the Board's scheduling for the commencement of discovery constitutes an unnecessary delay to the ultimate disposition of TSCR 148, the Staff's response merely speculates both that such scheduling will result in "potential" prejudice and that the Licensee's proposed alternative schedule (as modified by the Staff's suggestion) preserves the "possibility" that TSCR 148, if granted, could be implemented during the next scheduled refueling outage (Staff's Response at 4).

⁵ In its response of June 9, the Staff suggested that the Licensee's proposed date for the completion of discovery should be extended by 7 days, until August 28, and that the balance of Licensee's proposed schedule should be extended correspondingly. Agreeing with the Licensee that, under Commission rules and case precedent, commencement of discovery need not await the issuance of the SER (at the end of July 1986), the Staff then argues that TMIA would not be prejudiced in that TMIA would have sufficient time to discover the bases for the SER before its issuance, to review the SER when issued, and to complete its discovery. (Staff's Response at 3 and 4). Like the Licensee, the Staff shows a remarkable insouciance both about TMIA's sole representative's inability to proceed with discovery prior to August 15 and about the very short time within which to complete discovery upon matters important to the public health and safety. Moreover, 10 C.F.R. § 2.740(b)(1) and 10 C.F.R. Part 2, Appendix A, § IV(a), do not state that commencement of discovery need not await the issuance of the SER. Finally, the case of *Commonwealth Edison Co.* (Byron Station, Units 1 and 2), LBP-81-30A, 14 NRC 364, 369 (1981) merely holds that, prior to the issuance of the SER, an applicant may proceed to discover the bases for contentions if a good deal of information is already available to the intervenor in the FSAR and other documents. In the instant case, contentions are not involved and the document, the SER, is not and will not be available to TMIA until the end of July. Even if TMIA was able to submit written interrogatories to the Staff prior to the issuance of the SER, we firmly believe that, with respect to the very complex and important matters involved therein, TMIA is entitled to a thorough review and study of this document prior to commencing discovery.

we are not persuaded by the argument that the Board's schedule is unjustified and unduly prejudicial in that, if the license amendment cannot be issued in time for implementation during the next scheduled refueling outage, the Licensee may have to unnecessarily remove from service those steam generator tubes which would exceed the current 40% throughwall limitation in order for the plant to resume power at the conclusion of the outage (Licensee's Motion at 3 and 7). Such an argument runs counter to Licensee's statements made during the special prehearing conference held on March 27, 1986, that "[w]e know what caused it [inner-diameter corrosion] and we stopped that cause. Steps are in place so that it will not reoccur and there is no corrosive environment" (Tr. 30).

B. Re the Request for Reconsideration of the Board's *Zion*-Type Ruling

At various places in its motion, the Licensee indicates its displeasure with the Board's *Zion*-type ruling.⁶ Ultimately at page 10 of the motion, it urges that the option for reopening the hearing should not rest with TMIA. The Licensee's scenario is as follows: Pursuant to the Licensee's proposed scheduling, December 8, 1986, would be the due date for the simultaneous filings of reply findings. Licensee's confirmatory test data, which *may* be available in December, would promptly be given to TMIA to permit TMIA to determine whether it should request an additional hearing. Even if the Board were to elect to delay its initial decision pending a motion by TMIA for an additional hearing, it is conceivable that the Board could determine that further hearings are unnecessary and could issue its initial decision by January 15, 1987, the date by which the Licensee needs an initial decision in order to implement the 70% throughwall amendment during the refueling outage.

In the first place, the scenario lacks a basic foundation because, as indicated above in Part IA, we are denying the request for a reconsideration of scheduling. Second, the scenario is flawed because it merely speculates that Licensee's test data would be available in December. Third, the scenario is flawed because TMIA would only have in hand the raw test data furnished by the Licensee without the benefit of having in hand the Staff's final position which would be set forth in the SSER.⁷

⁶ See *Commonwealth Edison Co.* (Zion Station, Units 1 and 2), LBP-73-35, 6 AEC 861, 865, *aff'd*, ALAB-226, 8 AEC 381, 400 (1974).

⁷ The Staff agrees with the Licensee that the time in which TMIA may request an additional hearing should begin to run from the date that the Licensee provides its test data to the parties and cites in sup-

(Continued)

Finally, in suggesting that, after reviewing the Licensee's raw test data, the Board itself could determine that a further hearing would be unnecessary, the scenario is fatally flawed because it would gut the Board's *Zion*-type ruling in depriving TMIA of the opportunity to examine whether the Licensee's raw test data is confirmed in all material respects by the Staff's evaluation in the SSER.

Finally, at pages 10 and 11 of its motion, the Licensee also requests clarification of the Board's *Zion*-type ruling. It urges that the ruling should be amended to expressly require that, in the event TMIA requests an additional hearing after receiving pertinent information re-opened by the Licensee during the refueling outage and developed by the Staff in its SSER evaluation of the Licensee's test data, TMIA must at least satisfy the "significance" test — i.e., TMIA must indicate that the test data is so significant as to change the result of the prior hearing. The Staff concurs in this request. TMIA did not oppose the request. We were aware of NRC case law prescribing strict standards for reopening a closed record. In ruling in the M&O of May 19, 1986, that TMIA did not have to meet these usual standards for reopening the record, we did not intend that TMIA (or, for that matter, any other party) could file a frivolous motion to reopen. The *Zion* Board's ruling, which we adopted, indicated that the movant had to show circumstances illustrating the need for a new hearing. Accordingly, we grant the request for clarification. TMIA, as well as any other party, must indicate in a motion to reopen that the new test data and the analyses thereof are so significant as to change the result of the prior hearing.

port the case of *Duke Power Co.* (Catawba Nuclear Station, Units 1 and 2), CLI-83-19, 17 NRC 1041, 1045 (1983). (Staff's Response at 4 and 5). However, during the May 7, 1986 conference, the Staff stated that its final position in the SSER on the issuance of the amendment would have to await its analysis of the Licensee's test data, that its analysis would not be accomplished before the end of January 1987, and that "it is conceivable that our position might change if the results don't bear us out is in the realm of anything is possible" (sic). (Tr. 153, 191). Moreover, the *Catawba* case is inapposite. It merely held that the institutional unavailability of a licensing-related document does not establish good cause for the late filing of a contention if information was publicly available early enough to provide the basis for the timely filing of that contention. Accordingly, we adhere to our ruling that within 10 days after the service of the SSER, TMIA, as well as other parties, may file a notice requesting an additional hearing (without having to meet the usual standards for reopening a record) limited to matters within the scope of the admitted contentions, which arose subsequent to the closing of the record.

Order

For the foregoing reasons, the Board denies, in part, Licensee's Motion for Reconsideration of May 19, 1986 Memorandum and Order. It is so ORDERED.

**THE ATOMIC SAFETY AND
LICENSING BOARD**

**Sheldon J. Wolfe, Chairman
ADMINISTRATIVE JUDGE**

**Dr. Oscar H. Paris
ADMINISTRATIVE JUDGE**

**Frederick J. Shon
ADMINISTRATIVE JUDGE**

**Dated at Bethesda, Maryland,
this 18th day of June 1986.**

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

John H Frye, III, Chairman
Dr. James H. Carpenter
Dr. Jerry R. Kline

In the Matter of

Docket No. 40-2061-SC
(ASLBP No. 84-502-01-SC)

KERR-McGEE CHEMICAL
CORPORATION
(Kress Creek Decontamination)

June 19, 1986

Upon consideration of an Order to Show Cause issued to require preparation of a remedial action plan to clean up certain radiological contamination, Licensing Board rules that:

1. Jurisdiction exists under the Atomic Energy Act independently of the Uranium Mill Tailings and Radiation Control Act to require that a remedial action plan be prepared which is necessary or desirable to protect health because of the radiological contamination of Kress Creek and the West Branch of the DuPage River.
2. The radium-in-soil standard promulgated by the U.S. Environmental Protection Agency under the Uranium Mill Tailings and Radiation Control Act is not appropriate to protect health in the situation posed by this radiological contamination.
3. Part 20 of the Commission's regulations contains numerical radiological dose limitations which are appropriate to protect health in the situation posed by this radiological contamination.

4. The record in this proceeding does not demonstrate that the Part 20 numerical radiological dose limitations are exceeded as a result of this contamination.

Order to Show Cause dismissed.

NUCLEAR REGULATORY COMMISSION: JURISDICTION

The regulatory scheme set forth in Part 20 of the Commission's regulations clearly indicates that jurisdiction exists to regulate a licensee's activities to control radiological doses regardless of whether those doses result from material which may be classified as special nuclear, source, or byproduct material.

URANIUM MILL TAILINGS AND RADIATION CONTROL ACT (UMTRCA): RADIUM-IN-SOIL STANDARDS

The radium-in-soil standards promulgated by the U.S. Environmental Protection Agency under UMTRCA are not appropriate to protect health in the situation presented by this radiological contamination because the principal hazard is gamma radiation, not radon or thoron.

ATOMIC ENERGY ACT: DOSE LIMITATIONS

The numerical radiological dose limitations contained in Part 20 of the NRC regulations are applicable to materials licensees and are appropriate to protect health where the principal hazard is gamma radiation.

APPEARANCES

Stephen H. Lewis, Deputy Assistant Chief Hearing Counsel, and **Henry J. McGurren** and **Mary E. Wagner**, Counsel, Bethesda, Maryland, for the United States Nuclear Regulatory Commission Staff.

Peter J. Nickles, **Richard A. Meserve**, and **David P. King**, Washington, D.C., for the Kerr-McGee Chemical Corporation.

INITIAL DECISION

(Order to Show Cause)

INTRODUCTION

This proceeding was initiated by an Order to Show Cause (Order) issued by NRC Staff to Kerr-McGee Chemical Corporation (Kerr-McGee) on March 2, 1984.¹ On March 12, Kerr-McGee filed an answer to the Order and demanded a hearing. On June 28, the Commission referred this matter to the Chairman of the Atomic Safety and Licensing Board Panel to appoint an atomic safety and licensing board to conduct any necessary proceedings under 10 C.F.R. Part 2, Subpart A, and to consider and decide whether, on the basis of the allegations of §§ II and III of the Order, Kerr-McGee should be required to take the actions specified in § IV.²

THE ORDER TO SHOW CAUSE

Kerr-McGee holds a license authorizing possession of unlimited amounts of thorium at its West Chicago Rare Earths Facility. This facility ceased operations in December 1973. Section II of the Order alleges that a portion of the wastes from that site have been disposed of by discharge to Kress Creek and thence to the West Branch of the DuPage River, either by a storm sewer which enters the creek 0.7 kilometer south of the site, or by a drainage ditch. Section II notes that from this point the Creek flows for about 2 kilometers to its confluence with the West Branch at the DuPage River. Section II goes on to recite the history of the discovery of the contamination of the Creek and River.³

Section III begins by noting that a comprehensive radiological survey has been performed at the instance of the Staff. The survey was designed to determine direct radiation levels and the depth distribution of the contamination in the stream beds and along the banks. Section III alleges that the survey revealed the presence of thorium and its daughters essentially in secular equilibrium. It summarizes the survey results and notes that many of the highest concentrations were found in areas near

¹ See 49 Fed. Reg. 9288 (Mar. 12, 1984).

² On June 29, 1984, this Board was established by the Chairman, Atomic Safety and Licensing Board Panel (49 Fed. Reg. 27,863 (July 6, 1984)), and reconstituted on February 4, 1986 (51 Fed. Reg. 5007 (Feb. 10, 1986)).

³ For convenience, we will refer to both these streams as Kress Creek or the Creek.

the storm sewer outfall. This section concludes by alleging that the contamination exceeds the standards promulgated by the U.S. Environmental Protection Agency (EPA) under the Uranium Mill Tailings and Radiation Control Act (UMTRCA) for unrestricted use of areas on which thorium processing wastes have been disposed (40 C.F.R. Part 192, Subparts B and E),⁴ that NRC is responsible for enforcing these standards, and that cleanup is required.

Section IV required Kerr-McGee to show cause why it should not be required to prepare a remedial action plan for the cleanup and disposal of the contaminated material and expeditiously execute the plan following NRC approval. There is no allegation in the Order of any violation of a regulation or license condition. Kerr-McGee responded to the Order with an answer (and subsequently an amended answer) and a Demand for Hearing.⁵

Two petitions to intervene were received, one from the People of the State of Illinois and Illinois Department of Nuclear Safety (collectively referred to as "the People") and the other from the Nicheren Shoshu Temple (NST).⁶ Kerr-McGee did not object to the petitions.⁷ The NRC Staff asserted⁸ that both were late-filed, but concluded, after balancing the five factors set out in 10 C.F.R. § 2.714(a) for nontimely intervention petitions, that they should be granted. We concluded that the petitions were timely, that each party had standing, and that each had submitted at least one acceptable contention. We granted party status to the People and NST at the first prehearing conference, held in Chicago, August 22, 1984.⁹

The People filed six contentions. Contention 1 raised the possibility that chemical pollutants may exist in Kress Creek which should be considered in any cleanup plan. Contention 6 was duplicative of the Order. Contentions 2 through 5 raised matters concerning disposal of the material excavated from the Creek. Contentions 1 and 6 were admitted, while a ruling on Contentions 2 through 5 was withheld pending a

⁴ We will refer to this standard as the radium-in-soil standard.

⁵ Answer and Demand for Hearing of March 19, 1984; Amended Answer of October 10, 1984.

⁶ People of the State of Illinois Petition to Intervene, July 10, 1984; Petition for Leave to Intervene, July 11, 1984.

⁷ Answer by Kerr-McGee Chemical Corporation to the People of the State of Illinois Petition for Leave to Intervene, July 25, 1984; Answer by Kerr-McGee Corporation to the Petition for Leave to Intervene filed by Nicheren Shoshu Temple, July 25, 1984.

⁸ NRC Staff Response to Petitions of the Nicheren Shoshu Temple and the People of the State of Illinois for Leave to Intervene, July 30, 1984, at 5-9.

⁹ Tr. 25-26; Unpublished Prehearing Conference Memorandum and Order of September 7, 1984.

determination that Kerr-McGee must prepare a cleanup plan and pending a resolution of the dispute concerning disposition of the tailings located at the West Chicago site.¹⁰

We dismissed Contentions 1 and 6 in LBP-85-48, 22 NRC 843 (1985), as a sanction for failure of the People to comply with our discovery orders contained in LBP-85-38, 22 NRC 604 (1985). In LBP-85-48, we noted the agreement between counsel for Staff and the People that these contentions would not add anything to the hearing. Our action did not dismiss the People as a party and they were free to participate in the hearing. However, they chose not to do so.

The Temple, whose property lies along Kress Creek, filed eight contentions. All of these except Contention 7 were admitted.¹¹ On April 1, 1985, the Temple withdrew from this proceeding.

The hearing took place at West Chicago, Illinois, on April 28 and in Chicago on April 29 and 30, 1986. We heard limited appearance statements from the City of West Chicago in opposition to the movement of any contaminated materials into the City (Tr. 316-18), from the DuPage County Forest Preserve District asking for information with regard to the contamination (Tr. 318-20),¹² and from the Director of the West Chicago Parks District expressing his desire to know whether the material in the Creek poses a hazard (Tr. 342-43). Although two or three persons who live along the Creek were present and invited to state their views, they did not do so (Tr. 342).

BOARD JURISDICTION

In the initial stages of this proceeding, the parties raised the question of NRC jurisdiction in this matter.¹³ On November 27, 1984, Staff, the People and NST (Proponents) jointly filed a motion¹⁴ requesting the disposition of several averments contained in Kerr-McGee's amended answer. These parties asserted that the averments raised affirmative defenses to the Order challenging Staff's authority to take the enforcement action.

¹⁰ Unpublished Memorandum and Order of October 22, 1984.

¹¹ *Id.*

¹² On May 13, 1984, the president of the DuPage County Forest Preserve Commission announced that he was closing a 1-mile stretch of the Blackwell Forest Preserve along the DuPage River because of uncertainty surrounding the contamination in the river banks and sediment. PNO-III-85-45, May 14, 1986.

¹³ Unpublished Prehearing Conference Memorandum and Order, September 7, 1984, at 4-5.

¹⁴ Joint Motion for Disposition of Averments, November 29, 1984.

The averments which Proponents wished dismissed state:

10. No such Order may be issued by the NRC without a finding of a specific significant risk of health, safety or environmental harm.
11. No such Order may be issued without a complete analysis of the actual risk to the health and safety of the public of compliance with such an Order.
12. No such Order may be issued without a complete analysis of the risk of harm to the environment from compliance with such Order.
13. No such Order may be issued without a complete analysis of the costs and benefits of remedial action, including the impacts upon the communities and individuals affected by compliance with such an Order.

Kerr-McGee argued that the averments raised jurisdictional matters which must be addressed by Staff if the Order was to be enforced. Kerr-McGee also asserted that the relief sought — disposition of the averments as a matter of law — was inappropriate because the averments presented mixed questions of law and fact.

We denied the Proponent's motion without prejudice to the filing of properly supported motions for summary disposition.¹⁵ There, we recognized the disparate views held by the parties with respect to the matters which must be proven for the Board to enforce the Order. We requested briefs from the parties on the question of what facts must be shown at hearing for Staff to prevail, and urged the parties to focus on the applicable regulatory standards and any circumstances unique to the Kress Creek situation which might militate against the application of those standards.¹⁶

In view of our ultimate conclusions that the radium-in-soil standard is not appropriate for application in this situation and that no hazardous condition or threat to health has been demonstrated on this record, we need not recite in detail the controversy on this point. However, it is important to note that Staff conceded, in response to Kerr-McGee's position that UMTRCA could not be retroactively applied, that the radium-in-soil standard was not legally binding in this situation. Staff then based its jurisdictional argument on §§ 62, 63, and 161(b) of the Atomic Energy Act, and argued that the radium-in-soil standard, although not legally binding, was nonetheless appropriate and should be applied.¹⁷

¹⁵ Unpublished Memorandum and Order, December 28, 1984.

¹⁶ *Id.*

¹⁷ With regard to the allegations contained in the Order, Proponents and Kerr-McGee agreed that the burden of going forward would be borne by Proponents. There was strong disagreement, however, about whether Kerr-McGee's averments should be characterized as affirmative defenses on which Kerr-

(Continued)

It is also important to note that our jurisdiction does not depend on whether the material in Kress Creek may properly be classified as source or byproduct material. Section 161 (b), on which Staff relies, states:

In the performance of its functions the Commission is authorized to establish by rule, regulation, or order, such standards and instructions to govern the possession and use of special nuclear material, source material, and byproduct material as the Commission may deem necessary or desirable to promote the common defense and security or to protect health or to minimize danger to life or property.

On its face, § 161(b) restricts the Commission's authority to special nuclear, source, and byproduct material. Kerr-McGee is a source material licensee subject to the regulations contained in 10 C.F.R. Part 40. UMTRCA extended NRC's jurisdiction to mill tailings, the waste product of the West Chicago facility which probably contaminated the Creek, by including them in the definition of byproduct material. Given that UMTRCA was conceded to be inapplicable, a question arose concerning NRC jurisdiction with regard to the material in Kress Creek. At the pre-hearing conference, Staff counsel opined that the material in Kress Creek might be source material, and Staff addressed some testimony to this point at the hearing. This testimony was undoubtedly in response to our statement in our March 22, 1985, Memorandum and Order that "Staff must show that the contamination which it wishes cleaned up is properly classified as source material" Kerr-McGee regards this statement as *dictum*. Kerr-McGee's Post Hearing Submission at 18 n.1. Whether *dictum* or not, we believe that this statement was in error and that, as will be seen, jurisdiction exists regardless of whether the material may properly be classified as source material. Thus we find it unnecessary to address Staff's testimony that the material is source material.

We regard our statement that Staff must show that the material is source material to be in error for the following reasons. Under 10 C.F.R. § 20.2, Part 20 is applicable to Part 40 licensees. Section 20.3(a)(13)

McGee must present evidence or as jurisdictional issues on which Proponents must bear the burden. The Board indicated that it did not find authority to support Kerr-McGee's view that a specific, significant risk, something more than a hazardous condition to the health and safety of the public or to the environment, must be found if the order is to be enforced. Thus, the Board ruled that Kerr-McGee was to bear the burden of going forward with a showing to sustain its position on this averment. Second Pre-hearing Conference Memorandum and Order, February 7, 1985, at 9.

The averments posed a legal issue concerning the EPA radium-in-soil standards advanced by the Staff. Kerr-McGee contended that cleanup to those standards could be enforced, if at all, only after the Board had engaged in a balancing of costs and benefits, an analysis not required under § 161(b) of the Atomic Energy Act. Staff's position was predicated upon its view that a cost-benefit analysis by the Board was unwarranted because EPA had already analyzed those considerations in the course of promulgating the radium-in-soil standard. We find it unnecessary to rule on the above controversy because Staff has failed to show that the radium-in-soil standard is appropriate in this situation.

defines "radioactive material" to include such material whether or not subject to the Commission's regulatory authority. Section 20.105(a) requires licensees to restrict their possession and use of radioactive materials so as to ensure that it will be unlikely that any individual member of the public will receive a dose of more than 0.5 rem per year. And § 20.1(c) requires licensees to make every reasonable effort to restrict releases of radioactive materials to levels which are as low as reasonably achievable. Clearly, this regulatory scheme illustrates that jurisdiction exists to regulate radiation hazards caused by a licensee whether or not the hazard results from materials which fall within one of the three categories stated in § 161(b).¹⁸

Kerr-McGee contests the proposition that the material in the Creek came from its West Chicago facility and thus is its responsibility. However, the uncontradicted evidence indicates that the West Chicago Rare Earths Facility is the only thorium processing plant within 50 miles of Kress Creek. This severely narrows the possible places from which the material may have originated. Kerr-McGee's efforts to establish other possible sources (e.g., spillage from railroad cars at the railroad crossing of Kress Creek close to the storm sewer outfall) are pure speculation. While Staff's testimony on possible pathways the material might have followed into Kress Creek is also speculative, in this case we believe the thing speaks for itself. While recognizing the speculative nature of the testimony on this point, we find that the material in Kress Creek came from the West Chicago facility while it was licensed under the Atomic Energy Act and decide this controversy on the merits of the hazard posed by that material. Findings 1 through 21 support this conclusion.

THE STAFF'S PROPOSED CRITERIA FOR CLEANUP

The Order states:

the NRC Staff concludes that cleanup of the offsite vicinity properties along Kress Creek and the DuPage River is required and that the following levels of contamination specified in EPA standards are to be used as criteria for the offsite properties:

1. Five picocuries of radium per gram of soil (pCi/g), averaged over the first 15 centimeters (cm) below the surface, and

¹⁸ Kerr-McGee agrees that "the NRC has authority to issue a customized order directed at a licensee regarding the offsite release of materials that are not themselves source materials." Post Hearing Submission at 19. While Kerr-McGee does not contest jurisdiction provided that Staff demonstrates that the material along the Creek accidentally escaped from the site, it does recognize that there are limitations on the Commission's authority to regulate mill tailings prior to the passage of UMTRCA. *Id.* at 20.

2. Fifteen pCi/g averaged over 15 cm thick layers more than 15 cm below the surface. The specified levels of contamination may be averaged over areas of 100 square meters.¹⁹

In view of Staff's concession that EPA's radium-in-soil standard may not be applied retroactively, we must decide whether it is appropriate guidance for the specific problem posed by the Kress Creek radiological contamination.

We begin by noting the nature of the hazard which Staff perceives. Staff testified that the principal exposure pathways from thorium and its daughters are direct irradiation and inhalation.²⁰ Staff counsel has indicated that the principal hazard to the present residents of the Kress Creek area is from gamma doses.²¹ Staff's reply findings indicate that the possibility that houses might be built on the existing contamination many years in the future may not be overlooked,²² although Staff's proposed findings indicate that the radium-in-soil standard was not designed to protect against that possibility.²³

Staff relied upon EPA's statement that the radium-in-soil standard is appropriate for the cleanup of offsite vicinity properties. Staff's justification for the use of the radium-in-soil standard is set out below.

Q8. Has USEPA stated a view as to the appropriateness of applying the 5 and 15 pCi/g standards to cleanup of offsite properties in the vicinity of Title II sites?

A8. Yes. USEPA has stated in its "Final Environmental Impact Statement for Standards for the Control of Byproduct Materials from Uranium Ore Processing" (FEIS), which was prepared in support of the issuance of 40 C.F.R. Part 192, Subparts D and E, that:

We believe that the Standards (40 CFR Part 192, Subpart B) we have already published for the off-site cleanup program for inactive mills under Title I of UMTRCA would be suitable for application to off-site contamination from active mills.

FEIS, Volume II, Page A.1-3. See also pp. A.5-36 and -37. This would include offsite thorium, as well as uranium, contamination, since the numerical standards are the same for both chains. FEIS, Vol. I, Appendix G; Vol. II, p. B.3-2.²⁴

¹⁹ Kerr-McGee notes that this statement should have specified radium-228 above background. Staff witnesses Cool and Shum so specified in their testimony (Tr. 469-70), and we consider the standard in that light.

²⁰ Shum/Cool, ff. Tr. 425, at 6.

²¹ Kerr-McGee Exh. 12; Tr. 344.

²² Staff Reply Findings at 12.

²³ Staff Proposed Finding 110 at 49.

²⁴ Shum/Cool, ff. Tr. 425, at 4-5.

Page B.3-2 of Vol. II contains responses to individual comments on EPA's draft impact statement and consequently does not merit great weight. However, it is evident from this reference that EPA was concerned with radon emanating from a *tailings pile*, not with the hazard posed by contamination of property in the vicinity of the pile, such as the problem posed by Kress Creek.

The response to Comment 7 — which states that the risks from radon-220 (thoron) emissions from a tailings pile are comparable to those from radon-222 emissions when the much larger source term from thoron is taken into account and which references Appendix G of the FEIS — makes clear that USEPA was focussing on a hypothetical tailings *pile* and the need for thoron flux reductions from such a pile. Similarly, review of Vol. 1, Appendix G, shows that USEPA was focussed on demonstrating the need for thoron flux reduction from a hypothetical thorium mill tailings pile. In the Kress Creek situation, there is no tailings pile and we do not find the staff reference to be helpful. We do not find any mention of the radium-in-soil standard in Appendix G.²⁵

However, in Appendix G, § G.4, there is a brief discussion of gamma radiation from tailings. It states that individual doses must be assessed on a case-by-case basis because details on shielding and distance are critical in the calculation. This is directly pertinent to the Kress Creek situation. Moreover, § G.4 also makes the point that for equal concentrations, the gamma flux density and associated absorbed dose rate for the thorium series is approximately 50% greater than for the uranium series. If a radium-in-soil standard were to be used to protect the public from gamma radiation, the difference between the thorium and uranium decay series would lead to two different standards for the two *different* materials. Permissible concentrations of thorium would be less than permissible concentrations of uranium.²⁶

However, it is clear that the radium-in-soil standard was not promulgated by the USEPA to control gamma exposure rates but rather to limit the inhalation exposure of people in houses to radon-222 and its daughters as described on pages 9-14 to 9-16 of the FEIS. The specification in the standard that the contamination levels should be averaged over 100 square meters reflects this fact.

²⁵ For this reason we do not agree with Staff that, in promulgating the radium-in-soil standard, USEPA balanced costs and benefits for radium-228.

²⁶ The spotty nature of the Kress Creek contamination results in low gamma doses. If this contamination were more widely distributed over the Kress Creek area, occupancy factors and consequently dose would increase. Nonetheless, a radium-in-soil standard is not an appropriate way to regulate gamma doses because the latter are easily measurable. A gamma dose limit is more straightforward.

When the risk to the public from possible inhalation of daughters of radium-226 (uranium series) is compared to possible inhalation of daughters of radium-228 (thorium series), a substantial quantitative difference is evident. The health risk resulting from exposure to a given concentration in air of thoron and its daughters is about one-third that of radon and its daughters. FEIS at G-8. Furthermore, we accept Kerr-McGee's testimony (Auxier *et al.*, Table III-1) that if a house were built on soil containing equal concentrations of radium-228 and radium-226, the concentration of thoron and its daughters in the house would be 30 times smaller than the concentration of radon and its daughters. Thus, when the differing half-lives of thoron and radon are taken into account, the overall inhalation risk resulting from building a house on soil containing thorium and radium-228 is approximately 90-fold smaller than the risk from building on soil containing the same activity of uranium and radium-226.

If a "radium-in-soil" standard were appropriate for protecting the public in the Kress Creek situation, the above quantitative differences between the thorium and uranium series could be considered. However, we see no need to do so. Staff counsel has stated that external gamma radiation is the primary mode by which members of the community using the Creek area could receive additional radiation exposures,²⁷ and Staff does not contest Kerr-McGee's Proposed Findings 133 and 135-140 which assert that the risk posed by inhalation of thoron emanating from Kress Creek (either outdoors or within a hypothetical house built over a concentration of 110 pCi/g) is inconsequential. The Kerr-McGee testimony on risks shows that direct gamma exposure is the predominant pathway in the dose assessment. Auxier *et al.*, ff. Tr. 591, at 20-21. We agree that any risk to the public posed by Kress Creek results from direct gamma exposures. A "radium-in-soil" standard is superfluous and inappropriate. In the next section, we examine this risk against a gamma exposure standard, based on Part 20, of 0.1 rem per year (rem/yr) above the natural ambient background.

The use of a 0.1-rem/yr criterion provides a greater degree of public health protection from direct gamma exposure than the EPA radium-in-soil standard. On page 9-16 of the FEIS, EPA estimated the residual risk of fatal lung cancer under the radium-in-soil standard as 2 in 100 for lifetime exposure resulting from living in a house built on soil contaminated with uranium. The Kerr-McGee testimony (Auxier *et al.* at 23) quotes the International Commission on Radiation Protection and the

²⁷ Note 19, *supra*.

NRC as to risk from ionizing radiation at 1.65×10^{-4} per rem. The 0.1 rem/yr criterion corresponds to a lifetime (70-year) cancer fatality risk of approximately 1 in 1000. The use of a 0.1-rem/yr exposure limit provides a greater degree of public health protection than the radium-in-soil standard by a factor of approximately 20 where the hazard comes from gamma radiation.

For all of the foregoing reasons, we reject the radium-in-soil standard as appropriate to protect health in the circumstances of this case. Findings 65 through 76 support this result. However, we reach no conclusion with regard to the appropriateness of this standard in dealing with a different situation.

PART 20 CRITERIA FOR CLEANUP

We have determined that the standards promulgated by EPA under UMTRCA are not appropriate to govern a cleanup at Kress Creek, and that Part 20 applies. Therefore, we believe it appropriate to review Part 20 to determine whether, under its standards, Kress Creek may present a hazard. We do so recognizing that Part 20 standards have not been advocated by Staff despite our calling attention to them.

In our unpublished Memorandum and Order of March 22, 1985, we noted that, in view of Staff's concession that UMTRCA was not legally applicable, the radium-in-soil standard was not immune to attack under 10 C.F.R. § 2.758. We went on to state that "we expect the proponents to justify the application of these standards to the single, unique situation at Kress Creek . . . , as opposed to the application of other standards (for example, the standards found in 10 C.F.R. Part 20)."

We recognize that Staff's choice not to advocate Part 20 standards would inhibit us from granting relief based on them. Nonetheless, Kerr-McGee did address them in its testimony, and we have concluded that they are not only applicable, but more appropriate to assess the Kress Creek risk than the radium-in-soil standard. Consequently, we believe it advisable to address them.

We began by noting that § 20.105(a) sets down the proposition that:

The Commission will approve the proposed limits [on levels of radiation in unrestricted areas] if the applicant demonstrates that the proposed limits are not likely to cause any individual to receive a dose to the whole body in any period of one calendar year in excess of 0.5 rem.

The 0.5-rem standard is based on the recommendation of the Federal Radiation Council. The National Council on Radiation Protection and

Measurements and the International Commission on Radiological Protection made parallel recommendations. The Commission has noted that the 0.5 rem standard gives

appropriate consideration to the overall requirements of health protection and the beneficial use of radiation and atomic energy. The Commission believes that the record clearly indicates that any biological effects that might occur at the low levels of these standards have such low probability of occurrence that they would escape detection by present-day methods of observation and measurement.²⁸

Thus 0.5 rem/yr constitutes a level of exposure which is unlikely to have any visible effect on the person exposed to it.

The 0.5-rem exposure limitation is a limitation on all exposures (except natural background and medical exposures).²⁹ Because it must be assumed that any individual will experience doses from multiple sources, the exposure from any single source of gamma radiation, such as Kress Creek, must be less than 0.5 rem/yr.

The Commission has proposed to adopt a new Part 20. That proposal furnishes guidance as to how much less than 0.5 rem/yr any exposure from an individual source should be. Noting that it is impractical if not impossible to accurately determine the precise total dose received by any individual member of the public, proposed § 20.303(a) establishes a reference level of 0.1 rem. If a licensee can demonstrate that its operations will not result in a dose to any individual in excess of this amount, it will be deemed to be in compliance with the 0.5-rem limitation.

We believe the 0.1-rem standard to be appropriate for Kress Creek. Section 161(b) authorizes orders necessary to "protect health." Similarly, § 2.202(a) addresses potentially hazardous situations. Part 20 establishes that no individual member of the public should receive a dose at more than 0.5 rem in any calendar year. In order to ensure that the 0.5-rem standard will not be exceeded from all sources, proposed Part 20 establishes 0.1 rem as a dose level for individual sources which may not be exceeded without justification. Based on the above, we believe that 0.1 rem represents a reasonable limitation on dose resulting from the material in the Creek area which is necessary to protect health.

²⁸ Rulemaking Hearing — Numerical Guides for Design Objectives and Limiting Conditions for Operation to Meet the Criterion "As Low As Practicable" for Radioactive Material in Light-Water-Cooled Nuclear Power Reactor Effluents, CLI-75-5, 1 NRC 277, 280 (1975).

²⁹ *Id.*

THE 0.1-REM LIMITATION APPLIED TO KRESS CREEK

The significance of any particular, localized area of elevated gamma exposure rate will depend on the time period that people might be reasonably expected to be in that area, i.e., to occupy that particular locale. The health risk to an individual depends on the time-integrated or summed exposures. Thus, in examining the observed gamma radiation distributions in the Kress Creek area to determine the extent to which a hazard may exist, occupancy factors are of paramount importance because anticipated radiation doses are directly proportional to anticipated time of exposure.

Staff responded to our question³⁰ that occupancy factors should be considered in connection with Kress Creek, but did not offer an opinion concerning the appropriate occupancy factors that would apply to the Kress Creek properties, other than to note that the USEPA used a 75% occupancy factor for indoor exposure in the FEIS, Vol. I, at 5-2. Cool/Shum testimony at 12.

The Kerr-McGee testimony (Auxier *et al.* at 8-10) cites a report by N.A. Frigerio, T.J. Larson, and R.S. Stowe ("Thorium Residuals in West Chicago, Illinois," NUREG/CR-0413, ANAL/ES-67, 1978; Kerr-McGee Exh. 1)) as a basis for estimating an occupancy time of 200 hours per year (hr/yr) for "lawns and gardens of a sort experiencing some residential occupancy." The Board perceives this estimate of the outdoor exposure time period to be debatable. We note that Frigerio *et al.* did not estimate occupancy factors for the Kress Creek properties, but rather only made estimates for a number of locations in the City of West Chicago.

Kerr-McGee quotes Frigerio *et al.* as noting "that occupancy is inhibited simply by the relatively high fraction in inclement weather in this area." Frigerio *et al.* at 9. The term "relatively high" is subjective and provides no basis on which to judge occupancy. We note that, even if the weather is unsuitable for outdoor activities 50% of the time, outdoor occupancy might easily be 540 hr/yr and we question whether the Frigerio *et al.* estimate is sound.

Also, we consider it possible that outdoor occupancy and exposure might not be the primary risk consideration for the Kress Creek situation. As Dr. Chambers, a Kerr-McGee witness, testified, "one could postulate that there might be some external gamma radiation associated with time spent indoors." Tr. 685. Shielding or exposure reduction for

³⁰ See Unpublished Memorandum and Order of May 8, 1985.

the gamma radiation fields caused by the Kress Creek materials has not been measured as a part of the record in this proceeding. For frame houses, the shielding might be roughly 10% so that the indoor exposure rate may not be much smaller than the outdoor exposure rate.³¹ When outdoor occupancy of roughly 540 hr/yr or 6% of the year is compared with 75% indoor occupancy (6570 hours), it can be seen that indoor exposure rates 10 times smaller than outdoor rates would lead to dominance in the total exposure sum for the indoor exposure.

The 0.1-rem/yr criterion would correspond to a 11 microrem per hour ($\mu\text{rem/hr}$) increment above background, if continuous, year-long exposure occurred. If the background exposure is taken as 9 $\mu\text{rem/hr}$, indoor exposure with 75% occupancy should be limited to 24 $\mu\text{rem/hr}$ to meet the 0.1-rem criterion. Review of the ORAU report shows that there are only a few residential properties where the exposure rate borders on 24 $\mu\text{rem/hr}$. Outdoor exposure rates measured by ORAU are well below the 0.1-rem criterion on any reasonable occupancy rate. Findings 77 through 83 support these conclusions, while Findings 22 through 29 describe Kress Creek and Findings 30 through 64 describe the radiological surveys and their results.

Because no party has addressed § 20.1(c) which admonishes that doses should be "as low as is reasonably achievable," we do not consider whether the gamma doses resulting from Kress Creek meet this standard. However, our review of the record indicates that there are a few limited areas of relatively high gamma exposure rates which might be cleaned up with a minimum of expense and disruption.

Furthermore, no party has addressed the questions of the size of the population which might be exposed to gamma radiation emanating from Kress Creek or the realistic (as opposed to maximum acceptable) doses that that population might receive. Nor has any party addressed the costs and disruption incident to a cleanup to ALARA standards.³² Therefore no balancing is possible under § 20.1(c).

Because of the above, we express no opinion whether, had Staff chosen to proceed under Part 20, some relief might have been appropriate. This record does not foreclose that possibility.

³¹ See *Long Island Lighting Co.* (Shoreham Nuclear Power Station, Unit 1), LBP-85-12, 21 NRC 644, 773 (1985).

³² Kerr-McGee has submitted uncontroverted testimony on the economic and environmental impacts, as well as industrial risks, of cleanup to the radium-in-soil standard.

Findings of Fact

BACKGROUND

1. The Lindsay Light Company began processing thorium ores at West Chicago, Illinois, in the 1930s. In 1958, American Potash & Chemical Corporation purchased the Lindsay Light Company, including the West Chicago site. In 1967, Kerr-McGee acquired the site through a merger with American Potash. Rare Earths FES at xi.

2. The Rare Earths facility consists of three portions: a factory site (8 acres), where processing occurred; a disposal site (27 acres); and an intermediate site (8.4 acres), which is between the factory and disposal site and has not been used for site operations. Horn *et al.* Testimony at 3.

3. The disposal site currently contains two major solid waste residue piles and five disposal ponds. *Id.* at 5-6.

4. The railroad right-of-way runs parallel to and just west of the west boundary of the entire site. The right-of-way is markedly elevated above the surrounding topography. *Id.* at 4-5.

5. The facility operated from 1932 to 1973. Initially, the facility primarily produced thorium nitrate for use in incandescent light mantles. The facility also produced rare earth materials for a variety of industrial uses including polishes, chemical manufacture, catalysts, and television phosphors. *Id.* at 8. A major portion of the activities at the site were related to the production of thorium pursuant to government contracts. Rare Earths FES, Appendix H at H-4.

6. With the passage of the Atomic Energy Act of 1954, production of thorium at the facility became subject to federal regulation. At all times since May 1, 1956, the facility has been licensed by the Atomic Energy Commission or its successor, the Nuclear Regulatory Commission. Rare Earths FES at xi.

7. The process used for thorium and rare earths production at the facility produced two waste materials. These wastes were deposited on site. One resulted from the ore digestion process and was a solid sand-like residue. The other was composed of liquid wastes from a number of processes and contained dissolved salts and suspended solids. The solids settled out on the bottoms of the facility's sumps and percolation ponds. These sediments were periodically dredged from the ponds and sumps and placed on a sludge pile near the ponds. Both these waste materials, which contain quantities of thorium and thorium daughter products, remain on the disposal site pending resolution of *Kerr-McGee Chemical Corp.* (West Chicago Rare Earths Facility), Docket No. 40-2061-ML. Horn *et al.* Testimony at 10.

8. A storm sewer runs to the east of the factory site (under Factory Street), jogs west under the intermediate site, and then continues south under the west edge of the disposal site just inside its western boundary. It then proceeds under property not owned by Kerr-McGee to its discharge point into Kress Creek. *Id.* at 4, 12.

9. The storm sewer outfall is approximately 400 meters south of the southwest corner of the disposal site. Kress Creek flows generally south from that outfall for approximately 2000 meters to its confluence with the West Branch of the DuPage River. *Id.* at 5-6; Staff Exh. 1 at 2.

10. Neither Kerr-McGee nor its predecessors have ever been cited for any violation relating to the discharge of thorium into Kress Creek. Tr. 409.

CAUSE OF THE CONTAMINATION

11. The Staff believes that contamination may have reached the Creek through the storm sewer. Staff suggests that the material could have reached the sewer by (1) drainage from roof or yard drains, (2) overflow of process liquids from an onsite sump, (3) erosion or physical displacement from the tailings pile to a manhole on the disposal site, or (4) overflow or drainage from the percolation ponds. Horn *et al.* Testimony at 15-18.

12. The Staff relies on documentary evidence for its theories of how the thorium-bearing material reached its present location on or in Kress Creek. *Id.*; Tr. 365, 373, 380. No one on the Staff has personal knowledge of how materials got from the site to the Creek. Tr. 358.

13. The amount of material that may have come from roof drains cannot, by itself, explain the volume of material in the Creek. Tr. 365.

14. The specific location of the yard drain or drains and the nature of any connections to the sewer are subject to some uncertainty based on documentary records. Tr. 370-71. However, the NRC Staff has personally observed one yard drain on the Kerr-McGee site. Tr. 370-71; 410.

15. Liquid process wastes met the radiological limits for discharge to a sanitary sewer established by AEC and NRC regulations according to documentary records of 1972. Tr. 380, 391-92. However, thorium can concentrate in the environment. Tr. 410.

16. Radiological contamination of the groundwater under the site, which would be the consequence of drainage from the percolation ponds, has not been shown. Tr. 405-06. The Staff nevertheless believes that this is a possible pathway for thorium materials to have entered the storm sewer leading to Kress Creek. Tr. 411.

17. Movement of thorium-containing materials from the tailings pile to the sewer by way of a nearby manhole is a possible pathway for entry of material into the storm sewer outfall. However, a berm, which was constructed in 1957 and is located over the storm sewer, directs runoff from the waste residue piles toward a depression to the south. Resp. Exh. 3; Horn *et al.* Testimony at 4. Runoff water forms a pond to the south of the manhole. Tr. 397-98. The manhole is covered by a solid plate that has never been known to have been removed. Tr. 394-96.

18. A railroad crosses over Kress Creek in the vicinity of the storm sewer outfall. Kerr-McGee suggests the possibility that contamination entered the Creek as a result of a release from trains bringing ores to the site, but offered no direct evidence to substantiate this. No records of spills of thorium ores into the Creek from trains exist. Tr. 408.

19. Material that fell off trucks may have washed into the West Chicago storm sewers and been deposited in Kress Creek. Tr. 414, 416-17. This material could have been coming to or leaving the site. Tr. 418. The Staff has no evidence indicating this. Tr. 417.

20. There is no facility within 50 miles of the Kerr-McGee site that now processes or that ever processed thorium-bearing materials. Horn *et al.* at 19-20.

21. The quantity of solid waste (tailings plus pond sediments) produced in the West Chicago plant was approximately proportional to the ore fed to the process. Losses to residues were 20 to 25% of total oxide input. The plant processed 10,000 tons per year (tons/yr) of monazite sands during peak production years between 1954 and 1958, about 5000 to 6000 tons/yr between 1958 and 1963, and about 2000 to 2500 tons/yr before 1954 and after 1963. The ore fed to the process from 1954 to 1973 was about 77% of the total ore used from 1936 to 1973. The solid wastes on the disposal site are predominantly from operations during the period after the plant was licensed by the Atomic Energy Commission. The contamination along the Creek, in part, occurred during the period the Rare Earths facility operated under AEC license. *Id.* at 14-15; Staff Exh. 4 at 13, 31.

KRESS CREEK

22. Kress Creek is a small, spring-fed flood plain stream. It has major surges during storms. Tr. 575. Its bottom is relatively stable and its sediments are stabilized. Tr. 576.

23. The Creek floods frequently during heavy rainfall and Spring flows. Kerr-McGee Risks Testimony at 16; Tr. 583, 584. The apparent

flood control area above the storm sewer may minimize the amount of flooding that occurs. Tr. 584.

24. The land in the immediate vicinity of the storm sewer outfall is predominantly a thicket. This thicket continues for some 200 meters downstream from the outfall. Salamon Testimony at 8, Exh. A.

25. The next 600 meters downstream consist of a residential community. Houses are typically about 30 meters from the Creek with landscaped backyards that abut the banks. *Id.*

26. Except for the Nicheren Shoshu Temple (NST) and a few houses near the Creek's confluence with the River, there are no other residential areas close to the Creek between the storm sewer outfall and the River. *Id.* Staff Exhibit 1 (Figs. 4 through 7) shows the location of houses in relation to the Creek.

27. South of the residential area, there is a park that is owned and operated by the West Chicago Park District. The park consists predominately of open fields, shrubs, and occasional tree stands. The park borders the Creek for approximately 800 meters. Salamon Testimony at 9, Exh. A.

28. South of the park, the Creek traverses undeveloped pastureland, floodplain forest, open field, and the NST property. The Creek proceeds through this area for some 800 meters. This area includes clover, shrubs, woods, and woodland managed for hunting by DuPage County. *Id.*; Letter of August 6, 1984, to Honorable John H Frye, III, from Kelley, Drye, & Warren.

29. Approximately 60% of the Creek from the sewer outfall to the River passes through undeveloped field and forest. About 35% of the Creek from the outfall to the River is bounded by mature forest. Salamon Testimony at 9; Tr. 574.

RADIOLOGICAL SURVEYS

30. In 1974, Kerr-McGee began cleanup activities to decommission its West Chicago facility. At the request of the NRC, the Argonne National Laboratory conducted a radiological evaluation of thorium residues in the West Chicago area. The study of the Kress Creek region consisted primarily of direct radiation measurements between the sewer outfall and the River. Staff Exh. 1 at 1 (1984).

31. A 1977 aerial radiological survey by EG & G — together with soil and sediment samples collected in 1980 by the EPA — confirmed the presence of thorium in soil along the Creek. EPA found that the primary radionuclides in the soil were Th-232 and Th-228 in essentially secular equilibrium. *Id.*

32. On December 6-20, 1982, and April 4-22, 1983, Oak Ridge Associated Universities ("ORAU") conducted a radiological survey of Kress Creek. *Id.* at 2.

33. ORAU divided the Creek into 50-meter intervals between the River and a point approximately 100 meters south of the storm sewer outfall. ORAU also surveyed the DuPage River at 50-meter intervals for 200 meters upstream and downstream of its juncture with the Creek. *Id.* at 4.

34. At each interval, ORAU measured exposure rates at the surface and 1 meter above the surface at 1, 5, 10, and 25 meters from the edge of the Creek or River. *Id.* at 5.

35. Systematic boreholes were drilled at locations of direct radiation measurements. Other boreholes not part of the systematic sampling grid were also drilled at selected areas of elevated direct exposure levels. These are called biased boreholes. Radiation profiles in the boreholes were determined by measuring radiation levels at 15-30-centimeter intervals between the surface and the hole bottom. *Id.* at 5.

36. Soil samples were collected for laboratory analysis of thorium content from various depths in approximately 15% of the boreholes. *Id.*

37. The data from soil samples were used to construct a correlation between gamma exposure rate and thorium content. Thorium content of all other soils was then estimated using the correlation. Tr. 295; Staff Exh. 1, Tables 5, 6, and 7, and Fig. 1 at D-3.

38. Sediment samples were collected at 100-meter intervals in the stream channels along Kress Creek and the River, except for those areas in which rocky or gravelly bottoms prevented the collection of such samples. Staff Exh. 1 at 6; Tr. 259.

39. Thorium is the predominant radioactive material in the soil. Thorium-232 and thorium-228 were found to be nearly always in secular equilibrium. Thus, the measured concentrations of thorium (Th-232 and Th-228) are effectively the measurements of total radium (Ra-224 and Ra-228) as well. Staff Exh. 1 at 10-12; Kerr-McGee Volume Testimony at 2 n.1.

40. Radium-226 and uranium-238 are present in soils and sediments at inconsequential concentrations and are not a health hazard. Staff Exh. 1 at 10, 13.

41. Baseline thorium concentrations in the soil, according to ORAU, averaged 1.6 pCi/g total thorium (Th-228 and Th-232). *Id.* at 31 Table 1.

42. Average levels of thorium concentration reported by ORAU in the vertical soil profiles at 1 meter from the Creek edge were 26.1 pCi/g at the surface; 40.2 pCi/g at a depth of 15 centimeters; 38.9 pCi/g at 30 centimeters; 28.9 pCi/g at 60 centimeters; and, 18.7 pCi/g between 60

and 90 centimeters. *Id.* at 10. The surface values may be in error by up to 50% because of the geometry of the counting device. Tr. 323-26.

43. Thorium concentrations in the soil generally decrease with distance from the Creek edge. The concentrations decrease by approximately 50% at 5 meters from the edge of the Creek, and at 25 meters decrease to near to background. Staff Exh. 1 at 10; Tr. 234.

44. Maximum thorium concentrations were typically 15-30 centimeters deep along the banks of the Creek and River. Staff Exh. 1 at 11. The more highly contaminated material is generally buried below 15 centimeters of less-contaminated material. Tr. 246, 327.

45. There is considerable error in the ORAU soil concentration measurements. The 95% confidence interval around a measurement of 10 pCi/g is approximately 4 pCi/g to 30 pCi/g. Tr. 335. The 95% confidence interval around a measurement of 100 pCi/g is approximately 40 pCi/g to 170 pCi/g. Tr. 336. Any particular measurement thus has a very large error associated with it. Tr. 308.

46. Exposure rates at 1 meter above the surface averaged 28 $\mu\text{rem/hr}$ at 1 meter from the Creek edge; 25 $\mu\text{rem/hr}$ at 5 meters from the edge; 21 $\mu\text{rem/hr}$ at 10 meters from the edge; and 14 $\mu\text{rem/hr}$ at 25 meters from the edge. Staff Exh. 1 at 7. At 25 meters, average exposure rates are slightly above background. *Id.* at 8.

47. There is large statistical variation in the ORAU estimates of thorium in soil. The authors of the ORAU report had not previously estimated the magnitude of uncertainty by statistical means, and Board efforts to develop confidence intervals by examination at hearing were inconclusive. Inspection of the ORAU correlation that yielded estimates of thorium in soil leads the Board to conclude that roughly 95% of the data is clustered about the line of correlation in an interval that appears to have a width of about 1 decade on the vertical logarithmic scale. Tr. 295-312. Staff Exh. 1, Fig. 1, at D-3.

48. Exposure rates at 1 meter above the surface along the River downstream of its juncture with the Creek averaged 36 $\mu\text{rem/hr}$ at 1 meter from the edge; 31 $\mu\text{rem/hr}$ at 5 meters from the edge; 18 $\mu\text{rem/hr}$ at 10 meters from the edge; and 20 $\mu\text{rem/hr}$ at 25 meters from the edge. *Id.* at 7.

49. ORAU estimates that background gamma exposure rates in West Chicago are 8.6 $\mu\text{rem/hr}$. *Id.* A survey by another NRC contractor, Argonne National Laboratories, found a higher background. Kerr-McGee Exh. 1 at 2. The Argonne survey found that 95% of all readings were between 14 and 25 $\mu\text{rem/hr}$. The difference in reported background values could be the result of the fact that the background measurements were taken at different locations. Tr. 253, 255.

50. Thorium levels in the Creek sediment samples fluctuated from place to place from less than 0.34 pCi/g to 131 pCi/g. Staff Exh. 1 at 12.

51. Thorium concentrations decreased with depth in sediments. *Id.*

52. The sediment data characterize only the parts of the Creek bed with a sandy or silty bottom, which is a subset of the Creek bed. Tr. 260, 268. There is no evidence that thorium collects on rocky bottoms in the Creek. Tr. 315.

53. Approximately 70% of the Creek bottom is composed of gravel and hard substrate, with 30% consisting of softer sediment. Tr. 586.

54. One of 337 systematic ORAU gamma exposure measurements taken at 1 meter from the surface along the Creek exceeded 100 $\mu\text{rem/hr}$. Tr. 248, 250.

55. One of sixty-eight systematic ORAU gamma exposure measurements taken at 1 meter from the surface along the DuPage River exceeded 100 $\mu\text{rem/hr}$. Tr. 250, 251.

56. The contamination along the Creek and River is spotty and not constant or evenly distributed. Tr. 278, 279. Several additional widely scattered locations in excess of 100 $\mu\text{rem/hr}$ at the surface exist further from the Creek banks; however, a substantial majority of all readings show exposure rates well below the 100- $\mu\text{rem/hr}$ level. Staff Exh. 1, Table 2.

57. The biased sampling which was a deliberate search for areas having high levels of exposure showed that there are many specific sites having direct exposure rates above 100 $\mu\text{rem/hr}$ and ranging upward beyond 800 $\mu\text{rem/hr}$ either at the surface or 1 meter above it. Staff Exh. 1, Table 4.

58. There is no evidence that the thorium is now migrating or moving. Tr. 247.

59. During the Fall of 1985, Kerr-McGee undertook a systematic survey of gamma exposure rates for all properties in the Creek vicinity for which permission to survey could be obtained. The survey covered some 80% of the properties along the Creek. Kerr-McGee Risks Testimony, Appendix B at B-1 & n.1.

60. The properties were surveyed along a rectangular grid with a spacing of 5 feet, except that a 10-foot grid was used in certain nonresidential downstream areas. *Id.* at B-1 & n.2.

61. The total area surveyed was about 3,200,000 ft². The total area with gamma readings in excess of 50 $\mu\text{rem/hr}$ was about 67,900 ft², or 2.1% of the total area surveyed. *Id.*

62. Of the area with a concentration in excess of 50 $\mu\text{rem/hr}$, 91.3% (or 1.9% of the total area surveyed) was contaminated at levels between 50 and 99 $\mu\text{rem/hr}$. Only 6.3% of the area contaminated to over 50

$\mu\text{rem/hr}$ (or 0.13% of the total area surveyed) showed readings of 100 to 149 $\mu\text{rem/hr}$. Only 2.4% of the area contaminated to over 50 $\mu\text{rem/hr}$ (or 0.05% of the total area surveyed) showed readings of over 150 $\mu\text{rem/hr}$. *Id.* at B-2 & Table B-1; Letter from R.A. Meserve to John H Frye, III, Esq. (May 6, 1986).

63. Locations contaminated above 150 $\mu\text{rem/hr}$ had an average area of 450 ft^2 . The maximum area of such a location was 600 ft^2 . Kerr-McGee Risks Testimony, Appendix B at B-2.

64. Kerr-McGee's survey showed that contamination is spotty. The "hot spots" are small and discrete regions. *Id.*; Letter from R.A. Meserve to John H Frye, III, Esq. (May 6, 1986) (enclosing maps). The Kerr-McGee survey results are in reasonable agreement with those obtained by ORAU, which also show that elevated levels of radioactivity occur in relatively small and discrete "hot spots" with remaining areas contaminated at detectable but low levels. Staff Exh. 1, Tables 2, 3, and 4.

THE RISK POSED BY THE CONTAMINATION

65. The levels of radium-226 in Kress Creek are inconsequential. Staff Exh. 1 at 10, 13. Kress Creek involves radium-228. Kerr-McGee Risks Testimony at ii; Cool/Shum Testimony at 3.

66. The EPA's risk analysis for its radium-in-soil standards focuses on the risk from constructing a house on soil contaminated with radium-226. Tr. 443; FEIS, Vol. I, at 9-14 to 9-16.

67. The risk of constructing a home in soil containing radium-228 is appreciably less than the risk from constructing a home in soil containing radium-226. Tr. 445.

68. A typical home in Chicago has a ventilation rate of one air change per hour. Tr. 648. A detailed calculation reveals that, if a typically ventilated home were built on soil containing equal concentrations of radium-228 and radium-226, the concentration of radon daughters would be approximately 30 times greater than the concentration of thoron daughters. Kerr-McGee Risks Testimony, Table III-1; Tr. 649.

69. Thoron decay products have about one-third the health risk of radon decay products from inhalation. Tr. 445, 649.

70. The overall risk resulting from building a home on soil containing radium-228 is thus a factor of 90 less than the risk of building on soil containing the same activity of radium-226. Kerr-McGee Risks Testimony at 27-28; Tr. 649.

71. Appendix G of the FEIS includes an analysis of the risks to a regional population from a model tailings pile. FEIS, Vol. I, Appendix G.

72. The evaluation in the appendix is an exact counterpart to the analyses in the body of the FEIS to justify the flux standard that was adopted by EPA to govern the stabilization of a tailings pile. *Compare* FEIS, Vol. I, chaps. 5-6, *with* FEIS, Vol. I, Appendix G.

73. EPA's flux standard has an entirely different risk basis than its radium-in-soil standard. *Compare* FEIS, Vol. I, chaps. 5-6, *with* FEIS, Vol. I, at 9-14 to 9-16.

74. The situation along Kress Creek is unlike EPA's model tailings pile. The average surface concentration is approximately 20 pCi/g of total thorium, or 10 pCi/g of radium-224, rather than the 280 pCi/g of radium-224 assumed for a model pile. Tr. 474. The yearly emissions of thoron from the Creek area are approximately 1.8×10^3 Ci/yr, or approximately 1/200 of the emissions from the model tailings pile of 3.4×10^5 Ci/yr. Tr. 477. Thus, the risk to a regional population from Kress Creek is about 1/200 the risk from the hypothetical tailings pile. Tr. 478.

75. With the exception of radon-220 (thoron), all decay products of thorium-232 are solids and thus will remain as constituents of the soil. Kerr-McGee Risks Testimony at 5.

76. Thoron has a half-life of 55 seconds. *Id.*, Fig. I-1.

77. There are three major pathways by which human exposure from materials along the Creek might occur. First, those present in the immediate vicinity of the materials might be exposed to gamma radiation. Second, vegetables grown in the soil could take up thorium and its decay products, leading to exposure from consumption of home-grown produce. Third, humans could inhale thoron and its daughters. *Id.* at 6.

78. Although other potential pathways exist, such as dust inhalation or direct ingestion of soil, they are insignificant. *Id.*

79. The most probable activities in the Creek area include jogging and hiking, yard work, and backyard play. *Id.* at 7.

80. Frigerio estimated maximum occupancy for lawns and gardens experiencing some residential occupancy at 200 hours per year (hr/yr) (Kerr-McGee Exh. 1), but 400 hr/yr is not unreasonable (Tr. 658). Based on an occupancy time of 6 hours per day on all fair weather days (assumed to be 50%) for 6 months of the year we find 540 hr/yr is conservative for spatially distributed exposures such as those present here. Tr. 651-63.

81. The highest spatially averaged radiation levels appear to be found at a location 200 meters downstream on the east bank of the Creek. Staff Exh. 1, Table 2. The data given do not permit a reliable spatial average to be calculated but suggest that this average would not be

greater than 70 $\mu\text{rem/hr}$. This results in a dose of 0.038 rem/yr based on a conservation occupancy time of 540 hours.

82. The highest exposure rate measured at a single location by ORAU at 1 meter above the ground is 210 $\mu\text{rem/hr}$. Staff Exh. 1, Table 4. This results in a dose of 0.042 rem/yr based on an occupancy factor of 200 hr/yr. We accept 200-hr/yr occupancy time as reasonable for estimates related to small areas of high concentration.

83. A criterion of 0.1 rem/yr above background would correspond to an 11- $\mu\text{rem/hr}$ rate, if continuous, year-long exposure occurred. Indoor exposure with 75% occupancy would meet the criterion if 15 $\mu\text{rem/hr}$ were the limit, since 75% of 15 equals 11. If the background exposure is taken as 9 $\mu\text{rem/hr}$, indoor exposure rates should be limited to 24 $\mu\text{rem/hr}$.

CONCLUSIONS OF LAW

1. Jurisdiction exists under the Atomic Energy Act independently of the Uranium Mill Tailings and Radiation Control Act to require that a remedial action plan be prepared which is necessary or desirable to protect health because of the radiological contamination of Kress Creek and the West Branch of the DuPage River.

2. The radium-in-soil standard promulgated by the U.S. Environmental Protection Agency under the Uranium Mill Tailings and Radiation Control Act is not appropriate to protect health in the situation posed by this radiological contamination.

3. Part 20 of the Commission's regulations contains numerical radiological dose limitations which are appropriate to protect health in the situation posed by this radiological contamination.

4. The record in this proceeding does not demonstrate that the Part 20 numerical radiological dose limitations are exceeded as a result of this contamination.

In consideration of the foregoing, it is, this 19th day of June 1986,
ORDERED

1. The Order to Show Cause issued to Kerr-McGee Chemical Corporation on March 2, 1984, is hereby dismissed; and

2. This Initial Decision shall constitute the final action of the Nuclear Regulatory Commission thirty (30) days after today unless an appeal is

taken to the Atomic Safety and Licensing Appeal Board pursuant to 10 C.F.R. § 2.762.

**THE ATOMIC SAFETY AND
LICENSING BOARD**

**Dr. Jerry R. Kline
ADMINISTRATIVE JUDGE**

**Dr. James H. Carpenter
ADMINISTRATIVE JUDGE**

**John H Frye, III, Chairman
ADMINISTRATIVE JUDGE**

**Bethesda, Maryland
June 19, 1986**

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD PANEL

Before Administrative Judge:

Dr. Oscar H. Paris

In the Matter of

**Docket No. 70-364
(ASLBP No. 815-511-01-ML)**

**BABCOCK AND WILCOX
(Parks Township, Pennsylvania,
Volume Reduction Facility)**

June 23, 1986

In this Memorandum and Order, the presiding Administrative Judge rules on the admission of supplemental complaints and establishes procedures and a schedule for further proceedings.

COMPLAINT: SPECIFICITY REQUIRED

The degree of specificity with which the basis for a complaint must be alleged initially involves the exercise of judgment on a case-by-case basis. In the exercise of this judgment, it is appropriate to keep in mind the purpose of the basis-for-contention requirement as set forth by the Appeal Board in *Philadelphia Electric Co.* (Peach Bottom Atomic Power Station, Units 2 and 3), ALAB-216, 8 AEC 13, 20-21 (1974).

INFORMAL PROCEEDING: PROCEDURE

The procedures to be followed in hearing issues admitted in this informal proceeding are established pursuant to the Commission Order directing the institution of the proceeding.

MEMORANDUM AND ORDER

(Ruling on Supplemental Petitions, Procedure, and Schedule

INTRODUCTION AND BACKGROUND

Pursuant to Commission Order dated July 24, 1985 (unpublished) a Notice of Informal Hearing was issued August 8, 1985, offering an opportunity for an informal hearing on the application by Babcock and Wilcox (B&W, or Licensee) for an amendment to NRC Materials License No. SNM-414. The requested amendment would allow B&W to establish a Volume Reduction Services Facility (VRSF) at its Parks Township, Pennsylvania, facility. The VRSF would employ a high-force compactor and an incinerator that would be used to reduce the volume of low-level radioactive wastes (LLW) generated by medical facilities, institutions, industry, and nuclear power plants. After volume reduction at B&W's VRSF the LLW is to be shipped elsewhere for disposal.

John P. Bologna and Frutie Johnson (Intervenors), who reside in the vicinity of the Parks Township site, filed a timely petition to intervene and were admitted by the Presiding Officer's unpublished Memorandum and Order dated October 3, 1985 (October 3 Order). That Order accepted three complaints to be heard out of a total of seven that had been proposed by the Intervenors. October 3 Order at 3, 8.¹ The complaints not accepted for hearing by the October 3 Order were judged to be premature, because the NRC Staff's Environmental Assessment (EA) and Safety Evaluation Report (SER) had not been issued. *Id.* at 9. Intervenors were granted the right to file additional complaints, based on the Staff's EA and SER, within 30 days of the issuance of those documents. *Id.* at 8.

The EA was issued March 6, 1986, and the SER was issued April 9, 1986. Intervenors filed their "Supplemental Petition in Response to the N.R.C. Staff's Environmental Assessment" (EA Petition) on April 11, 1986 and their "Supplemental Petition in Response to the N.R.C. Staff's Safety Evaluation" (SER Petition) (jointly, Supplemental Petitions) on May 9, 1986. B&W responded to both Supplemental Petitions in a single filing, "Answer to Supplemental Petition in Response to the Staff's Environmental Assessment and Safety Evaluation Report" (B&W's Answer).

¹ The three complaints accepted by the October 3 Order are listed on p. 840 of this Memorandum and Order.

In this Memorandum and Order certain supplemental complaints are admitted for consideration at the hearing and others are denied. In addition, procedure to be followed is discussed and a schedule is set for certain actions to be taken prior to hearing.

ADMISSIBILITY OF THE SUPPLEMENTAL ISSUES

B&W's Answer advances the general argument that Intervenors' "complaints are defective in that they do not properly raise issues appropriate for consideration." B&W's Answer at 1-5. As Licensee points out, NRC Regulations require that contentions or complaints must set forth with particularity the aspect or aspects as to which the petitioner wishes to intervene. 10 C.F.R. § 2.714(a)(2). In addition, the bases for each contention or complaint must be set forth with reasonable specificity. 10 C.F.R. § 2.714(b). There is abundant NRC case law in which these criteria are applied, some of which the Licensee cites. B&W's Answer at 2-5. The dispositive case law that will guide the determinations of admissibility of complaints in this proceeding is cited in the following paragraphs.

In deciding whether the criteria for admitting complaints are met, it is not the function of a Presiding Officer to reach the merits of the proposed issue. *Mississippi Power and Light Co.* (Grand Gulf Nuclear Station, Units 1 and 2), ALAB-130, 6 AEC 423, 426 (1973); *Philadelphia Electric Co.* (Peach Bottom Atomic Power Station, Units 2 and 3), ALAB-216, 8 AEC 13, 20 (1974). The requirements of 10 C.F.R. § 2.714 are met if a petitioner states the bases with reasonable specificity. But whether or not the complaint is true is left to litigation on the merits in the proceeding; or alternatively, an applicant may move for summary disposition pursuant to 10 C.F.R. § 2.794 if it believes it can readily disprove a complaint admissible on its face. *Houston Lighting and Power Co.* (Allens Creek Nuclear Generating Station, Unit 1), ALAB-590, 11 NRC 542, 548, 550 (1980); *Alabama Power Co.* (Joseph M. Farley Nuclear Plant, Units 1 and 2), ALAB-182, 7 AEC 210, 216 (1974); *Duquesne Light Co.* (Beaver Valley Power Station, Unit 1), ALAB-109, 6 AEC 243, 244 (1973). Reasonable specificity requires that a complaint include a reasonably specific articulation of its rationale. *Carolina Power & Light Co.* (Shearon Harris Nuclear Power Plant, Units 1 and 2), LBP-82-119A, 16 NRC 2069, 2070-71 (1982). But it is not essential that pleadings of complaints be technically perfect. *Houston Lighting and Power Co.* (South Texas Project, Units 1 and 2), ALAB-549, 9 NRC 644, 650 (1979). Finally, a complaint about a matter not covered by a specific NRC rule need only allege that the matter poses a significant

safety problem. *Duke Power Co.* (Catawba Nuclear Station, Units 1 and 2), LBP-82-116, 16 NRC 1937, 1946 (1982).

Moreover, petitions drawn by counsel experienced in NRC practice can reasonably be required to exhibit a high degree of specificity, but presiding officers are to be lenient in judging the sufficiency of intervention petitions submitted by counsel new to the field. *Kansas Gas & Electric Co.* (Wolf Creek Generating Station, Unit 1), ALAB-279, 1 NRC 559, 576-77 (1975). The degree of specificity with which the basis for a complaint must be alleged initially involves the exercise of judgment on a case-by-case basis. *Peach Bottom*, ALAB-216, *supra*, 8 AEC at 20. In the exercise of this judgment, it is appropriate to keep in mind the purpose of the basis-for-contention requirement as set forth by the Appeal Board in the *Peach Bottom* case:

A purpose of the basis-for-contention requirement in Section 2.714 is to help assure at the pleading stage that the hearing process is not improperly invoked. For example, a licensing proceeding before this agency is plainly not the proper forum for an attack on applicable statutory requirements or for changes to the basic structure of the Commission's regulatory process. Another purpose is to help assure that other parties are sufficiently put on notice so that they will know at least generally what they will have to defend against or oppose. Still another purpose is to assure that the proposed issues are proper for adjudication in the particular proceeding. . . . At the very least, for purposes of intervention a petition must be adequate to show that it applies to the facility at bar and that there has been sufficient foundation assigned for it to warrant further exploration.

Id. at 20-21 (footnotes omitted).

RULINGS ON SUPPLEMENTAL COMPLAINTS

There is overlap of subject matter in the EA and the SER, and this overlap is reflected in some of the supplementary complaints. In B&W's Answer the overlapping contentions were considered together. In the interest of efficiency and convenience, and to avoid unnecessary duplication, a similar procedure is adopted here.² Following presentation of each complaint or group of similar complaints being considered together, Licensee's arguments on the specific complaints will be reviewed and considered against the case law background cited in the two preceding paragraphs.

² In this section of this Memorandum and Order, issues raised in the EA Petition will be designated by "EA-" followed by a number, and issues raised in the SER Petition will be designated by "SER-" plus a number.

EA-1. Neither the applicant nor the N.R.C. staff detail or unambiguously define how the administrative limits of 80, 4 and 0.012 Ci; of tritium (H-3), carbon-14 (C-14) and iodine-125 (I-125) will exactly be achieved. Consequently the health and safety of the public cannot be assured.

EA-2. Babcock-Wilcox and the N.R.C. staff propose to hold down the releases of tritium, carbon-14 and iodine-125 by so called "administrative controls". Petitioners find such a proposed solution unsatisfactory as it depends upon the integrity of Babcock-Wilcox and other companies within whose financial interests it is to process as much waste material as they can.

B&W argues that Intervenors have ignored the NRC regulations which provide for monitoring and documentation of radioactive wastes during transfer from point of generation to final disposal. As Licensee points out, 10 C.F.R. § 20.311 (a), (d), and (h) provide for the monitoring of radioactive wastes transferred from a generator to a licensed waste processor. Also Licensee points to EA § 7.2.3 as the Staff's discussion of the administrative controls for incinerator effluents. Actually that section reviews what B&W *plans* to do to monitor incinerator effluents and describes additional requirements that Staff *plans* to impose to assure that particulates, tritium, carbon-14, and iodine-125 are adequately monitored and kept within B&W's administrative annual limits. The administrative controls to be used are not set forth in satisfactory detail. Staff briefly discusses a computerized inventory control system to be used to administratively track and classify processed material as required by 10 C.F.R. § 20.311. Staff concludes by stating that "B&W will have to obtain experience to determine that generators' records accurately and completely reflect shipments to assist with keeping releases within B&W's annual administrative limits." EA at 5-9.

Complaint EA-2 alleges that B&W and the waste generators who use B&W's VRSF cannot be trusted to maintain incinerator emissions below allowable limits because it is in their financial interest to process as much waste as possible. Staff at least twice states that it will be B&W's responsibility to assure that "generators' records accurately and completely reflect shipments" in order to keep releases within administrative limits. This accomplishment will require more than a computerized inventory control and stack monitors (the latter are dealt with in the two following complaints). What course of action will be followed if B&W incinerates a generators' LLW and discovers that the releases from it are far above what would be expected from the manifest? More information about the administrative controls is needed.

Intervenors have offered sufficient bases for complaints EA-1 and EA-2, and the complaints are stated with adequate specificity. Therefore they are admitted for hearing.

- EA-3. The N.R.C. staff in its environmental assessment section 4.1 indicates that release levels of carbon-14 and tritium will be monitored from exhaust stack samples. This is an after the fact determination potentially jeopardizing the health and safety of the public since Babcock and Wilcox does not intend to check quantities and types of isotopes in the waste to be processed.
- SER-4. The N.R.C. staff has failed to adequately protect the public and limit public radiation exposure consequently endangering the public health and safety. On page 29 of the Safety Report the N.R.C. staff again recognizes Babcock-Wilcox's proposed administrative controls as a viable means to limit releases of tritium, carbon-14, and iodine-125. Since the applicant does not intend to check the quantities and types of isotopes in the waste to be processed, leaving this up to the generators of the waste to identify the quantity and type of radioactive material, there are no proposed in process methods of control *prior* to the release of these substances to the atmosphere. The staff admits that portable survey meters used to measure the external radiation levels of the incoming waste will not be able to detect tritium or carbon-14. Under these circumstances the petitioners contend the proposed administrative controls to be inadequate in protecting the health and safety of the public.

Licensee argues that these complaints should be rejected because they fail to identify inadequate compliance with a regulatory requirement or allege with particularity an issue upon which the regulations are silent. B&W's Answer at 8. Additionally, Licensee points out that NRC regulations require that generators of nuclear waste provide documentation of the isotopic content of shipments to processors. As Licensee points out, the Staff imposed the following requirement in § 7.2.3 of the EA:

B&W must assure that generators' records accurately and completely reflect shipments in order to keep releases within B&W's administrative annual limits. To provide additional assurance, the NRC staff will require that particulates, tritium, carbon-14, and iodine-125 be sampled continuously and analyzed on a daily basis, not just when shipping manifest data indicate that specific isotopes exist in the waste, unless verification is made of generators' authorized radionuclide possession. If only reactor waste is processed, daily analyses for particulates and weekly analyses for tritium and carbon-14 will be required.

In EA § 7.2.1, however, the Staff states that there are no direct means of checking the radioactivity of waste to be incinerated, hence a real-time stack monitor needs to be installed. Staff goes on to note that such a monitor would not be effective to detect tritium, carbon-14, and iodine-125. Staff describes several collection methods for these three isotopes and *proposes* a requirement that appropriate systems be used to sample and analyze off-gas; in addition Staff *proposes* the requirement that a stack monitor be installed to detect quantities of particulate

radionuclides that exceed the concentrations of Appendix B of 10 C.F.R. Part 20. Proposed License Conditions 7 and 8, SER at 43.

There appears to be an inconsistency in the SER. On the one hand Staff says that it will require continuous sampling and daily analysis (§ 7.2.3, quoted above), but on the other hand the license conditions in the SER are characterized as “proposed license conditions.” SER at 41. Because of this inconsistency and the fact that the license conditions may be proposals only, there is sufficient basis to hear testimony on this issue. Therefore EA-3/SER-4 will be admitted to the extent of assuring that the Licensee commits to or is required to install the stack monitors recommended by the Staff.

EA-4. The N.R.C. staff in section 2.9 of its environmental analysis calculates radioactive releases from the Parks Township Facility over a period of only the last ten (10) years failing to even attempt to convert past releases into an effective dose equivalent. Petitioners contend that the facility during the last 4 years has not been operating to any significant degree. To adequately attempt to measure the background radioactive effluents the N.R.C. staff must consider the entire period of time wherein radioactive materials were utilized, processed and buried at the site. This is a period going back to 1957.

Licensee argues that prior operations at the Parks Township site are not relevant to this proceeding. Moreover, according to B&W, the Staff's EA shows levels to be near natural background and below regulatory limits. B&W's Answer at 10.

It is not altogether clear from the language of the complaint whether Intervenors are concerned about background radiation near the Parks Township facility or whether their concern has to do with the performance of B&W in limiting radioactive effluents. If it is background that is of concern, Staff states that background near the sites is very close to northeastern U.S. averages. EA § 2.7. With respect to the performance of B&W in limiting releases, Staff presents a number of values for liquid and gaseous releases from the Parks Township Plutonium Facility during the past 10 years in EA § 2.9. In assessing the significance of these releases, Staff merely makes the conclusory statement, “[t]hese numbers represent very low levels of radioactive effluents discharged from the Parks Township Facility.” EA § 2.8. No comparison is made with any NRC standard, and a comparison of the values in EA § 2.9 with values in 10 C.F.R. Part 20, Appendix B, does not make it clear that effluents from the Plutonium Facility were within maximum permissible concentrations (MPC).

No basis is provided to justify hearing the issue of background radiation in the vicinity of the site. With regard to the performance of B&W

in limiting the release of radioactive effluents, it must be noted first that the Parks Township Facility has not always been owned and operated by Babcock and Wilcox. Hence it is certainly true that releases going back to 1957 are irrelevant in this proceeding.³ Because the releases from the Plutonium Facility over the past 10 years were the responsibility of B&W, however, it is reasonable to consider that history relevant to Licensee's capability to perform. Accordingly, Issue EA-4 will be admitted to the limited extent of determining the amount and safety significance (as reflected in NRC standards) of releases from B&W's Parks Township Plutonium Facility over the past 10 years.

EA-5. Neither Babcock and Wilcox nor the N.R.C. staff have adequately addressed the potential of an accidental fire in the primary or off-gas system trailer. Such a fire would result in the release of radioactive materials through the HEPA filters and charcoal absorbers and into the atmosphere. No discussion is offered as to what would be released or how much. Petitioners believe cesium and iodine would be released. Therefore, the health and safety of the public cannot be assured.

Licensee argues that the Staff has analyzed accidents that subsume any other accident (presumably including a fire) involving the off-gas trailer, thus eliminating any basis for Intervenor's complaint in EA-5. B&W's Answer at 11-12. The Staff's accident includes an incinerator explosion and a fire in the staging area. No assessment has been done, however, of a fire in the off-gas system trailer, in spite of the fact that the Staff review of accidents involving incineration of LLW revealed two fires in the off-gas treatment section of incinerators. SER at 39. In addition, the charcoal filter is designed to remove iodine, and, if it should burn, it is possible that iodine could be released. EA at 3-6. Thus Intervenor has laid an adequate basis for this complaint; therefore Complaint EA-5 is admitted for hearing.

EA-6. The N.R.C. staff has failed to adequately challenge the highly questionable experimental prototype design of the Aerojet incinerator in the interests of the health and safety of the public. Two fires have already occurred during testing of the prototype incinerator due to the presence of low temperature plastic materials (PVC) during burning. If during the testing of the incinerator unexpected accidents occur, the design must still be considered experimental. The health and safety of the public cannot be assured and should not be jeopardized.

³ B&W purchased the Parks Township Facility from the Atlantic Richfield Company in 1972. Environmental Impact Appraisal of the Babcock & Wilcox (B&W) Nuclear Materials Division, Leechburg, Parks Township, Pennsylvania (February 1979), at 1-1.

Licensee argues that the Intervenor's have mischaracterized the incinerator, which has undergone long-term operational testing and appropriate modification by the manufacturer. In addition, Licensee states that one of the so-called fires was a temperature excursion during testing rather than a fire, and the actual fire was followed by modification to reduce the chance of another fire. B&W's Answer at 13. In a letter dated May 28, 1986, from NRC Staff counsel to the Presiding Officer, the Staff asserts it has completed its review of design changes for inclusion in Topical Report AECC-4-P/PN, Revision 1, and has accepted the report for referencing in license applications by utility licensees for incineration of LLW at nuclear power plants. It is not clear, however, what is meant by "accepted the report for referencing . . . for incineration of LLW at nuclear power plants." Moreover, in the instant case the license amendment application is for incineration of institutional, industrial, and medical wastes, as well as LLW from power plants. Consequently the radionuclide content of the LLW that would be incinerated at the VRSF will differ, especially with regard to tritium, carbon-14, and iodine-125 content, from that of LLW at power reactors. EA § 7.2.3.

Adequate basis has been provided for this complaint. Therefore Complaint EA-6 is admitted for hearing.

EA-7. The N.R.C. staff estimates that one part in six hundred (600) of I-125 will be released via incineration while Babcock and Wilcox estimates that one part in one thousand (1,000). These figures are based upon a belief that 1/2 of the input iodine will remain with the ash and 1/2 will follow the off-gas then 2/3 will be scrubbed leaving only 1/6 of the input iodine for the charcoal absorber resulting in only one part in 100 being released. Petitioners contend that since the scrubber solution will be recycled it is likely that iodine will build up in the scrubber solution. A decontamination factor of 3 cannot be assumed by the N.R.C. staff consequently considerably higher amounts of iodine-125 will be released.

Licensee argues that iodine-125 emissions will be monitored and the scrubber system, including the scrubber solution, adjusted to assure the system complies with regulatory limits. B&W's Answer at 15. Presumably this activity will involve administrative controls. It is not clear, however, how these administrative controls will be achieved or how the scrubber solution will be adjusted.

Adequate basis has been provided for this complaint. Therefore complaint EA-7 is admitted for hearing.

EA-8. Neither Babcock and Wilcox nor the N.R.C. have adequately addressed the topography of the valley area in calculating the releases of iodine and the corresponding health effects via their dispersion model. Petitioners contend

the releases from the incinerator after leaving the stack would move upward due to the buoyancy of the warm air and then horizontally, impacting the valley wall at higher elevations (the town of Kiskimere) nearly doubling the air concentrations and health effects.

Licensee argues that both Staff and B&W have fully addressed the issue of dispersion and topography in their analyses and, further, there is no "valley wall" effect as suggested by the Intervenors. Additionally, B&W argues that it has committed to conduct a study "to confirm that isotope concentrations in unrestricted areas are as far below 10 C.F.R. Part 20 limits as expected." B&W's Answer at 16.

The program of air sampling to be conducted would involve measuring tritium from a number of locations within 500 meters of the release point during a period of 13 weeks when the incinerator throughput consists largely of institutional/industrial materials (which is high in tritium content compared to reactor waste). The Staff believes, however, that it is doubtful that attempts to measure tritium will produce meaningful results, although it does not discourage B&W from attempting to make the confirmation. EA § 7.3.1.

As to whether there is or is not a "valley wall" to affect air movement, in Enclosure 1 of a letter dated November 5, 1985, to Mr. Leland Rouse of the NRC, B&W specifically mentions "the valley walls." Enclosure 1, ¶ 6. In their "Petition to Participate in Informal Hearing" submitted on September 12, 1985, Intervenors complained that they "live on the perimeters of a geological basin at the bottom of which is the Babcock-Wilcox incinerator site. Air hovers around the perimeters of this basin. (See photos attached hereto as exhibit 1a)." Those photographs, plus an accompanying copy of a topographical map annotated to show the location of their residences and the B&W site, provide support for their allegation.

Sufficient basis for this issue has been provided by Intervenors. Consequently complaint EA-8 is admitted for hearing.

EA-9. The N.R.C. staff assumes that all grown fruits and vegetables are washed in calculating its health effects in the environmental assessment. Consequently based upon the dispersion model utilized and the washing assumption the adult thyroid dose has been reduced by a factor of 2/3. Petitioners contend that without the assumptions the adult thyroid dose would change from 12 mr/y to 288 mr/y (the EPA standard is 75).

Licensee acknowledges that the Staff EA calculated doses to the maximally exposed individual based on a reduction used by B&W to adjust for food preparation, and justifies having done so on the grounds that it is reasonable to include the effects of food preparation in calculating in-

gested doses. Licensee notes further that Regulatory Guide 1.109 encourages the use of site-specific factors to calculate doses. The Staff agrees with the adjustment used in the B&W analysis and adopts B&W's values in the EA. EA § 6.17, Table 6.11.

Licensee alleges that the 288 millirem per year (mrem/yr) value suggested by Intervenor is a challenge to the Staff analysis. According to Licensee, Staff estimated the annual dose of I-125 to the maximum individual (child) to be 2.8 mrem total body and 55 mrem thyroid if the default factors in Reg. Guide 1.109 were not adjusted. Staff stated as follows:

If the default parameters stated in Regulatory Guide 1.109, except for the dose conversion factors for I-125 were used, the dose to the maximum individual (child) would be 2.8 mrem total body and 55 mrem thyroid.

It is not clear whether Staff has been paraphrased correctly by the Licensee. Indeed, it is not clear from Staff's statement just what Staff has done.

In any case, it is not unreasonable to assume that individuals purchase locally grown fruits and berries, at least, and consume them without necessarily washing them. Thus not only may there be a disputed fact at issue here, but there is a reasonable basis for the complaint as well. Therefore complaint EA-9 is admitted for hearing.

EA-10. Only assumptions that reduce the iodine dose are entertained by Babcock and Wilcox and the N.R.C. staff. Petitioners contend that should I-131 replace I-125 in the Regulatory Guide 1.109 model the iodine dosage would be 7.5 times greater endangering the public health and safety.

Licensee responds by pointing out that the physical half-life of iodine-131 is only 8 days, whereas the half-life of iodine-125 is approximately 60 days. B&W argues that iodine-131 will have decayed before arriving in VRSF; therefore it is appropriate to base dose estimates on iodine-125. B&W's Answer at 18-19.

Iodine-131 is not expected in the institutional wastes that would be processed at VRSF. EA at 4-11 and Table 4.4. Nor does the Staff expect I-131 to be present in the reactor waste that would be processed at VRSF. *Id.* at 4-9 and Table 4.3. Iodine-131 is, of course, an abundant fission product in reactors. See NUREG-0772, "Technical Bases for Estimating Fission Product Behavior During LWR Accidents" (June 1981), at 2.7, 2.9. B&W's argument and Staff's analysis assume, of course, that sufficient time elapses between generation of the reactor waste and processing it at VRSF to allow I-131 to decay to undetectable levels. Yet no information is provided to indicate how long reactor waste

is expected to be held before being processed. How can B&W be certain that radioiodine-rich reactor waste generated at a reactor site might not be promptly packaged and shipped, reaching B&W's facility within a few days?

There is adequate basis for Intervenor's complaint EA-10. Therefore it is accepted for hearing.

EA-11. The N.R.C. staff has failed to properly consider the proposed location of the facility versus other locations which pose less danger to the public health and safety. The proposed location is in a populated area surrounded by numerous homes and within one (1) mile of Leechburg High School. Petitioners contend a more suitable and less dangerous location for the facility would be in a non-populated area.

Licensee treats this issue, which asks for an alternative location, with EA-12, which asks for alternatives to incineration as a means of reducing the volume of LLW. B&W argues that the Staff EA fully complies with 10 C.F.R. § 51.30(a)(1)(ii), which requires a brief discussion in an EA of alternatives as required by § 102(2)(E) of the National Environmental Policy Act. Licensee argues, further, that in the instant case the environmental effects of the proposed action are negligible, and consequently there is no need to consider alternatives.

The Staff's EA does address alternatives to the VRSF as a means of reducing the volume of LLW. EA at 9-1 through 9-5. Included among the options is a consideration of siting the VRSF at existing LLW disposal sites rather than at the Parks Township Facility. Staff addresses this in terms of transportation of LLW and the future access to current disposal sites. EA at 9-2 to 9-4. The question is not addressed with respect to the suitability of the Parks Township site in reference to the nearby population.

Licensee argues that the population density of Armstrong County, approximately 118 people per square mile, is "considerably less than the average of 150 people per square mile on the East Coast as a whole." B&W's Answer at 21. The Staff characterized this comparison by stating that a population density of 118 people per square mile "is *somewhat* smaller than the average of 150 people per square mile on the East Coast of the United States." (emphasis added). EA at 2-3.

The EA addresses county populations and the populations of communities in the vicinity of the Parks Township Facility, and it discusses industrial and commercial developments near the site. EA at 2-1 through 2-4. These generalizations are not responsive to the expressed concern about the population close to the facility. The number of persons residing in close proximity to the site and the presence of nearby

schools have not been examined or analyzed. Thus Intervenor's have set forth a valid basis for complaint EA-11, and it is admitted for litigation.

- EA-12. The N.R.C. staff has failed to adequately address and has incorrectly addressed alternatives to incineration, in particular supercompaction. Petitioners contend the volume of waste can be reduced via supercompaction to a ratio of 10 to 1 and is a more desirable alternative with less health and environmental risks than incineration.

Licensee argues that Staff does adequately address alternatives to incineration. In fact, the EA presents a reasonably extensive review of alternatives and explains why some wastes, such as scintillation and other fluids and biological wastes, cannot be compacted but can be incinerated to achieve volume reduction. Staff concludes that none of the alternatives are clearly superior to the VRSF. EA at 9-5. Intervenor's have failed to present a viable basis for complaint EA-12, and therefore it cannot be admitted for litigation.

- EA-13. Petitioners are concerned about the numerous revisions to the incinerator particulate calculations done by Babcock and Wilcox. Initially AECC and Babcock and Wilcox claimed a 99.9 percent efficiency expected for particulates (see 3.2.5.2 of N.R.C. Environmental Assessment). Later the AECC claimed only a 90 percent efficiency for particulates. Petitioners contend an error factor of this magnitude is too significant to go without additional documentation by the N.R.C. to verify this new level of accuracy.

- SER-1. Petitioners challenge the highly questionable design and performance of the VRSF incinerator and supplemental scrubber. On page 44 of the N.R.C. Safety Evaluation Report the N.R.C. staff informs the administrative law judge that the "VRSF incinerator off gas scrubber has *not* met the claims stated in the application by the licensee or used by the staff in its evaluation of off-site concentrations of radionuclides in air and doses to the public." The N.R.C. staff states that frequent shut downs of the incinerator and frequent changes of the HEPA filters would be necessary. The N.R.C. staff notes their uncertainty as to what the effects of these shut downs and filter changes on occupational exposure would be given the system as proposed by the applicant. Given the N.R.C. staff's reservations on this technology, petitioners contend the health and safety of the public cannot be answered.

- SER-2. Petitioners note on page 32 of the Safety Evaluation the N.R.C. staff recognizes that "the primary and secondary scrubbers remove particulates with an efficiency of 98.0 percent (DF=50) which is less than AECC's original projection of 99.9 percent (DF=1000)." Petitioners allege that instead of one (1) particle per 1000 passing through the filter, twenty (20) per thousand will do so, a difference of 2000 percent. Given the significant difference between what the applicant claimed and the performance of the system, the N.R.C. staff still assumes an efficiency of 99.7 percent or three particulates per thousand. Petitioners find this assumption ludicrous and highly questionable.

Licensee quotes the Staff's statement to the effect that although the scrubber has not performed as originally expected, nevertheless the increased concentrations at the site boundary would still be less than the MPC and well below NRC and EPA limits. B&W's Answer at 23. Licensee argues that Intervenors' complaints lack basis and should receive no further consideration. *Id.* at 24.

The Staff concluded the SER with the following statement:

Based on tests conducted by the vendor, the performance of the VRSF incinerator has not met the claims stated in the application by the licensee or used by the staff in its evaluation of off-site concentrations of radionuclides in air and doses to the public. While the concentrations and doses at the reduced level of scrubber performance would be well below NRC and EPA limits, the effect on incinerator shutdowns and changing of HEPA filters, which could have occupational exposure implications, is unclear. Accordingly, the staff will consider the performance of the incinerator scrubber system an open item, requiring further evaluation and resolution, pending receipt of additional information and data on scrubber system efficiency.

SER at 44. In a letter to the Presiding Officer dated May 28, 1986, the NRC Staff stated that on April 16, 1986, it had asked B&W to provide additional information about the scrubber for Staff's review, but as of May 28, 1986, the information had not been received.

There is ample basis for admitting a complaint for hearing based on complaints EA-13, SER-1, and SER-2. Consequently a single complaint incorporating the issues expressed by EA-13, SER-1, and SER-2 will be admitted.

EA-14. Petitioners contend the N.R.C. staff has not adequately addressed the issue of dioxin emissions, who is to monitor these emissions, and in what manner.

SER-3. In section 3.8.3 of the Safety Evaluation Report the N.R.C. staff claims toxic and hazardous organic compounds will be destroyed by the operation of a supplemental burner. The staff fails to detail its expertise in calculating nonradioactive releases, the danger of these releases especially dioxins, how these emissions would be measured and controlled, who is responsible for regulating these emissions, how were the dioxin emissions controlled in the burn tests and what was the extent of these nonradioactive emissions in the burn tests. Petitioners incorporate by reference the attached exhibit which is a *Petition of the Environmental Defense Fund and the National Wildlife Federation for Rule making to Prevent and to Reduce Environmental Contamination by Dioxins and Dibenzofurans.*

Licensee responds by pointing out that the Staff EA, Appendix C, states that the VRSF secondary combustion chamber would operate at a temperature of 1150° with a residence time of 1.4 seconds, and it has

been found that a 1-second residence time at 977° would destroy 99.99% of the dioxin. B&W's Answer at 24-25. The rulemaking petition incorporated by reference in Intervenor's complaint SER-3 states, at 34-35, that dioxin isomers and dibenzofurans in waste streams are destroyed when exposed for at least 1 second at a temperature of about 1000°.

In any case, the health effects of dioxin emissions have already been accepted for litigation in this proceeding, as complaint number 2 admitted by the October 3 Order. Therefore EA-14 and SER-3 must be denied admission on the grounds of redundancy.

EA-15. Petitioners contend the intent of recent federal legislation was for the individual states to be responsible for the waste generated within their own borders and to enter compacts with adjacent states to deal with their waste. The present proposal would allow any state or country to transport its waste to this facility contrary to the legislative intent of that legislation.

Licensee answers by pointing out that the Low-Level Radioactive Waste Policy Amendments Act of 1985 (Title I of Pub. L. No. 99-240, 99 Stat. 1842 (1986)) encourages the formation of regional disposal compacts and does not establish limitations regarding the treatment, volume reduction, or storage of LLW. Nor would the approval of the VRSF by the NRC authorize "any state or country to transport" its waste to B&W's VRSF. *Id.* at 26.

Intervenor's have failed to provide a basis for EA-15, and consequently the issue is not admitted for litigation.

Request for Relief

In addition to listing the foregoing complaints, in their EA Petition the Intervenor's request certain specific relief with respect to these complaints. In regard to Complaints EA-1, -2, and -3 they request that B&W be required to specify exactly how the administrative limits will be achieved. In regard to Complaint EA-4 they request that the Staff be ordered to calculate the radioactive background effluents at the Parks Township site from 1957 to the present. Finally, in regard to Complaints EA-5 through EA-15 Intervenor's request that B&W and the Staff be required to address in more detail the issues raised therein, and if questions of public health and safety are not adequately resolved, then Intervenor's ask that the application for the license amendment to install and operate the incinerator be denied.

Similarly, the Intervenor's request certain specific relief with respect to the SER complaints. With regard to SER-1, they ask that B&W be required to specify exactly what effects the frequent shutdowns and filter

changes will have upon occupational exposure and the public health and safety. With regard to Complaint SER-2 they ask that B&W and Staff be required to calculate the radioactive releases at an efficiency of 98.0% rather than 99.7%. With regard to SER-3 Intervenors ask that Staff and B&W be ordered to address the issues set forth by SER-3 in more detail, by preparing a report assessing dangers to the public from dioxin and other nonradioactive releases; further, Intervenors ask that the license amendment for the incinerator be denied if the aforementioned report fails to adequately resolve any questions relating to the health and safety of the public.

In response to the relief requested by Intervenors in their Supplemental Petitions, Licensee argues that in each case, either the requested action is unnecessary or has already been taken.

LANGUAGE AND NUMBERING OF COMPLAINTS

In the interest of convenience and clarity, the supplemental complaints admitted for hearing in this informal proceeding are restated and renumbered below, as was done in the October 3 Order. The revised statements are intended to simplify, where possible, and to limit the extent of the issues in instances where the decision calls for a limitation. The three complaints admitted by the October 3 Order are listed below also, as Complaints 1, 2, and 3. The complaints admitted by this Memorandum and Order then follow, beginning with Complaint 4. The alphanumeric numbers used, *supra*, will be given in parentheses following the numeric numbers, for purposes of identification, but the alphanumeric numbers shall not be used again in this proceeding.

COMPLAINTS TO BE HEARD IN THIS PROCEEDING

1. Incineration of low-level radioactive wastes will adversely affect the health of petitioners and their families as a result of cumulative exposure to airborne radioactivity.
2. Incineration of polyvinyl chloride (PVC) will expose petitioners and their families to dioxins, with adverse health effects.
3. Petitioners' health and their environment, including their plants, trees, shrubs, groundwater, reservoir, wells, springs, grasses, and grazing animals existing in any area within two miles of the plant will be adversely affected by the incineration and the resulting release of carbon-14, tritium, iodine-125 and cesium-137. These radioactive isotopes would be inhaled or ingested and incorporated into living tissue.

4. (EA-1/EA-2) The administrative controls that are to be used to limit emissions of hydrogen-3 to 80 curies/year, carbon-14 to 4 curies/year, and iodine-125 to 0.012 curies/year have not been adequately described by Licensee or Staff. Consequently, whether the controls will protect the public health and safety cannot be assured. Licensee should specify exactly how the administrative limits will be achieved.
5. (EA-3/SER-4) Licensee has not committed to install the stack monitors which Staff has proposed as a license amendment condition, and the Staff has not made their installation a requirement. Public health and safety cannot be assured unless Licensee commits to install the monitors or Staff requires that they be installed.
6. (EA-4) The safety significance of the radioactive releases at the Parks Township Facility during the past 10 years has not been adequately addressed by Licensee or Staff. Therefore B&W's ability to keep emissions from the VRSF within safe limits cannot be assured.
7. (EA-5) Licensee and Staff have not assessed the consequences of a fire in the off-gas system trailer, nor the species and amount of radionuclides that would be released if the charcoal and HEPA filters should burn. Consequently the public health and safety cannot be assured.
8. (EA-6) The Aerojet incinerator's design for processing medical, industrial, and institutional radioactive waste has not been adequately analyzed or demonstrated. It is not clear that it has been accepted by the Staff for incineration of wastes other than reactor wastes at reactor sites. Therefore, the public health and safety cannot be assured if it is used to incinerate the wastes proposed at the Parks Township site.
9. (EA-7) Licensee has not adequately described how the scrubber solution will be monitored and adjusted to assure that iodine-125 emissions will be as low as expected. Intervenors believe that iodine will build up in the scrubber solution and result in the release of higher amounts of iodine-125.
10. (EA-8) The topography of the valley area has not been adequately considered in analyzing the health effects of emissions of radioactive iodine. Intervenors believe that releases from the incinerator will move upward and then laterally to impinge on the valley walls, thus possibly having adverse health effects in communities such as Kiskimere.
11. (EA-9) The assumption that food preparation, including the washing of fruit and vegetables grown in the valley, will contribute to reducing the adult thyroid dose by a factor of 2/3 is not valid. Many persons may consume raw and unwashed fruit and vegetables, which would change their adult thyroid dose from 12 mr/yr to 288 mr/yr.
12. (EA-10) The assumption that no iodine-131 will be released from reactor wastes incinerated at the VRSF may not be valid. If not, the iodine dosage would be 7.5 times greater, thus endangering the public health and safety.
13. (EA-11) Licensee and Staff have not analyzed the population in residences and schools within one mile of the VRSF, and the danger to them from opera-

tion of the incinerator. The facility should be located in an area with lower population density.

14. (EA-13/SER-1/SER-2) Licensee has failed to demonstrate that the incinerator off-gas scrubber will perform as claimed. Licensee should specify how frequent changes and shutdowns will affect occupational exposure and public health, and calculate releases on the basis of an efficiency of 98.0%.

PROCEDURE

The procedures to be followed in hearing the issues that have been admitted in this informal proceeding are established pursuant to the guidance and authorization set forth in the Commission Order dated July 24, 1985. Discovery and oral cross-examination are not permitted. Parties who wish to raise questions to be answered by another party shall submit the questions they wish to have answered to the Presiding Officer, who will then exercise his discretion in deciding which questions should be asked. In addition, the Presiding Officer may pose his own question to the parties or may request documents from the parties.

Testimony on the issues admitted for litigation shall be submitted in writing, under oath or affirmation. Following submission of the written testimony, the parties will be allowed to formulate questions about the testimony and submit their questions to the Presiding Officer who will decide which questions should be asked. After submission of the questions, the Presiding Officer will schedule a public hearing to be held in the vicinity of the Parks Township site, at a time and place to be specified. The questions to be answered by the parties at the public hearing will be specified in the order setting the hearing.

At the public hearing the parties' witnesses shall answer the questions under oath, and they may present supplemental oral testimony if they deem it necessary to a complete record. Following the oral presentations on each complaint, the parties will be given an opportunity to submit additional questions, based on the oral presentations, to the Presiding Officer. The Presiding Officer, at his discretion, will pose any additional questions to the parties that he deems likely to contribute to a more complete record. After the public hearing, at a time to be specified by the Presiding Officer at the hearing, the parties shall submit proposed findings.

Several of the issues raised as a result of the Staff's EA and SER challenge statements or actions by the Staff. Because the Staff has opted not to become a party to this proceeding, the Licensee must bear the burden of responding to all complaints.

Finally, at a time to be determined during the public hearing, oral limited appearance statements from interested citizens who are not a party to the proceeding will be heard pursuant to 10 C.F.R. § 2.715. Additionally, written limited appearance statements may be submitted at any time during the proceeding and should be addressed to:

Office of the Secretary
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555.

SCHEDULE

Written testimony on the issues admitted for hearing shall be in the hands of the Presiding Officer and served on the parties by August 1, 1986. Questions on the written testimony shall be in the hands of the Presiding Officer and served on the parties by August 22, 1986. Oral presentations will be heard in September, at a time and place to be announced.

ORDER

For all the foregoing reasons and based on the entire record in this matter, it is, this 23rd day of June 1986, ORDERED:

1. That Complaints 1-14, set forth on pages 840-42 of this Memorandum and Order, are admitted for hearing in this proceeding, and that all other complaints are denied;
2. That written testimony on these issues shall be submitted by the parties, under oath or affirmation, by August 1, 1986;
3. That questions which the parties wish to have asked about the testimony shall be submitted to the Presiding Officer by August 22, 1986; and
4. That oral presentations and argument shall be heard during a public hearing at a time and place to be announced.

PRESIDING OFFICER

Dr. Oscar H. Paris
ADMINISTRATIVE JUDGE

Bethesda, Maryland

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

**Peter B. Bloch, Chairman
Dr. Kenneth A. McCollom
Dr. Walter H. Jordan**

In the Matter of

**Docket Nos. 50-445-OL
50-446-OL
(ASLBP No. 79-430-06-OL)**

**TEXAS UTILITIES ELECTRIC
COMPANY, et al.
(Comanche Peak Steam Electric
Station, Units 1 and 2)**

June 26, 1986

In this Memorandum, the Licensing Board expresses preliminary concerns during the early stages of an intensive program intended to verify the adequacy of the Comanche Peak Plant in order to permit Applicants to make mid-course corrections in their study plan should they choose to do so.

RULES OF PRACTICE: BOARD CONCERNS

It is appropriate for a Board to inform parties of its preliminary concerns at an early stage of a length study, review process. This permits Applicants to make mid-course corrections that might be more expensive or time-consuming if made at a later date.

TECHNICAL ISSUES DISCUSSED

Sampling, to review adequacy of design and construction
Trending of discrepancies or deficiencies
Statistics, effect of inter-observer reliability.

MEMORANDUM (Board Concerns)

As the Board has deliberated about the first results reports, the Comanche Peak Response Team (CPRT) program plan, and the SSER No. 13, it has become increasingly apparent that the remedial program is a complex fabric that will not be completed until its makers weave the last section and remove it from the loom.

Concerns we now have could be resolved in the future, depending on how conscientiously later tasks are completed and how findings of later tasks reflect on the findings of earlier tasks. Nevertheless, aware as we are of the partial nature of our current knowledge, our studies leave us with continuing concerns that we have expressed earlier.¹ We also have developed some additional concerns that are somewhat related to the prior concerns and, to some extent, to each other.

We have decided to surface our concerns because of the enormous ongoing investment in the CPRT and the possibility that current knowledge of our concerns would permit Applicants to consider mid-course corrections. As the views expressed by the Board are merely preliminary, there is no need for a party to comment at this time. Should comments be filed, we anticipate reading them but may not issue any further comments. Our failure to comment will not, as it has not in the past, indicate acceptance of the comments filed with us.

I. FINDINGS IN ONE AREA MAY AFFECT STUDY DESIGN IN ANOTHER AREA

There are clear guidelines in the CPRT plan about when it is appropriate to enlarge a sample when discrepancies are discovered within the sample. However, the plan is far less clear about how decisions will be

¹ For example, we have expressed concerns that the level of assurance of safety not be permitted to degrade below what would have occurred with full implementation of Appendix B for design and construction, with the proper interpretation of root cause, and with the appropriateness of samples in light of particular problems being addressed.

made about expanding sample sizes in one area when partial or complete breakdowns of QA/QC are discovered elsewhere. For example, there appears to have been a breakdown of effective quality assurance with respect to the design of pipe supports.²

Obviously, such a breakdown requires a careful scrutiny of root cause. Were the problems partially procedural? Were they partly personnel selection? Personnel training? Supervision? Management? Then, once the root causes are determined, it is necessary to decide to what extent each of those causes may call into question other areas of design and design quality assurance. Then, it will for the first time become feasible to examine the CPRT sampling methods that in many instances will already have been implemented and decide the extent to which they must be augmented in order to address properly issues arising from the root cause of the pipe support design breakdown. That is, in light of the perceived breakdown in quality assurance for design of pipe supports, it is not apparent that sampling of design in other parts of the plant according to the CPRT program's Appendix D is adequate.

In making this comment, we are aware that we are at this time not even certain that Applicants intend to make a thorough inquiry into the root cause of the pipe support design breakdown.³ Comments made to this Board have suggested that some of the issues related to quality assurance for construction or design are considered to be moot in light of the CPRT program. Applicants also have suggested at the same time that (1) they do not plan to inquire into whether there were errors made in filing before this Board the technical materials that were part of Applicants first Plan, and (2) that they will respond to all external source issues, including the concerns of this Board. So we are not at this time assured that Applicants will examine in the proper depth the design, design control, and technical difficulties that have affected their plant and their conduct in these proceedings.⁴

We also are concerned about the potential importance of errors that Applicants have chosen not to trend. For example, their response to the Staff's findings that led to Results Report I.a.4 appears not to have dealt at all with the Staff's concern that QC inspectors may have improperly

² There appear to have been other breakdowns in design and construction quality assurance as well, but this particular example is the least controversial that we could pick. It also is consistent with our prior decision, which continues to be the law of the case, concerning the inadequacy of quality assurance for the design of pipe supports.

³ See SSER No. 13, Appendix C, at 1.

⁴ If quality assurance for design is not adequately addressed by the CPRT, then the Board's prior findings on this subject will stand as the law of this case and an inquiry may be made into the proper remedy for such a failure.

“bought off” construction that did not match design. This oversight is difficult for us to understand or accept. If there is a trend of improper QA/QC activity, it appears to us to be necessary to know the nature of that trend and ascertain and pursue the root cause of that trend until the plant is purged of the problem. For example, the six examples Staff found might relate to one inspector or one supervisor whose work may not be fully represented in the sample Applicants took. Furthermore, that inspector may also have worked on other areas of QA/QC in addition to electrical construction and his suspect work may need to be redone.

We are generally concerned that root causes in one area may affect the appropriateness of the sampling utilized by the CPRT in another area.

II. QA/QC FOR DESIGN AND CONSTRUCTION

We are uncertain concerning how deeply Applicants will pursue the question of breakdowns or failures with respect to QA/QC of Design⁵ and Construction. The handling of Results Report I.a.4 was not reassuring to us because it seemed to treat a suspected QA/QC failure as of insufficient importance to inquire further.

III. RELIABILITY OF OBSERVATIONS

When there are no data concerning the inter-observer reliability in making observations of quality items, there is a concern about whether observations are being classified with sufficient certainty to satisfy the assumptions for statistical analysis. It is possible that this uncertainty introduces additional variance that is not accounted for.

⁵There do not appear to be any DSAPs now planned for QA/QC for Design. This causes concern that some external source issues will not be covered by Results Reports.

IV. STAFF CONCERNS

We share many of the Staff concerns expressed in SSER No. 13, especially the concern about there not being a loss of safety margin below what is required by codes and by Applicants' commitments.

**FOR THE ATOMIC SAFETY AND
LICENSING BOARD**

**Peter B. Bloch, Chairman
ADMINISTRATIVE JUDGE**

Bethesda, Maryland

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

B. Paul Cotter, Jr., Chairman
Glenn O. Bright
Dr. Jerry Harbour

In the Matter of

Docket Nos. 50-275-OLA
50-323-OLA
(ASLBP No. 86-523-03-LA)

**PACIFIC GAS AND ELECTRIC
COMPANY**
**(Diablo Canyon Nuclear Power
Plant, Units 1 and 2)**

June 27, 1986

In this Memorandum and Order, the Licensing Board rules on the admissibility of contentions considered at a prehearing conference. The Board finds that all petitioners have filed at least one admissible contention, and admits them as intervenors.

ALLEGATIONS AS BASIS FOR CONTENTION

The mere fact that otherwise unidentified allegations are under investigation by two Commission offices does not constitute a particularized issue for litigation in this proceeding.

SPENT FUEL POOLS

The fact that a geologic repository site for nuclear waste is not being considered in California, allegedly in part because of seismic conditions, is not relevant to the decision to permit or deny expansion of a spent fuel pool. The safety considerations, including engineering criteria and seismic forces governing the design and construction of an aboveground

spent fuel pool with a life of several decades differ substantially from those for construction of a permanent, underground repository that must remain stable for thousands of years.

NUCLEAR WASTE POLICY ACT OF 1982: INTERIM STORAGE

The thrust of § 132 of the Nuclear Waste Policy Act is that federal officials are to encourage utilities to use and add spent fuel storage capacity. The requirement that the views of the population surrounding a reactor be considered goes to the congressional program of encouraging onsite interim storage, not to the question whether the public health and safety and the environment are protected by the terms of any license. This very administrative proceeding is one mechanism for ascertaining those views.

MEMORANDUM AND ORDER

I. INTRODUCTION

This Memorandum rules on the admissibility of contentions considered at a prehearing conference in the captioned proceeding held pursuant to 10 C.F.R. § 2.751a (1986) and this Board's orders dated March 28 and April 29, 1986 (unpublished). The conference took place on May 13, 1986, in Avila Beach, California, and addressed the admissibility of contentions filed by the San Luis Obispo Mothers for Peace, Consumers Organized for Defense of Environmental Safety (CODES), and the Sierra Club, Santa Lucia Chapter (Sierra Club).

In this Memorandum, we find that each of the Petitioners has filed at least one admissible contention. Accordingly, we admit CODES, the Mothers for Peace, and the Sierra Club as parties to this proceeding, pursuant to 10 C.F.R. § 2.714 (1986).

II. PROCEDURAL HISTORY

The proceeding arises out of petitions to intervene in the application by Pacific Gas and Electric Company (Licensee) for a license amendment to increase the spent fuel pool storage capacity for Units 1 and 2 at

the Diablo Canyon site.¹ The reactors are located in San Luis Obispo County in central California. The notice of opportunity for hearing, 51 Fed. Reg. 1451 (1986), provided in pertinent part that:

The amendments would authorize the licensee to increase the Unit 1 and Unit 2 spent fuel pool storage capacity from 270 to 1324 storage locations for each unit. The proposed expansion is to be achieved by rerecking the spent fuel pools with a combination of poisoned racks and nonpoisoned racks in a two-region arrangement.

Initial objections to standing filed by Licensee and the NRC Staff were resolved by Petitioners' responses. Accordingly, all Petitioners were found to have standing at the outset of the May 13, 1986, prehearing conference subject to filing an admissible contention. Tr. 8.² Staff Response at 2-4.³

CODES filed sixteen contentions, the Mothers for Peace filed eleven contentions, and the Sierra Club filed four contentions with multiple subparts. Some of each party's contentions overlapped others to some degree. For convenience, those overlapping contentions are dealt with together at various points herein.

III. CRITERIA FOR ADMITTING CONTENTIONS

The admissibility of contentions to this proceeding is governed by a fully articulated body of case law. In deciding whether the criteria for admitting contentions are met, it is not the function of a Presiding Officer to reach the merits of the proposed issue. *Mississippi Power and Light Co.* (Grand Gulf Nuclear Station, Units 1 and 2), ALAB-130, 6 AEC 423, 426 (1973); *Philadelphia Electric Co.* (Peach Bottom Atomic Power Station, Units 2 and 3), ALAB-216, 8 AEC 13, 20 (1974). The requirements of 10 C.F.R. § 2.714, "Intervention," are met if, *inter alia*, a petitioner states the bases of the contention proffered with reasonable specificity, but whether or not the contention is true is left to litigation on the merits in the proceeding. A party may move for summary disposition

¹ On May 30, 1986, the Staff, pursuant to 10 C.F.R. § 50.92 (1986), made a no significant hazards consideration finding and issued the license amendment at issue herein. Both the Appeal Board and this Board denied motions to stay the issuance filed June 17, 1986, by Mothers for Peace and the Sierra Club because the matter was under the Commission's jurisdiction. The Commission has set a briefing schedule. Movants have also filed a motion for stay in the United States Court of Appeals for the 9th Circuit.

² All transcript citations are to the transcript of the prehearing conference held May 13, 1986, in Avila Beach, California.

³ "Response of the NRC Staff to the Amended Petitions for Leave to Intervene Filed by San Luis Obispo Mothers for Peace, Consumers Organized for Defense of Environmental Safety, and the Sierra Club," dated May 9, 1986.

pursuant to 10 C.F.R. § 2.794 if it believes it can readily disprove a contention otherwise admissible on its face. *Houston Lighting and Power Co.* (Allens Creek Nuclear Generating Station, Unit 1), ALAB-590, 11 NRC 542, 548, 550 (1980); *Alabama Power Co.* (Joseph M. Farley Nuclear Plant, Units 1 and 2), ALAB-182, 7 AEC 210, 216 (1974); *Duquesne Light Co.* (Beaver Valley Power Station, Unit 1), ALAB-109, 6 AEC 243, 244 (1973). Reasonable specificity requires that a complaint include a reasonably specific articulation of its rationale. *Carolina Power & Light Co.* (Shearon Harris Nuclear Power Plant, Units 1 and 2), LBP-82-119A, 16 NRC 2069, 2070-71 (1982). But it is not essential that pleadings or complaints be technically perfect. *Houston Lighting and Power Co.* (South Texas Project, Units 1 and 2), ALAB-549, 9 NRC 644, 650 (1979). Finally, a complaint about a matter not covered by a specific NRC rule need only allege that the matter poses a significant safety problem. *Duke Power Co.* (Catawba Nuclear Station, Units 1 and 2), LBP-82-116, 16 NRC 1937, 1946 (1982).

Moreover, petitions drawn by counsel experienced in NRC practice can reasonably be required to exhibit a high degree of specificity, but Presiding Officers are to be lenient in judging the sufficiency of intervention petitions submitted by counsel new to the field. *Kansas Gas & Electric Co.* (Wolf Creek Generating Station, Unit 1), ALAB-279, 1 NRC 559, 576-77 (1975). The degree of specificity with which the basis for a complaint must be alleged initially involves the exercise of judgment on a case-by-case basis. *Peach Bottom*, ALAB-216, *supra*. In the exercise of this judgment, it is appropriate to keep in mind the purpose of the basis-for-contention requirement as set forth by the Appeal Board in the *Peach Bottom* case:

A purpose of the basis-for-contention requirement in Section 2.714 is to help assure at the pleading stage that the hearing process is not improperly invoked. For example, a licensing proceeding before this agency is plainly not the proper forum for an attack on applicable statutory requirements or for challenges to the basic structure of the Commission's regulatory process. Another purpose is to help assure that other parties are sufficiently put on notice so that they will know at least generally what they will have to defend against or oppose. Still another purpose is to assure that the proposed issues are proper for adjudication in the particular proceeding. . . . At the very least, for purposes of intervention a petition must be adequate to show that it applies to the facility at bar and that there has been sufficient foundation assigned for it to warrant further exploration.

Id. at 20-21 (footnotes omitted).

IV. RULINGS ON CONTENTIONS

A. Contentions of Consumers Organized for Defense of Environmental Safety (CODES)

CODES petitioned to intervene in this proceeding by letter dated February 12, 1986, and filed an amended petition dated April 26, 1986. Contentions in the latter filing are addressed here, *seriatim*.

CODES Contention 1

Adequate consideration has not been given to alternatives to racking the spent fuel ponds at Diablo Canyon. Under the Nuclear Waste Policy Act of 1982, Public Law 97-425, January 7, 1983, the Federal Government has the responsibility to provide interim storage of spent nuclear fuel for civilian nuclear power reactors that cannot *reasonably* provide adequate storage capacity at the sites of such reactors when needed to assure the continued, orderly operation of such reactors (emph. added). PG&E and its wholly owned subsidiary, Pacific Energy Trust (P.E.T.) have a contract with the Department of Energy for storage of high level radioactive waste at this time.

The Licensee opposed this contention on the ground that it was a non-specific conclusion of law, not a contention. Tr. 134-35. Staff agrees with Licensee and opposes admission on the additional ground that the asserted legal basis does not support the contention. The Staff points out that § 111(a)(5) of the Nuclear Waste Policy Act (NWPA) makes the utilities responsible for the interim storage of spent fuel until a federal repository is available. Further, the NWPA provides for limited federal interim storage of spent fuel only upon a determination that the utility cannot [reasonably] provide its own storage through the use of storage alternatives such as expansion of existing spent fuel storage facilities. Tr. 135; Staff Response at 15-16.

While the first sentence of Contention 1 reads much like parts of other contentions⁴ accepted for litigation, the asserted basis here does not support the contention. Apparently, CODES' logic flows from the conclusion that Licensee is unable to reasonably provide adequate additional storage of spent fuel by racking the fuel pools (Tr. 133-34); this, however, presumes the outcome of this proceeding.

The possible relevance of any contract that the Licensee and/or its subsidiary, Pacific Energy Trust, may have with the Department of

⁴ Mothers for Peace Contention 1 and basis item 7 of Sierra Club Contention I(B), *infra*.

Energy for storage of high-level waste to the issue of consideration of alternatives to racking has not been shown. On the basis of the foregoing, CODES Contention 1 is rejected as lacking basis.

CODES Contentions 2 and 3

Because both of these contentions relate to the potential outcome of the long-term seismic reevaluation program,⁵ they are addressed together. They are:

2. It is *unreasonable* and premature to consider the spent fuel pool's seismic design, as modified by the proposal, adequate when the long term seismic program (a licensing condition) is to be completed in 1988, 2 years from now.
3. By ordering the long term seismic program study, the Commission has indicated that there are unanswered questions and possible seismic hazards that must be investigated.

Licensee and Staff both object to admission of CODES Contentions 2 and 3 because the seismic design issues for Diablo Canyon, including the seismic design bases, have been exhaustively litigated in the operating license hearings, and their resolution has been approved by the Commission. ALAB-644, 13 NRC 903 (1981); S.J. Chilk, Secretary of the Commission, Letter to the parties dated March 18, 1982. Staff Response at 16-17 and, by reference, at 11-12; Tr. 140-46. We agree.

Petitioner provides no basis to support an assertion that the spent fuel pool racking should require a seismic design basis different from that for the plant itself other than the provisions of the long-term seismic reevaluation program contained in a license condition. Thus the challenge to the seismic design presupposes a particular outcome for the long-term seismic program without any apparent reason. Consequently, CODES Contentions 2 and 3 are rejected for lack of adequate basis for litigation. *Cf.* Mothers for Peace Contention 7, *infra*.

CODES Contention 4

No site in California is being considered for a permanent waste repository for high-level radioactive waste partly because of the seismic conditions. It is *unreasonable* to extend the storage capacity of spent fuel pools for the same reasons.

⁵ These contentions raise the same issue raised in Mothers for Peace Contention 7, *infra*.

At oral argument, CODES indicated that its concern in this contention is the length of time spent fuel would be held in the expanded pools. CODES stated that initially the public was advised that spent fuel would reside in the pools for 5 months and then be transferred to a permanent repository. CODES then argued that the fuel could reside in the pools for 22 years with the possibility that residence would be extended to another 30 years for a total of 52 years storage in the pools. Tr. 148-49. Finally, CODES apparently reasoned that because no permanent repository site is being considered in California, allegedly because the proper seismic conditions cannot be found anywhere in the state, therefore it is unreasonable to store spent fuel in the pools for a period as long as 52 years.

In its written response, Staff finds the logic of CODES' reasoning faulty and states that CODES has failed to show any connection between the rationale for selecting a permanent repository and the rationale for permitting or denying expansion of the spent fuel pools. We agree with both of Staff's positions and find the contention inadmissible for additional reasons as well.

The safety considerations in building a permanent geologic repository and a spent fuel pool differ substantially. The permanent repository must be built *within* a geologic formation that must be determined to be stable for thousands of years. A spent fuel pool is built *on* a geologic formation and must be safe for as long as several decades. Thus, the engineering criteria, including seismic forces, governing construction of an aboveground spent fuel pool are not the same as those governing construction of a permanent repository. The two types of facilities are simply not comparable, nor has CODES made any showing of how they might be.

In approving the operating license for Diablo Canyon, the Commission determined that the seismic design was adequate to withstand the largest forces that could be expected to impact on the plant and its spent fuel pools. The fact that the Commission conditioned the license by requiring continuing monitoring of seismic activity and evaluation of the seismic design in light of that monitoring can best be described as an act of prudence. That decision in itself is not new evidence or information. Absent such new information (and CODES has offered none) there are no grounds for questioning the original Commission decision that the plant, including the spent fuel pools, is seismically safe for the period of the license.

This Board cannot speculate as to possible future events. Thus, we cannot assume that the license applied for might be extended in the future. We must evaluate the license application according to its terms.

Even, assuming for the sake of argument, that we could accept as a fact that the spent fuel would be stored for a period of time as much as 30 years beyond the period applied for in the license, CODES has offered no reason why such a hypothetical additional period of storage would be unsafe. We note that the Commission has already ruled that there will be no significant environmental impact from storing spent fuel in facilities such as the one at issue “for at least 30 years beyond the expiration of reactor operating licenses” 10 C.F.R. § 51.23(a) (1986).

Finally, we note that a program is under way to build a national permanent repository which is scheduled to become operational by 1998 under the Nuclear Waste Policy Act of 1982, as amended. Pub. L. 97-425, 42 U.S.C. 10,101 *et seq.* Although the three possible sites for that repository are not in California, high-level waste from the spent fuel pools at issue here would be eligible for transfer to that repository when available.

For all the foregoing reasons, CODES Contention 4 is denied.

CODES Contentions 5 Through 11

These seven contentions are closely interrelated. Contentions 5 and 11 allege that increased radioactive contamination and loss of coolant could result from inadequate or faulty procedures and training and their implementation (Contentions 7, 8, and 10) combining with human error during normal or emergency operations (Contentions 6 and 9). The contentions read as follows:

5. The additional spent fuel rods in the reracked spent fuel pools would increase radioactive contamination in an accident involving the fuel pools.
6. Human error and its possible consequences in the operation of the reracked spent fuel pools have not been adequately considered.
7. Inadequate and/or faulty procedures combined with operator and technician errors has [sic] not been adequately considered.
8. The adequacy of procedures, technical specifications, administrative controls and their implementation and training has [sic] not been considered adequately.
9. The possibility of faulty reasoning and inappropriate deviation from procedures during an emergency or accident has not been adequately considered.
10. The consequences of poor communications between site personnel and NRC personnel contributing to the severity of an emergency or accident involving the reracked spent fuel pools has not been given adequate consideration.
11. Adequate consideration of the loss of spent fuel cooling has not been considered for the reracked fuel pools.

At oral argument these contentions became intertwined with the seismic concerns described above, but CODES was unable to articulate how procedures during normal or emergency operations were deficient. CODES cited the generalized concern of preventing human error and referred to at least one general case study. Tr. 162-64.

Staff and Licensee oppose the contentions on the grounds of lack of specificity. They cite CODES' failure to identify any particular procedure or state how such a procedure might be inadequate. They take the same position with respect to each of the contentions and assert that they do not have sufficient notice of the generalized deficiency alleged in each contention to defend against any contention. They rely on *Peach Bottom*, ALAB-216, *supra*, Staff Response at 17-20. Tr. 163-66. The *Peach Bottom* case held that a proffered contention must be rejected where "it seeks to raise an issue which is not concrete or litigable." 8 AEC at 21.

Human error, adequacy of training, poor communications, and failure to follow established procedures are generic concerns in any human endeavor. All or any of these deficiencies can lead to harmful consequences. However, a contention is required to furnish specific bases for finding that such deficiencies could arise. The CODES contentions fail to particularize how such failures might occur in the operation of the spent fuel pools at issue here. The application contains a fairly detailed description of the operation of the spent fuel pool. CODES has pointed to nothing which would lead a reasonable mind to inquire further; there is no nexus between any specified fact or circumstance and the conclusory claim in Contention 5 of increased radioactivity or in Contention 11 of loss of spent fuel cooling. Accordingly, we find that Contentions 5 through 11 must be rejected.

CODES Contention 12

The lack of resolution and action on critical issues being investigated by the Office of Investigation (OI) and Office of Inspection and Auditor (OIA), issues which are directly related to the Significant Hazard Issue of the fuel pools reracking application have not been given any consideration.

CODES argues that the Office of Investigation and the Office of Inspector and Auditor are in the midst of investigating critical issues concerning significant hazards and have not resolved them, nor has action been taken on those that have been resolved. CODES concedes that the unresolved matters under investigation are still no more than allegations. CODES refers to the investigation of some 1700 allegations

filed with the Commission during various stages of the operating license proceeding for Diablo Canyon. Tr. 175-78, 180-81.

Staff responds that the contention should be rejected for vagueness. Staff Response at 20-21. Staff argues that CODES fails to particularize with respect to any allegation and fails to show "any relationship between those matters which may be under consideration by OI and OIA and the spent fuel pool amendment being requested by PG&E." *Id.* at 21.

At oral argument Staff stated that the unresolved issues still under investigation relate to personnel practices and not to technical issues. Tr. 178, 179. Licensee concurs with Staff's position. Tr. 179-80, 182.

We must agree with Licensee and Staff. The mere fact that otherwise unidentified allegations are under investigation by two Commission offices does not constitute a particularized issue for litigation in this proceeding. *Cf. Louisiana Power & Light Co. (Waterford Steam Electric Station, Unit 3)*, CLI-86-1, 23 NRC 1, 5 (1986). The allegations themselves are not identified and, even if they were, they would not constitute anything this Board can take cognizance of until some preliminary determination can be made or evidence proffered of their truth or falsity. This contention must be rejected for vagueness.

CODES Contention 13

The views of the population surrounding Diablo Canyon Nuclear Power Plant concerning the storage of high level radioactive waste have not been considered. This is inconsistent with and repugnant to the Nuclear Waste Policy Act of 1982.

The issue raised by this contention, based on a provision in § 132 of the Nuclear Waste Policy Act of 1982, 42 U.S.C. 10,152, is essentially the same as that raised in Sierra Club Contention III(A), addressed below and is rejected for the same reasons given there.

CODES Contention 14

The uncertainties as to how long high level radioactive waste would be stored at the proposed Diablo Canyon facility, neutron embrittlement and other metallurgical deterioration and environmental stresses to the structural integrity of the spent fuel ponds have not been adequately analyzed and determined.

Neither Staff nor Licensee object to the admission of this contention if it is limited to the storage period authorized by the application. The expiration date for the license amendment for Unit 1 is April 2008, and for Unit 2 is December 2010. Staff Response at 22, Tr. 183-85, 190-91.

This Board has no authority to look beyond the license amendment application that is before us. We cannot speculate on events that might occur in the future. We note that if Licensee were to request any extension of the storage time that is authorized by this application, the license would have to be amended and, under the present regime, a hearing would be offered.

The Board finds adequate basis and specificity in Contention 14, as limited to the storage period applied for, and it is admitted for hearing.

CODES Contention 15

The Licensee has not demonstrated the existence nor implementation of a detailed quality assurance program which would effectively detect and prevent defective work by contractors and vendors involved with the proposed spent fuel pool reracking.

At oral argument CODES expressed its concern that the application appeared to address quality control during construction in very general terms. Thus, CODES argues the application is deficient for failure to assure that Licensee's quality assurance programs will satisfy the quality assurance program requirements. 10 C.F.R. Part 50, Appendix B (1986).

Staff and Licensee oppose the contention on the grounds that § 10 of Licensee's September 19, 1985 report entitled, "Reracking of Spent Fuel Pools, Diablo Canyon, Units 1 and 2, Pacific Gas and Electric Co.," satisfies the Part 50 quality assurance program requirement. Staff Response at 22; Tr. 191-92. In addition, Licensee argues that the contention is an attack on a Commission decision which found that Licensee's program satisfied the Part 50, Appendix B requirement. ALAB-763, 19 NRC 571 (1984).

This contention may be based on a misunderstanding. Chapter 10 does not set forth Licensee's entire quality assurance program but rather incorporates it by reference. That program, applicable to the application at issue here, has been found to satisfy Part 50 requirements by the Appeal Board decision cited above, and cannot be relitigated in this proceeding. CODES Contention 15 is denied.

CODES Contention 16

The contentions submitted above do meet the three standards (Fed. Reg., Vol. 51, No. 44, Thurs March 6, 1986, Rules & Regulations, p. 7754) for a Significant Hazards Determination on the spent fuel pool reracking at Diablo Canyon Nuclear Power Plant.

Staff opposes this contention on the ground that it is an assertion and not a contention. Staff Response at 23. At oral argument, CODES agreed with Staff's characterization and effectively withdrew the contention. Tr. 195-96. We agree with the parties' characterization. The "contention" will not be admitted.

B. Contentions of the Sierra Club

The Sierra Club filed its contentions in a submittal dated April 24, 1986. They are addressed below.

Sierra Club Contention I(A)

The Sierra Club contends that the report submitted to the Nuclear Regulatory Commission (NRC) entitled *Reracking of Spent Fuel Pools Diablo Canyon Units 1 and 2* and other communications between Pacific Gas and Electric Company (PG&E) and the NRC which are available to the public on the same subject (the Reports) fail to contain certain relevant data necessary for independent verification of the claims made in the Reports regarding consistency of the proposed reracking with the protection of the public health and safety, and the environment.

In particular, the Reports fail to contain data regarding:

- 1) the mass of a spent fuel assembly and masses of the loaded spent fuel racks (racks);
- 2) the spring constants used for the nonlinear springs (gap elements) to model the behavior of the racks (see *e.g.*, p. 6-10ff of the Report);
- 3) the expected velocity and displacement of the spent fuel pools (pools) as a function of time in three dimensions during the postulated Hosgri earthquake (PHE);
- 4) the expected maximum velocity and displacement of the racks obtained from the computer modelling of rack behavior during the PHE;
- 5) the kinetic coefficients of friction appropriate for estimating the frictional forces between the pool floor liner and the racks when sliding of the racks occurs; and
- 6) the dimensions and configuration of rack "H."

Additional data may be needed to verify claims made in the Reports.

The Licensee opposes admission of this contention first on the ground that they read it as saying that the reracking report fails to contain certain relevant data necessary to enable the Sierra Club, rather than the Staff,

to make its independent evaluation,⁶ and, second, on the ground that much, or all, of the information is in the public record. Tr. 16, 70-71, 75-77 (Norton).

The Staff does not oppose admission of this contention provided it is limited to the bases and particulars, items 1 through 6, *supra*, specified in the Intervenor's filing. Staff Response at 24. Additionally, the Staff's lack of objection is based on its understanding that the Sierra Club assertion is that the NRC will not be able to conduct its independent verification of the reracking proposal absent the information set forth. *Id.*; Tr. 71, lines 12-25 (McGurren; incorrectly attributed to Dr. Ferguson); *see also* Tr. 79, line 21, *et seq.*

The Board agrees with the Staff that Sierra Club Contention I(A), limited to the six basis specifications provided therewith, is admissible. We add that the contention, as worded, goes to the availability of the data cited, not its accuracy or adequacy. Further, both the Licensee and the Staff agreed to assist the Sierra Club in identifying and locating the assertedly absent data. Tr. 76, lines 19-23; Tr. 77-78. The Board directed that this be done within 30 days following the prehearing conference. Tr. 78-79.

Sierra Club Contention I(A) is admitted for litigation. The interested parties are urged to attempt to settle this issue informally. Accordingly, Licensee, Staff, and the Sierra Club are directed, on or before August 18, 1986, to file a joint report in writing with the Board on the status of their progress toward settlement negotiations.

Sierra Club Contention I(B)

This contention is similar to I(A) in that it alleges failure to consider certain relevant conditions, phenomena, and alternatives necessary for independent verification of claims in the documents supplied by the Licensee to the NRC Staff. It reads:

It is the contention of the Sierra Club that the Reports fail to include consideration of certain relevant conditions, phenomena and alternatives necessary for independent verification of claims made in the Reports regarding consistency of the proposed reracking with public health and safety, and the environment, and with federal law.

In particular, the Reports fail to consider:

- 1) collisions between racks and pool walls and collisions of various types involving groups of racks sliding in contact with each other during the PHE;

⁶ Clearly, the Staff is obligated to make its evaluations based upon materials that are publicly available, and such materials should be available to the Sierra Club or any other member of the public.

- 2) the resonant behavior of the spent fuel assemblies in the racks in response to the PHE and the consequences of such behavior;
- 3) the effects of the possible loss of pool cooling capacity on the spent fuel assemblies;
- 4) the statistical nature of potential failure of the large number of spent fuel storage system components during the PHE;
- 5) the consequences of possible failure of welds, materials, or structural elements of spent fuel storage system components during the PHE;
- 6) the comparison of the proposed spent fuel storage system with other such systems at other reactor sites having less severe seismic design criteria;
- 7) alternative on-site storage facilities including:
 - (i) construction of new or additional storage facilities and/or;
 - (ii) acquisition of modular or mobile spent nuclear fuel storage equipment, including spent nuclear fuel storage casks;
- 8) the use of anchors, braces, or other structural members to prevent rack motion and subsequent damage during the PHE;
- 9) the use of "boraflex" neutron absorbing material for all spent fuel racks; and
- 10) the structural integrity of the pool following collisions of the racks with the pool walls as described in (I)(B)(1) above.

Additional information may be needed to verify claims made in the reports.

The Licensee objects to admission of this contention, except basis 7, on the grounds that (1) there is no legal basis for the assertion that the Intervenor has to be able to make an independent verification; and (2) certain of the basis specifications either duplicate those in other contentions to which no party opposes admission, or they lack legal authority. Tr. 88-90, 93-94, 98-100, 102-03 (Norton). See note 6, *supra*.

The Staff does not oppose admission of this contention with respect to basis specifications 1, 2, 5, 7, 8, 9, and 10, recognizing basis specification 7 as a separate environmental issue; i.e., consideration of alternatives to expanding the spent fuel pool. Staff Response at 26-27.

The Staff opposes basis item 3 since it believes that the Petitioner has failed to state any basis for loss of pool cooling capacity. The Staff views basis item 4 on statistical analysis as being so vague that the parties do not know at least generally what they will have to defend against or oppose. Staff cites *Peach Bottom*, ALAB-216, *supra*. Because Petitioner has not set forth the requisite basis or specificity to indicate how comparison of the proposed design with spent fuel pool designs at other reactor sites is necessary to the Staff's verification, the Staff also opposed basis item 6. Staff Response at 26-27.

During the prehearing conference it was established that while the Sierra Club believes that it should have sufficient information from the Licensee's application and associated documents to perform verifying calculations independently, their contention includes the allegation that the Staff is unable to make its required findings without the information asserted to be missing. Tr. 88, lines 5-19.

With the exception of basis item 7 on alternatives, Sierra Club Contention I(B), like I(A), is concerned with specific aspects of the seismic design of the proposed modification of the spent fuel pool. Basis items I(B)(1) and I(B)(5) are duplicated in, or at least subsumed by, parts of Sierra Club Contention II(A); i.e., by basis items II(A)(1) and II(A)(3), respectively. Thus there is no need to litigate separately the alleged absence of information cited in Contention I(B) where such information which has a substantive bearing on issues in Contention II(A) will be heard. *See infra* Sierra Club Contention II(A).

As to item I(B)(3) concerning the possible loss of pool cooling capacity on the spent fuel assemblies, the Board can find no specificity in the stated bases, nor in the supporting statements of Dr. Ferguson (Tr. 85, 89) as to how the Sierra Club relates the postulated loss of cooling capacity to an earthquake or other causative action. Accordingly, we reject Sierra Club's basis specification 3 of Contention I(B) as lacking requisite specificity.

Basis item 4 of Contention I(B) as written is similarly bare of any specificity as to how the statistical nature of potential failure of system components during an earthquake presents a sufficient legal or factual basis for litigation. At the prehearing conference, Dr. Ferguson explained the petitioner's concern with adequate factual specificity, at least as far as the numerous pedestals which support the fuel racks are concerned. Tr. 90-92. However, the balance of petitioner's explanation (Tr. 93-95) failed to provide any regulatory authority requiring such a statistical analysis in seismic design, only the belief that the deterministically derived resistance "does not seem to be the way the standard engineering practice would proceed when you have that kind of problem." Tr. 95. In the absence of appropriate legal basis or a specific safety concern, item 4 of Sierra Club Contention I(B) merely represents Petitioner's view of what policy or procedure ought to be and is not admissible.

Basis specification 6 of Contention I(B) similarly fails to provide requisite specificity or legal or factual basis to warrant its admission. The factual basis relied on was an assumption that a standard or off-the-shelf fuel rack design was being utilized and Petitioner questioned how it may have been adapted to specific conditions at this site. Tr. 95-99. The manner in which the fuel racks have been designed to accommodate

seismic requirements for the Diablo Canyon site are addressed to a large extent in Sierra Club Contention II(A) and (B) to which there is no objection. No legal requirement for comparing the design at this site with the design of spent fuel pools at other sites having less severe seismic design criteria was given; hence basis item 6 of Contention I(B) is rejected.

Basis item 10 of this contention, like basis items 1 and 5, is redundant with other contentions. There is no need to litigate separately the alleged absence of information and the substantive issues on postulated seismic effects; i.e., postulated impact or collision effects during strong earthquake shaking. The Board finds that it is more appropriate to litigate the effects upon the integrity of the fuel pool walls along with effects on the fuel racks that allegedly result from impact of the racks with the walls. Accordingly, the words "and pool walls" are added to the end of Sierra Club Contention II(A)(3), *infra*, to encompass the issue contained in basis item 10 of Contention I(B).

In summary, Sierra Club Contention I(B) is admitted as limited to basis items 2, 7, 8, and 9. Basis item 7 on alternatives to fuel pool reracking presents an environmental issue, the requirement for which is set forth in 10 C.F.R. § 51.30(a)(1)(ii),⁷ and raises an issue similar to that raised in Mothers for Peace Contention 1. However, we will not address consolidation of different parties' issues in this Order. Basis items 1, 5, and 10 of Contention I(B) are subsumed by basis items 1 and 3 (the latter as amended herein) of Sierra Club Contention II(A). Basis items 3, 4, and 6 of Contention I(B) are rejected as not meeting the basis and specificity requirements of 10 C.F.R. § 2.714(b) (1986).

Sierra Club Contention II

It is the contention of the Sierra Club that the proposed reracking is inconsistent with the protection of the public health and safety, and the environment, for reasons which include the following:

- A) during the PHE [postulated Hosgri earthquake], collisions between the racks and the pool walls are expected to occur resulting in:
 - 1) impact forces on the racks significantly larger than those estimated in the reports;

⁷ The alternatives specified in Sierra Club Contention I(B)(7) are the same as those set out in 10 C.F.R. § 53.13(c)(2) and (3) and in § 135(b)(1)(B)(ii) and (iii) of the Nuclear Waste Policy Act of 1982. The regulation and statute cited describe the conditions under which the Secretary of Energy will contract with a utility that does not have adequate spent fuel storage space on site and cannot obtain it from any other nonfederal source. These provisions are not applicable to this proceeding.

- 2) impact forces on the racks significantly larger than those expected to damage the racks;
 - 3) significant permanent deformation and other damage to the racks;
 - 4) reduction of the spacings between fuel assemblies;
 - 5) increase in the nuclear criticality coefficient $k(\text{eff})$ above 0.95;
 - 6) release of large quantities of heat and radiation;
 - 7) radioactive contamination of the nuclear power plant and its employees above the levels permitted by federal regulations;
 - 8) radioactive contamination of the environment in the vicinity of the nuclear power plant above the levels permitted by federal regulations; and
 - 9) radioactive contamination of humans and other living things in the vicinity of the nuclear power plant above the levels permitted by federal regulations.
- B) during the PHE, collisions between groups of racks with each other and/or with the pool walls are expected to occur with results similar to those described in II(A) above.

Neither the Licensee nor the Staff opposed admission of this contention. Staff Response at 27-29; Tr. 105. The Staff, however, conditioned its lack of opposition upon its characterization of the contention, which summarized the allegations. Tr. 28-29.

We agree that the Staff's characterization is a fair one that presents the issues the Sierra Club can litigate. However, we will not rephrase the contention except to add the words "and pool walls" to the end of basis item 3. The phrase is added to encompass specifically the aspects of basis item 10 of Sierra Club Contention I(B), *supra*, that the Board finds more appropriate to address here. The similar inclusion of basis items I(B)(1) and I(B)(5), *supra*, in II(A)(1) and II(A)(3) here does not require amended wording.

Sierra Club Contention II, as amended by the Board, is accepted.

Sierra Club Contention III

The Sierra Club contends that:

- A) no attempt has been made to ascertain the views of the population surrounding the reactors at Diablo Canyon concerning the proposed spent fuel storage facilities and that the proposed reracking is probably inconsistent with these views; and that

- B) as discussed in Sec. II above, the proposed reracking is inconsistent with the protection of the public health and safety, and the environment; and that
- C) existing storage facilities at Diablo Canyon will be effectively used to the maximum extent practical within the next few years; and that
- D) adequate storage capacity at Diablo Canyon cannot reasonably be provided to assure the continued, orderly operation of the reactors.

The Licensee opposes admission of this contention on several grounds. Licensee views part (B) as duplicative of Contention II, *supra*, and parts (C) and (D) as statements, not contentions; hence lacking any specificity. Tr. 109-10. As to part (A), Licensee's position is that the Notice in the *Federal Register* seeking public comments on the proposed determination of no significant hazards, 51 Fed. Reg. 1451, 1455 (Jan. 13, 1986), along with the Board's statement in the notice of the prehearing conference concerning future limited appearance statements (Board Order Designating Location of Prehearing Conference, issued April 29, 1986), provide sufficient opportunity to obtain the public's views on the storage of spent fuel at this site. Tr. 116-18.

The Staff does not view any of the four items raised in this contention as related to the scope of this proceeding; i.e., determining whether or not the proposed reracking is consistent with protection of public health and safety and the environment. Tr. 108-09, 121. The Staff also interprets the provision of an opportunity for the hybrid hearing process in this proceeding as one means of efficiently addressing pertinent aspects of the Nuclear Waste Policy Act. Tr. 113-14.

We find that none of the four items raised in this contention is admissible under 10 C.F.R. § 2.714(b). Item (B) duplicates Sierra Club Contention II, *supra*, and items (C) and (D) are devoid of specificity and thus fail to present issues that are cognizable within the scope of this proceeding. Item (A) also raises no issue within the scope of this proceeding. Petitioner based its concerns on its reading of the Nuclear Waste Policy Act of 1982, apparently §§ 131(a)(3) and 132.⁸ Petitioner

⁸ These sections provide in pertinent part:

Subtitle B—Interim Storage Program
Findings and Purposes

Sec. 131.(a) Findings. — The Congress finds that —

(1) the persons owning and operating civilian nuclear power reactors have the primary responsibility for providing interim storage of spent nuclear fuel from such reactors, by maximizing, to the extent practical, the effective use of existing storage facilities at the site of each civilian nuclear power reactor, and by adding new onsite storage capacity in a timely manner where practical;

• • •

(Continued)

reasons that if onsite spent fuel storage were found not to be reasonable, then the federal government has the responsibility to remove it and put it into federal interim storage (*see* NWSA § 131(a)(3)). Criteria for what is reasonable, under Petitioner's interpretation, are to be found in the five "consistency" factors of § 132, one of which is "(5) the views of the population surrounding such reactor." Tr. 105-08. Petitioner's reasoning is flawed, and the sections are not applicable to this proceeding in the manner Petitioner suggests.

The logic of the two sections presupposes several steps. Section 131 of the NWSA prescribes four steps as conditions to federal interim storage of spent fuel: (1) that a utility has taken steps to maximize and then expand on site spent fuel storage facilities; (2) that the utility has filled its existing and expanded storage capacity; (3) that the utility can no longer reasonably store additional spent fuel on site; and (4) that then the federal government will furnish no more than 1900 metric tons of interim storage to the utility for its overflow. We note that the federal government does not now have a facility that would accept the spent fuel overflow contemplated in Step 4.

The second part of the Interim Storage Program is discussed in § 132. Cognizant federal officials are to actively encourage utilities to use and add spent fuel storage. Congress was concerned, in passing the NWSA that utilities were not pursuing expansion of spent fuel storage capacity aggressively enough. *See* H.R. Rep. No. 491, 97th Cong., 2d Sess. 384, *reprinted in* 1982 U.S. Code Cong. & Ad. News 3792, 3803-04. Licensee is acting consistently with § 132 in applying for the license amendment at issue here.

The Nuclear Regulatory Commission has a full-blown program for obtaining "the views of the population surrounding such reactors" noted in § 132. This administrative proceeding and the limited appearance statements authorized under 10 C.F.R. § 2.715(a) (1986) are but two of the mechanisms established for that purpose. The five factors listed in

(3) the Federal Government has the responsibility to provide, in accordance with the provisions of this subtitle, not more than 1,900 metric tons of capacity for interim storage of spent nuclear fuel for civilian nuclear power reactors that cannot reasonably provide adequate storage capacity at the sites of such reactors when needed to assure the continued, orderly operation of such reactors.

* * *

Available Capacity for Interim Storage of Spent Nuclear Fuel

Sec. 132. The Secretary, the Commission, and other authorized Federal officials shall each take such actions as such official considers necessary to encourage and expedite the effective use of available storage, and necessary additional storage, at the site of each civilian nuclear power reactor consistent with —

- (1) the protection of the public health and safety, and the environment;
- (2) economic considerations;
- (3) continued operation of such reactor;
- (4) any applicable provisions of law; and
- (5) the views of the population surrounding such reactor.

§ 132 are factors federal officials (in this case the Commission) are to take into account when they act “to encourage and expedite the effective use of available storage and necessary additional storage at the site” The “public views” factor goes then to the congressional program of encouraging onsite interim storage, not to the question whether the public health and safety and the environment are protected by the terms of any license. In fact the latter is another of the five factors in § 132, and that factor is addressed through that portion of the regulatory scheme which governs all spent fuel pool expansions. In light of the very existence of the instant proceeding as well as the thrust and purpose of §§ 131 and 132 of the NWPA, Item A of Contention II cannot be admitted as a contention in this proceeding.

Sierra Club Contention IV

In light of the foregoing, it is the contention of the Sierra Club that:

- A) the Federal Government has the responsibility to provide sufficient capacity for interim storage of spent fuel from Diablo Canyon; and that
- B) the Federal Government is required by law to offer to enter into contracts with PG&E for purposes of providing storage capacity for spent fuel produced at Diablo Canyon.

Licensee opposes admission on the ground that this contention is a conclusion of law and not a contention. Licensee also argues that the Petitioner’s oral pleading (Tr. 121-25) indicates that the thrust of the contention is contained in Contention II. Tr. 125-26.

The Staff agreed with the Licensee in opposing admission of this contention arguing that the Sierra Club has not satisfied the basis and specificity requirements of 10 C.F.R. § 2.714. Tr. 126; Staff Response at 30.

In his pleading in support of this proffered contention, Dr. Ferguson indicates that it is based on Petitioner’s reading of the Nuclear Waste Policy Act and, as in Contention III, again relies on “reasonableness.” Tr. 121-25. In this case Petitioner believes that it is not reasonable to store high-level nuclear waste (spent fuel) so near an earthquake fault; hence the Licensee or the Commission should invoke § 131 of the Act to obtain federal storage of the spent fuel. That argument assumes the answer to the question before us, namely whether the public health and safety will be adequately protected under the license amendment applied for.

We find Petitioner’s arguments to be conclusions that do not satisfy the specificity requirements of 10 C.F.R. § 2.714 for admissibility of a contention. Nothing litigable is provided, and the contention is denied.

C. Contentions of the Mothers for Peace

Mothers for Peace filed their contentions in a submittal dated April 22, 1986.

Mothers for Peace Contention 1

The Licensee has not adequately considered alternatives to the proposed reracking of the spent fuel pools. In particular, because of the increased danger posed by the close proximity of the Hosgri fault, alternatives should be considered. Some alternatives include:

- a. The contracting out or trans-shipment of spent fuel for storage at a government owned spent fuel facility;
- b. Derating the facility or reducing the plant output and thereby reducing the generation of spent fuel.
- c. Closing or shutting down the facilities.

Neither Staff nor Licensee object to the admission of the contention as it is written. Tr. 16-18. The Board has no objection to its admission. The contention is therefore accepted for litigation.

Mothers for Peace Contention 2

The Licensee failed to evaluate the overall cost (in terms of both health effects and potential associated medical costs) associated with the additional exposures of the plant personnel to increased radioactivity levels due to the increased spent fuel storage.

Neither Staff nor Licensee object to the admission of the contention, with the understanding that it is restricted to normal operation of the facility. Tr. 21-22. The Board finds that the contention is admissible for litigation with that restriction.

Mothers for Peace Contention 3

No analysis has been made of the overall costs (in terms of both health effects and potential associated medical costs) associated with the additional exposures of persons off the Diablo Canyon site to increased radioactivity levels due to the increased spent fuel storage.

Neither Staff nor Licensee object to the admission of the contention, as written, with the understanding that it is restricted to normal opera-

tion of the facility. Tr. 22. The contention is accepted for litigation with that restriction.

Mothers for Peace Contention 4

The expansion of the spent fuel storage capacity will have a significant affect [sic] on the quality of the human environment and therefore requires the preparation of an Environmental Impact Statement.

The relevant regulations concerning necessary documents to be submitted in this proceeding are found in 10 C.F.R. Part 51. Section 51.20 thereof sets forth the criteria for an identification of licensing and regulatory actions requiring environmental impact statements. On its face the instant amendment meets none of these criteria and would thus be governed by § 51.21, which requires the preparation of an environmental assessment, which has been prepared and disseminated to the participants in this case.

The Mothers for Peace contend that the granting of the proposed license amendment would constitute a major federal action, which would require the preparation of an EIS. However, no basis for such an action is advanced in their contention with sufficient specificity to be litigated. The broad statement of a significant effect on the quality of human environment is totally insufficient. The contention is denied.

Mothers for Peace Contention 5

Applicant's proposal does not ensure that spent fuel pool conditions will be maintained within regulatory or design limits in the event of a Class 9 accident or other extreme accident in the main reactor. The Licensee has not shown that in such cases the electrical systems, cooling systems and plant personnel will function sufficiently well to ensure continued safe operation of the spent fuel pools.

Licensing boards are enjoined from acting on proposals concerning "Class 9" accidents in operating reactors absent new and significant safety information. 50 Fed. Reg. 32,144, 32,144-45 (Aug. 8, 1985). No such information has been offered. Thus, the contention must be denied.

Mothers for Peace Contention 6

The application for reracking is premature in that no need for the immediate expansion has been shown. Licensee will have no need for the increased storage capacity for the next 4 years.

The Board is not aware of any regulation or policy statement by the Commission that requires a showing of immediate need in a proposal for fuel pool reracking, and the Petitioner has cited none. The intent of §§ 131 and 132 of the Nuclear Waste Policy Act of 1982, discussed above, appears to encourage advance planning and work in this area. *See also* 10 C.F.R. § 2.1101 (1986). Licensee argues that reracking at this time, while the pool is not contaminated with spent fuel assemblies, would result in less employee exposure to radiation. Tr. 35-36. The contention is denied for lack of factual or legal basis.

Mothers for Peace Contention 7

The NRC has ordered PG&E to conduct a long-term seismic program and submit the results of the study to the Commission by 1988. In view of the fact that the study is still in the early planning stages, any seismic analyses done on the spent fuel pools as well as on the racks are inadequate. It also makes consideration of reracking premature, and woefully inadequate.

The seismic issue at Diablo Canyon has been exhaustively litigated in the operating license hearings, and its resolution has been approved by the Commission. ALAB-644, 13 NRC 903, 966 (1981); S.J. Chilk, Secretary of the Commission, Letter to the parties dated March 18, 1982. This Board has no power to consider this matter absent a specific indication of adverse effects on the health and safety of the public. We find none. The contention is therefore denied. *See also* CODES Contentions 2 and 3, *supra*.

Mothers for Peace Contention 8

The Licensee has not adequately considered or analyzed the long term health, safety and environmental effects of the proposed reracking with respect to such periods of time over which the spent fuel pool is likely to be used beyond the expiration of Applicant's operating license.

The Commission has considered the long-term effects of the storage of spent fuel and has found that there is reasonable assurance that, if necessary, "spent fuel generated in any reactor can be stored safely and without significant environmental impacts for at least 30 years beyond the expiration of that reactor's operating license at that reactor's spent fuel storage basin . . ." *Ruling on the Storage and Disposal of Nuclear Waste* (Waste Confidence Rulemaking), CLI-84-15, 20 NRC 288, 293 (1984); *see also* 10 C.F.R. § 51.23(a) (1986) and the discussion of

CODES Contention 4, above. In light of the Commission's determination and the regulation, which are binding upon the Board, we find that the contention is not a proper matter for adjudication, and it is therefore rejected.

Mothers for Peace Contention 9

The Licensee has not shown that people could safely be evacuated in the event of a simultaneous earthquake and accident at Diablo Canyon's spent fuel pools. Current evacuation times are inadequate to preserve the health and safety given the increased quantity of radiation that would occur with a spent fuel pool storage expansion.

As both Staff and Licensee point out (Tr. 57), this issue of the coincidence of a major accident and an earthquake has been considered in this case before, and was found by the Commission to be so highly improbable that it does not require consideration in the Commission's regulations. The Commission's decision has been upheld by the courts. *San Luis Obispo Mothers for Peace v. NRC*, 760 F.2d 1320, *aff'd en banc*, No. 84-1410, slip op. at 5 (D.C. Cir. April 25, 1986). In view of this, the contention must be rejected.

Mothers for Peace Contention 10

The Licensee has not analyzed nor considered the consequences of an accidental impact from an aborted, misfired, misguided or exploded missile launched from the Vandenberg missile range. Vandenberg is a major launch facility for the U.S. Air Force, and soon will become a prime launching facility for NASA. Accidental explosions have been occurring with increased frequency.

This contention was previously litigated in this case and was found to be of little concern. LBP-79-26, 10 NRC 453, 461 (1979). The Board finds that there is insufficient basis presented by Intervenors to further consider this matter. The contention is therefore rejected.

Mothers for Peace Contention 11

In light of increased terrorist activities, the Licensee has not adequately analyzed nor considered the consequences of sabotage of the spent fuel facilities. The possibility of increased harm due to sabotage of the spent fuel pools will necessitate increased security measures over and above current forces.

The contention basically questions the adequacy of the security system in place at the Diablo Canyon Nuclear Power Plant. This matter has been litigated at length by the Appeal Board, and the security system was found to be satisfactory. ALAB-653, 14 NRC 629 (1981). The Board finds that there is insufficient basis set forth in the contention for further consideration of this matter. The contention is therefore rejected.

* * *

In that this Memorandum and Order grants petitions for leave to intervene, it is appealable by any party other than petitioners on the question of whether the petitions should have been wholly denied. 10 C.F.R. § 2.714a(c) (1986).

Order

For all the foregoing reasons and based upon consideration of the entire record in this matter, it is, this 27th day of June 1986, ORDERED

1. That CODES Contention 14 is admitted, as amended, and all remaining contentions are denied;

2. That Mothers for Peace Contentions 1, 2, and 3 are admitted, as amended, and all remaining contentions are denied;

3. That Sierra Club Contentions I(A) and I(B), and II(A) and II(B), as amended by the Board, are admitted, and all remaining contentions are denied;

4. That the contentions admitted in ¶¶ 1 to 3 above, as limited, are restated in Appendix A hereto which is incorporated herein by reference; and

5. That any party desiring to invoke the hybrid hearing procedures set forth in 10 C.F.R. § 2.1101 *et seq.* (1986) shall, on or before July 14,

1986, file with this Board a written request including a proposed procedural schedule.

**THE ATOMIC SAFETY AND
LICENSING BOARD**

**B. Paul Cotter, Jr., Chairman
ADMINISTRATIVE JUDGE**

**Glenn O. Bright
ADMINISTRATIVE JUDGE**

**Jerry Harbour
ADMINISTRATIVE JUDGE**

Bethesda, Maryland.

[Appendix A has been omitted from this publication, but can be found in the NRC Public Document Room, 1717 H Street, NW, Washington, DC 20555.]

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

OFFICE OF NUCLEAR REACTOR REGULATION

Harold R. Denton, Director

In the Matter of

Docket Nos. 50-348A
50-364A
(10 C.F.R. § 2.206)

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

June 16, 1986

The Director of Nuclear Reactor Regulation grants in part and denies in part a petition of the Alabama Electric Cooperative, Inc., which requested action to enforce the antitrust conditions incorporated in the licenses for Alabama Power Company's Farley Nuclear Plant. A Notice of Violation under 10 C.F.R. § 2.201 accompanies the decision and describes the circumstances in which the Director agrees that Alabama Power Company has violated the antitrust license conditions.

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

I. INTRODUCTION

On June 29, 1984, the Alabama Electric Cooperative, Inc. (AEC) petitioned the Nuclear Regulatory Commission (NRC) pursuant to 10 C.F.R. § 2.206 to enforce Antitrust License Condition No. 2 which is now incorporated in the Joseph M. Farley Nuclear Plant Units 1 and 2 (Farley) licenses. Subsequently, the Alabama Power Company (APCo) requested the NRC to hold in abeyance action on AEC's petition for enforcement and institute proceedings leading to the issuance of a declara-

tory order clarifying the obligation of APCo under the antitrust license conditions contained in the Farley licenses.

In an Order dated July 10, 1984 (unpublished), the Commission requested AEC and other interested parties to file with the Commission their views on the choice of procedure the NRC should follow. The Department of Justice (Department) and AEC opposed APCo's petition for proceedings leading to a declaratory order. The Commission decided to follow the usual procedures in 10 C.F.R. § 2.206 for evaluation of such petitions and referred AEC's petition for enforcement to the Director of Nuclear Reactor Regulation for evaluation. Subsequently, APCo responded to AEC's petition for enforcement of license conditions and AEC in turn provided further information in support of its petition. After reviewing the information submitted by the parties, the NRC Staff had several meetings with all the parties, both separately and jointly, in an effort to resolve these issues. There was also one meeting with representatives of the Federal Energy Regulatory Commission to obtain information regarding the regulatory treatment of "Allowance for Funds Used During Construction (AFUDC)." While the meetings were most helpful in leading to an understanding of the positions of the parties and in narrowing the issues, the parties have now advised the NRC Staff that they were unable to reach a settlement of all the issues. Accordingly, for the reasons set forth below, I have determined to grant AEC's petition in part, and to deny it in part.

II. BACKGROUND

On August 16, 1971, the Attorney General, pursuant to § 105c of the Atomic Energy Act, as amended, advised that a hearing should be held to consider whether the activities of Alabama Power Company under the Farley licenses would tend to create or maintain a situation inconsistent with the antitrust laws. Following a notice of the Attorney General's advice in the *Federal Register*, AEC and the Municipal Electric Utility Association of Alabama (MEUA) petitioned to intervene in the antitrust proceedings. The petitions were granted and hearings commenced in December 1974. In addition to APCo, AEC, and MEUA, the Department of Justice and the NRC Staff participated.

The Licensing Board found that APCo's activities under the nuclear plant license would maintain a situation inconsistent with the antitrust laws. As a remedy, the Board imposed certain conditions on APCo's

licenses. The most relevant to the issues now before me was a requirement that APCo offer to sell unit power to AEC from the Farley Plant.¹

All parties appealed the Licensing Board's decision to the NRC's Atomic Safety and Licensing Appeal Board (Appeal Board). The Appeal Board affirmed in large part the Board's findings, but found that in order to remedy the situation inconsistent with the antitrust laws APCo should offer AEC ownership participation in the Farley Plant instead of unit power.²

The following findings of the Appeal Board are particularly relevant to the enforcement issues posed in this case:

In a unit power arrangement, the purchaser is charged for all the owner's cost of providing that power, including the costs of capital, of construction, and of fuel and operation. Where the owner is a private utility such as the applicant here, the charge to the purchaser includes a rate of return on the owner's investment. This means that were AEC to purchase power from the applicant on a unit power basis, it would lose the benefits of the advantageous financing otherwise available to it for the capital costs attributable to its share of the plant. Due to its cheaper capital costs, primarily through the availability of low-cost loans, AEC could save approximately 7 mills per KWH through ownership access to Farley as opposed to unit power access. It also has certain tax advantages over investor-owned utilities.³

* * *

AEC accepts that "participation should be on the basis of the proportion of AEC's on- and off-system wholesale loads in central and southern Alabama to the total loads of both parties in such area." However, it points out that the peak demands for each of AEC's on-system and off-system members and for applicant do not occur simultaneously. The result of the Licensing Board's allocation formula, says AEC, enables the applicant to retain a disproportionate share of the facility. AEC suggests instead that the ratio should be pegged to the load of AEC's on-system and off-system members and of the applicant *at the time of their respective peak loads*.

We agree with this position of AEC. Basing the allocation formula on the time of applicant's peak demand skews the result in its favor. A more equitable division of ownership would result if the shares were to be determined by the respective peak demands of AEC and the applicant occurring during 1976. The license condition we impose is based accordingly.⁴

The Appeal Board ordered eight conditions to be made a part of the Farley licenses. Condition No. 2 is the one in contention and it states as follows:

¹ LBP-77-41, 5 NRC 1482, 1507 (1977).

² ALAB-646, 13 NRC 1027, 1103 (1981).

³ *Id.* at 1104 (footnotes omitted).

⁴ *Id.* at 1108 (footnotes omitted).

2. Licensee shall offer to sell to AEC an undivided ownership interest in Units 1 and 2 of the Farley Nuclear Plant. The percentage of ownership interest to be so offered shall be an amount based on the relative sizes of the respective peak loads of AEC and the Licensee (excluding from the Licensee's peak load that amount imposed by members of AEC upon the electric system of the Licensee) occurring in 1976. The price to be paid by AEC for its proportionate share of Units 1 and 2, determined in accordance with the foregoing formula, will be established by the parties through good faith negotiations. The price shall be sufficient to fairly reimburse Licensee for the proportionate share of its total costs related to the Units 1 and 2 including, but not limited to, all costs of construction, installation, ownership and licensing, as of a date, to be agreed to by the two parties, which fairly accommodates both their respective interests. The offer by Licensee to sell an undivided ownership interest in Units 1 and 2 may be conditioned, at Licensee's option, on the agreement by AEC to waive any right of partition of the Farley plant and to avoid interference in the day-to-day operation of the plant.

The Appeal Board issued its decision on June 30, 1981. The Commission declined to review the decision, and APCo's petition for a stay was denied on August 10, 1981. The U.S. Court of Appeals affirmed the decision, and certiorari was denied by the Supreme Court.⁵ Farley 1 began commercial operation on December 1, 1977, Farley 2 on July 30, 1981.

AEC's petition alleges fourteen instances by which APCo's proposal for the sale of a portion of Farley Units 1 and 2 is in violation of its license requirements. The first seven amount to allegations that APCo is attempting to extract "windfall" profits from the sale of the plant. The remaining allegations concern other terms and conditions requested by APCo. These allegations are:

1. Attempting to charge AEC partially on the basis of replacement value of the Plant (i.e., charging AEC appreciation on a Plant which was depreciating during the period during which APCo has unlawfully denied AEC ownership access);
2. Attempting to charge a fictitious "incremental gross AFUDC" (\$393 million for the Plant) which denies AEC its own cost-of-money benefits, which violates the Uniform System of Accounts, and which would profit APCo for APCo's continued refusal to grant ownership access for a decade and a half;
3. Attempting to charge an incremental \$70 million for the Plant for "ownership risk" on the irrelevant claim that utilities building nuclear plants *today* have higher equity costs than existed at the time the Farley Units were built;
4. Attempting to include an income tax factor of \$246 million for the Plant (based in large part on the profit APCo seeks to make from AEC) without showing or

⁵ *Alabama Power Co. (Joseph M. Farley Nuclear Plant, Units 1 and 2)*, ALAB-646, 13 NRC 1027 (1981), *aff'd*, *Alabama Power Co. v. NRC*, 692 F.2d 1362 (11th Cir. 1982), *cert. denied*, 104 S. Ct. 72 (1983).

even claiming that APCo will actually suffer any income tax payment because of the sale, and without recognition that if any adverse income tax effect were to result, it would be solely the result of APCo's management's deliberate decision to unlawfully withhold ownership access from AEC and therefore must be borne by APCo stockholders;

5. Attempts to collect an "entitlement fee" (\$170 million above Plant cost) as an arbitrary profit, contrary to the license conditions;
6. Attempts to receive \$114 million per Plant for "adverse financial consequences" to compensate for alleged depressed Southern Company stock prices (without regard to whether these so-called "adverse financial consequences" were attributable to the financial community's negative opinion as to APCo's management, or a variety of other possible causes); and
7. Attempts to receive substantial profits from AEC over and above APCo's actual costs from the sale of nuclear fuel rights, and for the operation of the facility.
8. APCo's insistence that the Rural Electrification Administration "guarantee" AEC's performance for the life of the agreement. APCo continues to insist on this even though it has been informed that REA could not agree to such a condition. Nor has APCo indicated any basis upon which one might conclude that REA has the statutory authority to take such a position. Indeed, it must have been apparent to APCo from the beginning that there was not the slightest possibility that REA would ever issue such a guaranty. Accordingly, it would be difficult to avoid the conclusion that the proposal was advanced not in good faith but for the purpose of forestalling a contractual arrangement of the type required by the license.
9. Though APCo insists that AEC pay in advance for all capital and operating costs (even prior to the determination of the dollar value of those costs), APCo also demands a second mortgage on AEC's entire electric system while at the same time APCo refuses to make even the barest commitment to operate the Farley Plant in a reasonable manner.
10. Not only has APCo refused to agree in any way to assist in the gaining of necessary regulatory approvals for AEC's acquisition of its ownership share, but APCo has informed AEC that APCo fully reserves the right to raise objections thereto.
11. APCo refuses to accept any responsibility to AEC for any gross negligence or reckless misconduct by APCo in the operation of the Plant. At the same time, APCo insists that AEC share payment of any fines or penalties incurred by APCo as sole operator of the facility even to the extent that the APCo conduct resulting in such penalties occurred prior to the time when AEC takes title to AEC's share of the Units.
12. APCo insists that AEC is fully liable for any "incremental costs" (whatever that may mean) of AEC's joint ownership, and APCo attempts to reserve the right to define solely in its own discretion what such an "incremental cost" is.
13. A review of APCo's proposed agreements will demonstrate a number of other plainly unreasonable terms and conditions. However, the above examples are

sufficient to establish that APCo has not been and is not pursuing compliance with its NRC license obligations in good faith, and that enforcement action by the Commission is promptly required to cure APCo's contemptuous refusal to meet its obligations as an NRC licensee.

14. APCo has also proposed a percentage ownership for AEC which is contrary to the formula developed in ALAB-646 (see 13 NRC at 1107-1108) and which attempts to deprive AEC of AEC's fair share of the Farley Units.

In reviewing this matter, I have considered whether the offer made by APCo to sell a portion of Farley Units 1 and 2 to AEC was in conformance with the License Conditions attached to the License for these units. This determination included an analysis as to whether the terms offered by APCo are reasonable and in fact a good-faith effort to comply with its license. Based upon my review, I have decided to grant in part and deny in part AEC's petition. Those matters subject to enforcement⁶ are set forth in the accompanying Notice of Violation (Attachment A, not published) and those matters not subject to enforcement⁷ and for which AEC's petition is denied are set forth in this Director's Decision under 10 C.F.R. § 2.206.

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

A. Those matters in which the Director has determined that there is no basis for enforcement action.

1. In alleged violation 10, AEC alleges that APCo has refused to agree to assist AEC in gaining necessary regulatory approvals for AEC's acquisition of its ownership share and that APCo reserves the right to raise objections to such ownership acquisition.⁸ APCo denies that it has refused to assist AEC in the gaining of necessary regulatory approvals for AEC's ownership acquisition in the Farley plant.⁹ Staff has found no indication that APCo has, or intends to, refuse to provide the necessary information and regulatory filings required for AEC to obtain an ownership interest in the Farley plant. Staff does not believe that regulatory action is needed to state that APCo, as part of a settlement agreement, need not waive its right to comment as it sees fit in regulatory or other

⁶ Alleged violations 1 through 7, 8, 9, 12, and 13.

⁷ Alleged violations 10, 11, and 14.

⁸ Letter with attachments from Charles R. Lowman, General Manager of Alabama Electric Cooperative, Inc., June 29, 1984, to Richard C. DeYoung, Director, Office of Inspection & Enforcement, U.S. Nuclear Regulatory Commission, at 10. Hereafter, "Lowman Letter."

⁹ Letter, J.A. Bouknight, Jr., Newman and Holtzinger, P.C., October 15, 1984, to Harold R. Denton, Director, Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, at 50-51. Hereafter, "Bouknight Letter."

proceedings, so long as APCo does not withhold or refuse to file the necessary documents and information.

2. In allegation 11, AEC alleges that APCo has refused to accept any responsibility to AEC for any "gross negligence or reckless misconduct" by APCo in the operation of the plant.¹⁰ APCo responds that its 94% interest in the plant and its \$1.5 billion equity investment is the best evidence of APCo's commitment to operate the plant in a reasonable and conscientious manner.¹¹ APCo claims further that it is unreasonable for AEC to expect APCo to assume sole operating responsibility on a non-profit basis, while remaining fully liable to AEC for unintentional as well as willful misconduct.

Staff believes that if APCo is required to operate AEC's portion of the plant at cost, without profit or special management fee, as the license condition requires, then no regulatory action by NRC is needed to state that APCo is not liable to AEC for any unintentional conduct on APCo's part.

3. In allegation 14, AEC maintains that APCo has derived a percentage ownership for AEC which does not conform to the license condition.¹² APCo claims that its method of calculating the ownership share to which AEC is entitled is consistent with the license condition.¹³

The controversy stems from whether the load of AEC's off-system members that was furnished in 1976 by the Southeastern Power Administration (SEPA) should properly be considered as AEC's load in 1976. The license condition states:

The percentage of ownership interest to be so offered shall be an amount based on the relative sizes of the respective peak loads of AEC and the Licensee (excluding from the Licensee's peak load that amount imposed by members of AEC upon the electric system of the Licensee) occurring in 1976.

The above license condition does not indicate whether the load supplied by SEPA in 1976 to AEC's members should be considered also as AEC's load. The Appeal Board's decision states:

the ratio should be pegged to the load of AEC's on-system and off-system members and of the applicant at the time of their respective peak loads.¹⁴

¹⁰ Lowman Letter at 10.

¹¹ Bouknight Letter at 49.

¹² Lowman Letter at 7-9.

¹³ Bouknight Letter at 41-43.

¹⁴ ALAB-646, *supra*, 13 NRC at 1108.

This clearly indicates that AEC's peak load is to be based on the coincident peak demand of its members, but does not indicate whether the raw loads of the members are to be used, or the loads net of those supplied by SEPA.

The NRC Staff believes that the loads net of those supplied by SEPA is the most reasonable interpretation. The license condition pertains to AEC's ownership share in the nuclear plant, suggesting that AEC's load responsibility is the relevant factor. The NRC Staff believes that since the SEPA-supplied power was and is contractually committed to AEC's members, rather than to AEC, then AEC's load responsibility was the coincident sum of its members' native loads less the SEPA-supplied power.

The license condition refers to the peak load of AEC. Also, in its decision the Appeal Board stated:

A more equitable division of ownership would result if the shares were to be determined by the respective peak demands of AEC and the applicant occurring during 1976.¹⁵

The license condition specifies one exception to the peak loads of AEC and APCo by stating:

(excluding from the Licensee's peak load that amount imposed by members of AEC upon the electric system of the Licensee) occurring in 1976.

In this instance, the Appeal Board recognized that the load supplied by APCo should not be credited to APCo. No such exception was specified regarding the SEPA-supplied load.

IV. CONCLUSION

For the reasons set forth above, I have declined to initiate enforcement action on allegations 10, 11, and 14 of the AEC's petition. However, with respect to the remaining allegations, I have granted AEC's petition. Therefore, I am initiating enforcement action to require APCo's compliance with License Condition Number 2.

As indicated above, I am issuing a Notice of Violation pursuant to 10 C.F.R. § 2.201 concurrently with this Decision. The Notice of Violation, appended hereto as Attachment A (not published), requires APCo to respond to the alleged violations and to take timely steps to achieve

¹⁵ *Id.* (emphasis added).

compliance. If APCo's response to the Notice of Violation or its corrective action is unsatisfactory, I will consider whether other enforcement action, such as the issuance of orders or the imposition of civil penalties, is appropriate. A copy of this Decision will be filed with the Office of the Secretary of the Commission for the Commission's review in accordance with 10 C.F.R. § 2.206(c).

Harold R. Denton, Director
Office of Nuclear Reactor
Regulation

Dated at Bethesda, Maryland,
this 16th day of June 1986.

[Attachment A has been omitted from this publication but can be found in the NRC Public Document Room, 1717 H Street, NW, Washington, DC 20555.]

CLI-86-14 was inadvertently omitted from the January 1986 issuances, and, therefore, this Memorandum and Order can be found at 24 NRC 36.

DPRM-86-2 was inadvertently omitted from the June 1986 issuances, and, therefore, this Denial of Petition for Rulemaking can be found at 24 NRC 193.

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