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NUCLEAR REGULATORY COMMISSION ISSUANCES

December 1987

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This report includes the issuances received during the specified period from the Commission (CLI), the Atomic Safety and Licensing Appeal Boards (ALAB), the Atomic Safety and Licensing Boards (LBP), the Administrative Law Judge (ALJ), the Directors' Decisions (DD), and the Denials 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.

U.S. NUCLEAR REGULATORY COMMISSION

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CONTENTS

Issuances of the Atomic Safety and Licensing Appeal Boards

Issuance of the Atomic Safety and Licensing Board

Issuances of Directors' Decisions

Atomic Safety and Licensing Appeal Boards Issuances

ATOMIC SAFETY AND LICENSING APPEAL PANEL

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APPEAL BOARDS

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Administrative Judges:

Alan S. Rosenthal, Chairman
Christine N. Kohl
Howard A. Wilber

In the Matter of

Docket Nos. 50-275-OLA
50-323-OLA

PACIFIC GAS AND ELECTRIC COMPANY
(Diablo Canyon Nuclear Power Plant, Units 1 and 2)

December 21, 1987

The Appeal Board affirms a licensing board decision authorizing the issuance of operating license amendments permitting the expansion of the spent fuel pool capacity of each of the facility's two units.

RULES OF PRACTICE: CONTENTIONS (SPECIFICITY AND BASIS)

To be admitted in a licensing proceeding, a contention must have its basis set forth with reasonable specificity. 10 C.F.R. § 2.714(b). The purposes of this rule are to assure the proper invocation of the hearing process and to provide adequate notice to other parties as to exactly what they will be called upon to litigate. *See Philadelphia Electric Co.* (Peach Bottom Atomic Power Station, Units 2 and 3), ALAB-216, 8 AEC 13, 20-21, *modified on other grounds*, CLI-74-32, 8 AEC 217 (1974).

APPEAL BOARD: SCOPE OF REVIEW

Like courts, appeal boards usually do not consider arguments that are raised for the first time during appellate review. *Tennessee Valley Authority* (Hartsville Nuclear Plant, Units 1A, 2A, 1B, and 2B), ALAB-463, 7 NRC 341, 348, *reconsideration denied*, ALAB-467, 7 NRC 459 (1978).

RULES OF PRACTICE: CONTENTIONS (ADMISSIBILITY)

Under the Commission's requirements, an intervenor is not expected to prove, at the contention admission stage, that a proffered contention is true; the intervenor must, however, allege at least some credible foundation for the contention. *Cf. Metropolitan Edison Co.* (Three Mile Island Nuclear Station, Unit No. 1) CLI-80-16, 11 NRC 674, 675 (1980).

NEPA: ENVIRONMENTAL IMPACT STATEMENT

Under section 102(2)(C) of the National Environmental Policy Act of 1969 (NEPA), an environmental impact statement (EIS) is required for major Federal actions that significantly affect the quality of the human environment. 42 U.S.C. § 4332(2)(C).

NEPA: CONSIDERATION OF ALTERNATIVES (SECTION 102(2)(E))

Under section 102(2)(E) of NEPA, agencies are obliged to study alternatives to proposals that involve "unresolved conflicts concerning alternative uses of available resources." 42 U.S.C. § 4332(2)(E).

APPEAL BOARD: SCOPE OF REVIEW

An appeal board will not consider a party's claims of error that are not developed in the party's brief on appeal. *Georgia Power Co.* (Vogtle Electric Generating Plant, Units 1 and 2), ALAB-872, 26 NRC 127, 131-32 (1987).

REGULATIONS: INTERPRETATION

General design criteria (GDC) are broadly stated engineering and safety goals that "constitute the minimum requirements for the principal design criteria of water-cooled nuclear power plants." "Regulations" set forth more detailed requirements, while less formal staff documents (such as "Regulatory Guides" and "Standard Review Plan" provisions) provide guidance for compliance with

the GDC. *Petition for Emergency and Remedial Action*, CLI-78-6, 7 NRC 400, 406 (1978).

NEPA: CONSIDERATION OF SEVERE ACCIDENTS

Accidents that contemplate "sequences of postulated successive failure more severe than those postulated for the design basis of protective systems and engineered safety features" are variously termed "beyond design-basis," "Class 9," or "severe" accidents. *Offshore Power Systems* (Floating Nuclear Power Plants), CLI-79-9, 10 NRC 257, 258 (1979); Interim Policy on "Nuclear Power Plant Accident Considerations Under the National Environmental Policy Act of 1969," 45 Fed. Reg. 40,101, 40,104 (1980) ["NEPA Policy Statement"]. *See generally* "Policy Statement on Severe Reactor Accidents Regarding Future Designs and Existing Plants," 50 Fed. Reg. 32,138 (1985). The Commission considers such accidents "to be so low in probability as not to require specific additional provisions in the design of a reactor facility." *Long Island Lighting Co.* (Shoreham Nuclear Power Station, Unit 1), CLI-87-12, 26 NRC 383, 393 n.17 (1987).

NEPA: ENVIRONMENTAL IMPACT STATEMENT

Under the "rule of reason," NEPA does not require the consideration of Class Nine accidents in future EISs, nor does it require that final EISs be supplemented to take account of the Class Nine risk. *San Luis Obispo Mothers for Peace v. NRC*, 751 F.2d 1287, 1301 (D.C. Cir. 1984), *aff'd en banc*, 789 F.2d 26, *cert. denied*, ___ U.S. ___, 107 S. Ct. 330 (1986).

NEPA: CONSIDERATION OF SEVERE ACCIDENTS

NEPA does not require agency consideration of highly improbable — i.e., remote and speculative — events. Thus, an EIS need not be prepared to consider such events. *Vermont Yankee Nuclear Power Corp.* (Vermont Yankee Nuclear Power Station), ALAB-869, 26 NRC 13, 30 (1987), *reconsideration denied*, ALAB-876, 26 NRC 277 (1987).

NUCLEAR REGULATORY COMMISSION: RESPONSIBILITY UNDER NEPA

As an independent regulatory agency, the Commission does not consider substantive Council on Environmental Quality regulations as legally binding on it. 49 Fed. Reg. 9352, 9356 (1984). *See Baltimore Gas and Electric*

Co. v. Natural Resources Defense Council, Inc., 462 U.S. 87, 99 n.12 (1983); *Philadelphia Electric Co.* (Limerick Generating Station, Units 1 and 2), ALAB-819, 22 NRC 681, 700 n.21 (1985), *aff'd in part and review otherwise declined*, CLI-86-5, 23 NRC 125 (1986), *petitions for review pending sub nom. Limerick Ecology Action, Inc. v. NRC*, No. 85-3431, et al. (3d Cir.).

NEPA: POLICY STATEMENT ON SEVERE ACCIDENTS

In its NEPA Policy Statement, the Commission describes those circumstances in which the NRC staff, as a matter of discretion, is to consider the environmental impacts of a beyond design-basis accident. That policy statement, however, does not apply to license amendment proceedings for the expansion of the capacity of spent fuel pools by reracking. *Vermont Yankee*, ALAB-869, 26 NRC at 31.

NEPA: ENVIRONMENTAL ASSESSMENT

An environmental assessment is a concise statement usually prepared to aid the Commission's compliance with NEPA when no environmental impact statement is necessary. 10 C.F.R. § 51.14(a). *See also* ALAB-877, 26 NRC 287, 290-91 (1987).

APPEAL BOARD: SCOPE OF REVIEW

Where a party's brief on appeal provides no references to the hearing transcript and underlying record and no specifics to support its generalized complaints, its appeal is subject to summary rejection. *See* 10 C.F.R. § 2.762(d)(1); *Vogtle*, 26 NRC at 131-32.

APPEAL BOARD: SUA SPONTE REVIEW

It is appeal board practice to review on its own initiative licensing board decisions, or portions thereof, that have not been appealed, as well as the underlying record. *See Georgia Power Co.* (Vogtle Electric Generating Plant, Units 1 and 2), ALAB-859, 25 NRC 23, 27 (1987).

TECHNICAL ISSUES DISCUSSED

High-Density Spent Fuel Racks
Spent Fuel Pool Loss of Coolant Accidents
Zircaloy Cladding Fire
Beyond Design-Basis Accidents

Considera[illegible]. Alternative Onsite Spent Fuel Pool Storage Facilities
Design Base
Spent Fuel Pool Design Criteria.

APPEARANCES

Dian M. Grueneich and **Marcia Preston,** San Francisco, California, for the intervenor Sierra Club.

Howard V. Golub, Richard F. Locke, and **Bruce Norton,** San Francisco, California, for the applicant Pacific Gas and Electric Company.

Benjamin H. Vogler for the Nuclear Regulatory Commission staff.

DECISION

This proceeding involves the application of Pacific Gas and Electric Company (PG&E) for amendments to its operating licenses for the two-unit Diablo Canyon facility. The license amendments are to permit the expansion of the capacity of each unit's spent fuel pool from 270 to 1324 fuel assemblies by replacing existing storage racks with high density racks.

Initially, pursuant to 10 C.F.R. § 50.92, the Commission staff found that "no significant hazards" were involved in PG&E's request, and it approved the issuance of the license amendments. *See* 51 Fed. Reg. 19,430 (1986). The Sierra Club and the San Luis Obispo Mothers for Peace, which had already requested a hearing on PG&E's application, asked both the Commission and the U.S. Court of Appeals for the Ninth Circuit to stay issuance of the license amendments. The Commission decided to allow PG&E to continue its installation of the new storage racks, but declined to permit storage therein of more than 270 fuel assemblies, pending completion of a hearing before the Licensing Board. CLI-86-12, 24 NRC 1 (1986). The court, however, found that, in denying the Sierra Club and Mothers for Peace a hearing before issuance of the involved license amendments, the Commission's "no significant hazards" determination did not comply with 10 C.F.R. § 50.92. The court thus ordered PG&E not to place any spent fuel assemblies in the Unit 1 pool and not to rerack Unit 2 until the completion of the administrative hearing; in the alternative, the court permitted PG&E to return the racks to their original configuration. *San Luis Obispo Mothers for Peace v. NRC*, 799 F.2d 1268, 1271 & n.1 (9th Cir. 1986).

In connection with that hearing, the Licensing Board admitted four extensive contentions proffered by intervenor Sierra Club (contentions I(A), I(B), II(A), and II(B)).[1] Most of each of those contentions concerned the effects of an earthquake on various aspects of the proposed reracked pools; a portion of one, however — contention I(B)(7) — alleged that PG&E had not considered two specified alternative types of onsite storage facilities. *See* LBP-86-21, 23 NRC 849, 860-65, 870 (1986). Just as the three-day hearing on these matters was to begin, the Sierra Club proffered yet another contention, raising concerns about the consequences of a spent fuel pool loss of coolant accident (LOCA) and possible resulting spontaneous burning of the zircaloy cladding surrounding the spent fuel elements in high density storage. The Sierra Club also sought the preparation of an environmental impact statement (EIS). The Licensing Board took those new matters under advisement and proceeded with the hearing on the other already admitted contentions.

The Licensing Board subsequently issued a memorandum and order in which it concluded that the Sierra Club's late-filed LOCA contention did not meet the Commission's standards for admission, and that an EIS was not required. LBP-87-24, 26 NRC 159 (1987). About a week later, the Board issued its initial decision on the contentions litigated at the hearing, resolving all issues in PG&E's favor and authorizing the issuance of the license amendments. LBP-87-25, 26 NRC 168 (1987).

The Sierra Club now appeals the Licensing Board's decision rejecting its late-filed contention and the initial decision insofar as it concerns the disposition of contention I(B)(7). PG&E and the NRC staff oppose the appeal. As explained below, we find the Sierra Club's arguments unconvincing, and we therefore affirm the two Licensing Board decisions in question.[2]

I. THE LOCA CONTENTION

The new contention proposed by the Sierra Club at the beginning of the hearing on its other already admitted contentions states:

> The proposed action significantly increases the consequences of loss of cooling accidents in that a loss of water in the spent fuel pools could lead to spontaneous ignition of zircaloy

[1] The Board admitted several other contentions of the Mothers for Peace and a third intervenor as well, but those parties subsequently withdrew from the proceeding and are not participants here before us.

[2] The Sierra Club earlier asked us to stay the effectiveness of the Licensing Board's decisions. In ALAB-877, 25 NRC 287 (1987), we denied that motion. The NRC staff issued the license amendments to PG&E on October 20, 1987, and the Commission subsequently denied the Sierra Club's request to deny the amendments' effectiveness. Commission Order of October 26, 1987 (unpublished). The Ninth Circuit also denied a stay on November 13, 1987, and has deferred judicial review pending completion of the administrative review process. *See Sierra Club v. NRC*, No. 87-7481 (9th Cir. November 25, 1987).

> [sic] cladding of the fuel elements in the high density configuration with significant releases of radiation.

The Sierra Club alleged no violation of any existing safety standard or regulation. It based the contention, however, on the findings of the Brookhaven National Laboratory in a draft report titled "Beyond Design-Basis Accidents in Spent Fuel Pools (Generic Issue 82)" (January 1987) [hereinafter "BNL Report"].[3] According to the intervenor, the BNL Report

> clearly identifies the storage of recently discharged nuclear fuel in high density spent fuel storage racks as posing significant dangers to the public health and safety. The proposed spent fuel storage facilities at Diablo Canyon would store freshly discharged fuel in high density racks like those identified in the Brookhaven report as hazardous. Two of the authors specifically recommend against the storage of spent fuel in the manner proposed for Diablo Canyon.

Sierra Club Motion to Include Issues Raised in Generic Issue 82 as Contentions (June 29, 1987) [hereinafter "Sierra Club Motion"] at 1-2 (citations omitted). In light of the BNL Report, the Sierra Club also requested the Licensing Board to order the staff to prepare an EIS on the modification of the Diablo Canyon spent fuel facilities. *Id.* at 6-7.

The Licensing Board, however, concluded that there was no "nexus" shown between the BNL Report and the Diablo Canyon spent fuel pools and thus that the contention was inadmissible for lack of a basis. In particular, the Board stressed that the contention "assumes a total loss of coolant in the Diablo Canyon spent fuel pools without specifying any accident scenario that would cause that loss." LBP-87-24, 26 NRC at 164. It stated that the Sierra Club had made no attempt to suggest relevant similarities between Diablo Canyon and the surrogate pressurized water reactor (PWR) used for the BNL study, the Ginna facility in upstate New York. *Id.* at 165. The Board further found that the newly proposed contention was not included in any already admitted contention. Lastly, the Board determined that the contention was based on a hypothesized "beyond design-basis" accident, for which an EIS is not required under the National Environmental Policy Act of 1969, 42 U.S.C. § 4321 [hereinafter "NEPA"], or authorized as a matter of Commission discretion under its Interim Policy on "Nuclear Power Plant Accident Considerations Under the National Environmental Policy Act of 1969," 45 Fed. Reg. 40,101 (1980) [hereinafter "NEPA Policy Statement"]. LBP-87-24, 26 NRC at 166-67 (citing *Vermont Yankee Nuclear Power Corp.* (Vermont Yankee Nuclear Power Station), ALAB-869, 26 NRC 13, *reconsideration denied*, ALAB-876, 26 NRC 277 (1987)). In view of these determinations, the Board found it unnecessary to

[3] The staff first referred to this report in Board Notification No. 87-05 (March 27, 1987).

balance the five factors set forth in 10 C.F.R. § 2.714(a)(1) against which late contentions are measured. LBP-87-24, 26 NRC at 167.

On appeal, the Sierra Club argues that it has demonstrated a nexus between the BNL Report and Diablo Canyon and thus its contention has a sufficiently specific basis warranting admission. It also asserts that the requirements for admission of a late-filed contention have been met. In addition, it presses its view that an EIS is required for this license amendment because of the findings of the BNL Report. We address these arguments seriatim.

A. The Commission's Rules of Practice require "the bases for each contention [to be] set forth with reasonable specificity." 10 C.F.R. § 2.714(b). The purposes of this rule are to assure the proper invocation of the hearing process and to provide adequate notice to other parties as to exactly what they will be called upon to litigate. See *Philadelphia Electric Co.* (Peach Bottom Atomic Power Station, Units 2 and 3), ALAB-216, 8 AEC 13, 20-21, *modified on other grounds*, CLI-74-32, 8 AEC 217 (1974).

The Sierra Club's proffer of its LOCA contention does not satisfy these requirements. Its pleading before the Licensing Board alleges no lack of compliance with any existing safety standard. It notes, however, the proposed use of high density racks for storage of spent fuel at Diablo Canyon and refers generally to the BNL Report's findings with regard to such racks and the possibility of a zircaloy cladding fire in the event of a substantial loss of pool cooling. But, as the Licensing Board pointed out, the Sierra Club's filing does not mention, let alone discuss, a single mechanism or scenario that might cause such a LOCA at Diablo Canyon. LBP-87-24, 26 NRC at 165.[4] Indeed, it does not even refer to the five initiating events hypothesized by BNL for purposes of the study.[5] *See* Sierra Club Motion *passim*.[6] Without such a triggering event, there is no connection between the spent fuel pools at Diablo Canyon and the BNL Report's ultimate conclusions concerning high density racks — and, thus, no basis for the contention.[7]

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[4] Earlier in this proceeding, the Licensing Board rejected, for lack of a credible accident scenario, loss of spent fuel cooling contentions filed by both the Sierra Club and another intervenor. LBP-86-21, 23 NRC at 856, 857, 862, 863. Thus, the Sierra Club was on notice concerning the requirements for admission of such a contention.

[5] As we noted in our stay decision, the BNL Report postulated the following scenarios leading to a significant depletion of pool water:

> (1) a failure of the system that serves to remove heat from the pool water, resulting in boil-off of the water; (2) a seismic event; (3) a striking of the pool walls by some externally-generated flying object (such as a turbine missile); (4) a failure of a seal protecting the integrity of the pool's water-tightness; and (5) a dropping onto the edge of the pool of a cask utilized to transfer spent fuel from the pool.

ALAB-877, 26 NRC at 293.

[6] The word "earthquake" appears on page 5 of the Sierra Club's motion, but in a reference to another contention. Most of the motion is, in fact, devoted to the 10 C.F.R. § 2.714(a)(1) criteria for admission of a late (but otherwise sufficiently based) contention.

[7] Because we agree with the Licensing Board that the contention lacks a basis, we need not decide whether the Board correctly found a lack of "nexus" between the BNL Report and the Diablo Canyon facility, as we used that term in *Gulf States Utilities Co.* (River Bend Station, Units 1 and 2), ALAB-444, 6 NRC 760, 773 (1977).

(Continued)

On appeal, the Sierra Club now argues that all of the events identified by BNL as initiators of a LOCA "are clearly potential scenarios for [spent fuel pool] failure at Diablo Canyon." Sierra Club's Brief, *supra* note 7, at 12. It also suggests that a spent fuel cask drop and seismic event are particularly likely events. *Id.* at 8, 9. Like courts, we usually do not consider arguments, such as these, that are raised for the first time during appellate review. *Tennessee Valley Authority* (Hartsville Nuclear Plant, Units 1A, 2A, 1B, and 2B), ALAB-463, 7 NRC 341, 348, *reconsideration denied*, ALAB-467, 7 NRC 459 (1978). But even if the Sierra Club's arguments were otherwise permissible, they would still fail. The Sierra Club makes no allegation that the Diablo Canyon spent fuel pools are not designed and built in accordance with regulatory standards, to withstand the maximum anticipated earthquake at that site. Nor is there any basis evident for the Sierra Club's implicit assumption that spent fuel casks are likely to be transferred at Diablo Canyon in the manner postulated in the BNL Report's cask drop scenario. *See* BNL Report at 2-16. Under the Commission's requirements, the Sierra Club is not expected to *prove*, at the contention admission stage, that a seismic event or cask drop serious enough to cause a major loss of pool coolant might occur; it must, however, allege at least some credible foundation for such a scenario.[8] *Cf. Metropolitan Edison Co.* (Three Mile Island Nuclear Station, Unit No. 1), CLI-80-16, 11 NRC 674, 675 (1980) (where there is no allegation of lack of compliance with existing safety regulations, credible reactor LOCA scenario is prerequisite for admission of contention concerning accident control measures). We therefore agree with the Licensing Board that, because the Sierra Club has not even suggested a credible accident initiator, its contention lacks the requisite basis for admission. *See* LBP-87-24, 26 NRC at 165.[9]

B.1. Section 102(2)(C) of NEPA, 42 U.S.C. § 4332(2)(C), requires an environmental impact statement for "major Federal actions significantly affecting the quality of the human environment." Claiming that the BNL Report provides

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We concur, however, in the Sierra Club's criticism of the portion of the Licensing Board's decision suggesting that the Sierra Club should have supplied, with its contention, "comparisons or data" showing greater similarity between Diablo Canyon and Ginna than the fact that they are both PWRs. *See* Sierra Club's Brief (October 26, 1987) at 10; LBP-87-24, 26 NRC at 165. Had the Sierra Club's contention and basis set forth a credible causative accident scenario, the type of data to which the Licensing Board referred would be more properly required for a merits disposition. *See generally Mississippi Power and Light Co.* (Grand Gulf Nuclear Station, Units 1 and 2), ALAB-130, 6 AEC 423, 426 (1973).

[8] In this connection, it is worth noting that the concrete walls and foundation of each pool are at least five feet thick and lined with steel plate. Each pool is roughly 35 feet wide, 37 feet long, and 40 feet deep. In a normal operating condition, there is a minimum of 23 feet of water above the top of the stored fuel. LBP-87-25, 26 NRC at 180. Thus, before even the top of the spent fuel assemblies would be exposed, about 30,000 cubic feet of water (approximately 224,000 gallons) would have to escape from the pool (without corrective action) via some unidentified mechanism.

[9] As noted *supra* pp. 455-56, the Licensing Board did not address the factors to be weighed for admission of a late contention in 10 C.F.R. § 2.714(a)(1). Thus, that matter is not squarely before us for review. Moreover, in light of our agreement with the Board's conclusion about the contention's lack of basis, we need not take up this legal issue on our own.

evidence of "significant impacts on the human environment," the Sierra Club argues that an EIS is required here "concerning the possibility of and impact of Zircaloy cladding fires" at Diablo Canyon. Sierra Club's Brief at 18, 17.[10] Intervenor also asserts that the Licensing Board misapplied our ruling in *Vermont Yankee*, ALAB-869, 26 NRC 13. The Sierra Club argues that that decision simply determined that the specific accident scenario involved there was too remote and speculative to trigger the EIS requirement, "reconfirm[ing] the agency's long-standing policy of considering the need to prepare an EIS on a case-by-case basis." Sierra Club's Brief at 19. In the Sierra Club's view, it has linked the BNL Report to Diablo Canyon and thus demonstrated that a zircaloy cladding fire is not remote and speculative; *Vermont Yankee* therefore does not pertain here, so as to bar its request for an EIS. The Sierra Club also argues that, even if the Licensing Board applied *Vermont Yankee* correctly, NEPA does not permit the exclusion from its EIS requirement of all accidents labelled "beyond design-basis" on the ground that they are remote and speculative. *Ibid.*

The Commission's *minimum*, principal design criteria for spent fuel pools *require*, among other things, the prevention of a "significant reduction in fuel storage coolant inventory under accident conditions" and the provision of monitoring systems "to detect conditions that may result in loss of residual heat removal capability [i.e., cooling water and its associated systems] and excessive radiation levels." 10 C.F.R. Part 50, Appendix A, General Design Criteria 61 and 63.[11] Accidents that contemplate "sequences of postulated successive failure more severe than those postulated for the design basis of protective systems and engineered safety features" are variously termed "beyond design-basis," "Class 9," or "severe" accidents. *Offshore Power Systems* (Floating Nuclear Power Plants), CLI-79-9, 10 NRC 257, 258 (1979); NEPA Policy Statement, 45 Fed. Reg. at 40,104. *See generally* "Policy Statement on Severe Reactor Accidents Regarding Future Designs and Existing Plants," 50 Fed. Reg. 32,138 (1985). The Commission considers such accidents "to be so low in probability as not to require specific additional provisions in the design of a reactor facility." *Long Island Lighting Co.* (Shoreham Nuclear Power Station, Unit 1), CLI-87-12, 26 NRC 383, 393 n.17 (1987). Thus, because spent fuel pools must be

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[10] The Sierra Club also briefly refers to section 102(2)(E) of NEPA, 42 U.S.C. § 4332(2)(E), which obliges agencies to study alternatives to proposals that involve "unresolved conflicts concerning alternative uses of available resources." We have found no indication that the Sierra Club raised this separate NEPA issue before the Board below so as to preserve it for appeal. *See supra* p. 457. Moreover, its brief on appeal fails to develop this point and thus we do not consider it. *Georgia Power Co.* (Vogtle Electric Generating Plant, Units 1 and 2), ALAB-872, 26 NRC 127, 131-32 (1987). We note, however, that the staff's Environmental Assessment for this license amendment application considers six alternatives. *See* NRC Staff Exhibit 2 at 2-5. *See also infra* pp. 461-64.

[11] General design criteria (GDC) are broadly stated engineering and safety goals that "constitute the minimum requirements for the principal design criteria of water-cooled nuclear power plants." "Regulations" set forth more detailed requirements, while less formal staff documents (such as "Regulatory Guides" and "Standard Review Plan" provisions) provide guidance for compliance with the GDC. *Petition for Emergency and Remedial Action*, CLI-78-6, 7 NRC 400, 406 (1978).

designed to prevent a significant loss of coolant inventory, an accident scenario that assumes such an event — like the zircaloy cladding fire hypothesized by the Sierra Club and the BNL Report — is necessarily a beyond design-basis accident, considered to be of very low probability.[12]

In *San Luis Obispo Mothers for Peace v. NRC*, 751 F.2d 1287, 1300-01 (D.C. Cir. 1984), *aff'd en banc*, 789 F.2d 26, *cert denied* ___ U.S. ___, 107 S. Ct. 330 (1986), the court addressed the requirements of NEPA vis-a-vis such events of assertedly high improbability. It held that, under the "rule of reason," "NEPA . . . does not require the consideration of Class Nine accidents in future EISs, nor does it require that final EISs be supplemented to take account of the Class Nine risk." *Id.* at 1301. The Commission, of course, cannot engage in definitional sleight-of-hand so as to avoid NEPA's demands; the Commission's belief that certain types of accidents are highly unlikely to occur must be reasonably well-founded. *See ibid.*

The Sierra Club is thus incorrect in its view that NEPA does not permit the exclusion of beyond design-basis accidents from the EIS requirement. Further, its reliance on the BNL Report to support its challenge to the characterization of a significant loss of pool coolant (followed by a zircaloy cladding fire) as a highly improbable, beyond design-basis event is unavailing. The District of Columbia Circuit in *San Luis Obispo* noted that the existence of ongoing research into beyond design-basis accidents — like the BNL Report (*see* LBP-87-24, 26 NRC at 163) — does not undercut the reasonableness of the Commission's view that such accidents nonetheless remain highly improbable and therefore beyond NEPA's mandate. 751 F.2d at 1301. Moreover, the BNL Report itself describes the initiating events that would lead to a structural failure of a spent fuel pool as "extremely unlikely." BNL Report at 2-2. It also acknowledges the substantial

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[12] The Sierra Club questions the use of the phrase "design-basis" in this proceeding. It reasons that, because the Diablo Canyon spent fuel pools were originally designed to hold 270 assemblies each, the proposed amendment to increase storage capacity to 1324 assemblies is itself beyond the design basis of the plant. Sierra Club's Brief at 22-23. As PG&E notes, however, the Sierra Club misunderstands the engineering concept of "design bases." Pacific Gas and Electric Company's Brief (November 25, 1987) [hereinafter "PG&E's Brief"] at 20-21. The focus of this concept is on functional goals, as is evident from the Commission's general definition of design bases in 10 C.F.R. § 50.2:

> that information which identifies the specific functions to be performed by a structure, system, or component of a facility, and the specific values or ranges of values chosen for controlling parameters as reference bounds for design. These values may be (1) restraints derived from generally accepted "state of the art" practices for achieving functional goals, or (2) requirements derived from analysis (based on calculation and/or experiments) of the effects of a postulated accident for which a structure, system, or component must meet its functional goals.

As we have seen, one design-basis function of a spent fuel pool is to provide cooling for the spent fuel stored therein and to prevent the loss of a significant amount of cooling water. *See* 10 C.F.R. Part 50, Appendix A, GDC 61. Although the design of the storage *racks* and the capacity of the pools at Diablo Canyon will be altered by the proposed license amendment, the design-basis *functions* of the pool are *not* to be changed and thus will remain in compliance with the fundamental regulatory criteria.

uncertainties in the probability estimates of these events. *Id.* at S-4, 2-19.[13] There is nothing, therefore, to suggest that the loss of pool coolant and zircaloy cladding fire scenario the Sierra Club postulates is anything but a remote and speculative, beyond design-basis accident. As we concluded in *Vermont Yankee*, ALAB-869, 26 NRC at 30-31, with regard to a somewhat different hypothetical accident scenario, NEPA does not require the consideration of such an event and an EIS need not be prepared.

2. The Sierra Club next argues that, according to "governing" regulations of the Council on Environmental Quality (CEQ) and relevant case law, "an event is not remote and speculative merely because there is a low probability that it will occur." In this connection, it cites 40 C.F.R. § 1502.22 (1986) and asserts that this CEQ regulation requires consideration, presumably in an EIS, of all significant, reasonably foreseeable adverse impacts, "'even if their probability of occurrence is low.'" Sierra Club's Brief at 20. The Sierra Club also claims that the District of Columbia Circuit's decision in *San Luis Obispo*, 751 F.2d at 1303, as well as other decisions, supports its view. Sierra Club's Brief at 20-21.[14]

We disagree with the Sierra Club's reading and application of 40 C.F.R. § 1502.22. In the first place, this CEQ regulation is not concerned with whether or when an EIS should be prepared. Rather, as we noted in *Vermont Yankee*, ALAB-876, 26 NRC at 284 n.5, section 1502.22

> is directed to those situations in which an agency has already decided to prepare an EIS, but relevant information is "incomplete or unavailable" due to exorbitant costs or inadequate state-of-the-art methodologies. The regulation is concerned with full disclosure, requiring an agency to "make clear that such information is lacking."

See 51 Fed. Reg. 15,618, 15,620 (1986). Other CEQ regulations, e.g., 40 C.F.R. §§ 1508.18, 1508.27, are relevant to the determination of whether NEPA requires an EIS. *See* 40 C.F.R. § 1502.3.

The Sierra Club has also omitted a significant proviso from its excerpt from section 1502.22. The complete definition of "reasonably foreseeable"

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[13] We note that the final version of the BNL Report (transmitted to the Licensing Board and parties via Board Notification No. 87-13 on August 28, 1987) shows an even greater range of uncertainty with regard to seismically-induced structural failure of a pool. It also substantially lowers the estimated probability of pool failure due to a cask drop to between two in 100 million and two in one trillion, so as to take account of recommended improvements in fuel cask handling procedures. NUREG/CR-4982, "Severe Accidents in Spent Fuel Pools in Support of Generic Safety Issue 82" (July 1987) at 23, 27-28, 38.

[14] Neither PG&E nor the NRC staff addressed the Sierra Club's "CEQ" argument. Although we find no merit to the argument, it raises a nonfrivolous issue concerning what deference should be accorded another federal agency's regulations. In the circumstances, we find the staff's failure to brief the matter particularly troubling.

includes impacts which have catastrophic consequences, even if their probability of occurrence is low, *provided that the analysis of the impacts is supported by credible scientific evidence, is not based on pure conjecture, and is within the rule of reason.*

40 C.F.R. § 1502.22(b) (emphasis added). This proviso was added to the regulation in 1986, in conjunction with CEQ's elimination of the requirement for a "worst case" analysis. In CEQ's view, the worst case analysis was "unproductive and ineffective," capable of leading to "endless hypothesis and speculation." 51 Fed. Reg. at 15,620. The new proviso is intended to impose some common sense limits on the inquiry into events of very low probability. *Id.* at 15,621. Section 1502.22 does not therefore automatically require analysis of *all* catastrophic but highly improbable events, as the Sierra Club suggests.

In any event, the Commission does not consider substantive CEQ regulations as legally binding on it because the NRC is an independent regulatory agency. 49 Fed. Reg. 9352, 9356 (1984).[15] Instead, the Commission views its NEPA Policy Statement as its counterpart to CEQ's section 1502.22. *Id.* at 9356-58. In the NEPA Policy Statement, the Commission describes those circumstances in which the NRC staff, as a matter of discretion, is to consider the environmental impacts of a beyond design-basis accident.[16] As we have previously determined, however, that policy statement does not apply to license amendment proceedings such as this. *Vermont Yankee*, ALAB-869, 26 NRC at 31.

In sum, the CEQ regulation on which the Sierra Club bases its claimed requirement of an EIS is neither applicable to this proceeding, nor, in any case, binding on the agency.

3. Lastly, the Sierra Club argues that an EIS is needed to correct asserted shortcomings in the NRC staff's existing environmental documents, namely its May 21, 1986, Environmental Assessment (EA) and October 15, 1987, Supplement to the EA.[17] It complains that, in light of the BNL Report, these

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[15] As we noted in *Philadelphia Electric Co.* (Limerick Generating Station, Units 1 and 2), ALAB-819, 22 NRC 681, 700 n.21 (1985), *aff'd in part and review otherwise declined*, CLI-86-5, 23 NRC 125 (1986), *petitions for review pending sub nom. Limerick Ecology Action, Inc. v. NRC*, No. 85-3431, et al. (3d Cir.), the Supreme Court has expressly left open the issue of the binding effect of CEQ regulations on independent agencies. *See Baltimore Gas and Electric Co. v. Natural Resources Defense Council, Inc.*, 462 U.S. 87, 99 n.12 (1983).

Despite the Sierra Club's suggestion (Sierra Club's Brief at 20), the District of Columbia Circuit's decision in *San Luis Obispo* does not hold that the C[illegible] regulation in question is binding on the NRC. Rather, the court noted the Commission's position and the Supreme Court's reservation of judgment on the matter. It then only assumed *arguendo* that section 1502.22 applied to the agency, before going on to find this regulation inapplicable to the particular circumstances at hand. 751 F.2d at 1302-03 & n.73. *Save Our Ecosystems v. Clark*, 747 F.2d 1240 (9th Cir. 1984), and *Sierra Club v. Sigler*, 695 F.2d 957 (5th Cir. 1983), also cited by the Sierra Club, involved executive (rather than independent regulatory) agencies, as well as the earlier "worst case analysis" version of section 1502.22. Thus, neither case advances the Sierra Club's argument.

[16] In *San Luis Obispo*, 751 F.2d at 1301, the District of Columbia Circuit recognized the NEPA Policy Statement as an exercise of the Commission's discretion.

[17] An environmental assessment is a concise statement usually prepared to "[a]id the Commission's compliance with NEPA when no environmental impact statement is necessary." 10 C.F.R. § 51.14(a). *See also* ALAB-877, 26 NRC at 290-91.

documents give inadequate consideration to alternative means of spent fuel storage and fail to disclose fully to the public all the consequences of the reracking proposal. The Sierra Club also points to dictum in the Ninth Circuit's decision earlier in this proceeding, *San Luis Obispo*, 799 F.2d at 1271, where the court "strongly suggest[ed] that any doubt concerning the need to supplement the NEPA documents be resolved in favor of additional documentation." Sierra Club's Brief at 23-24.

The Sierra Club's arguments are not entirely clear. If its point is that the type of accident studied in the BNL Report must be given consideration in some environmental document (either an EIS or more extensive EA), we have already disposed of that argument: NEPA requires *no* consideration of such accidents. If, on the other hand, its argument is that an EIS is required, or the EA is deficient, for some reason *other* than the BNL Report (e.g., reliance on a 1979 generic EIS for spent fuel pool expansion proceedings), there is no indication that the Sierra Club properly presented such an issue to the Licensing Board in the first instance, so as to preserve its right to appeal the matter.[18] In the circumstances, the Sierra Club is therefore precluded from raising for the first time on appeal any challenge to the staff's EA that is founded on something other than the BNL Report. *See supra* p. 457.[19]

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[18] Notice of the issuance of the staff's EA was published on May 29, 1986, 51 Fed. Reg. 19,430. The Sierra Club fails to direct our attention to where or when it subsequently sought to challenge the alleged deficiencies in the EA. We have discovered two instances in which the intervenor referred to the adequacy *vel non* of the EA, but neither involved a bona fide attempt to place the issue in controversy as a contention before the Licensing Board.

The first such instance was a passing reference to the EA in a footnote in the Sierra Club's initial request to the Commission for a stay of the staff's issuance of the license amendments *prior* to the hearing. Intervenors' Application for a Stay (June 16, 1986) at 7 n.5. In its order denying the stay, the Commission noted the lack of specificity in the Sierra Club's complaint. CLI-86-12, 24 NRC at 12. The Sierra Club might well have gone on to draft a more specific challenge to the EA and to submit this issue to the Licensing Board in accordance with the Commission's Rules of Practice, but it did not.

The only other mention of the adequacy of the EA was six months later in a motion for summary disposition before the Licensing Board. In that motion, the Sierra Club sought denial of the license amendments for the alleged failure of the EA to comply with NEPA. Motion for Summary Disposition (December 15, 1986) at 3-7. The motion, however, expressly disclaimed any attempt to raise this matter as a contention in the proceeding (possibly because the time for submitting such issues had long since passed). *Id.* at 1-2. The Licensing Board denied the motion for failure to satisfy the Commission's criteria for summary disposition. Memorandum and Order of January 28, 1987 (unpublished) at 2-4. *See* 10 C.F.R. § 2.749. The Sierra Club does not mention, let alone appeal, that Board ruling.

[19] We note in passing, however, that, in explicit response to the Ninth Circuit's suggestion in *San Luis Obispo*, 799 F.2d at 1271, the staff supplemented its earlier EA — before issuing the license amendments here at issue but well after the close of the hearing below. *See* 52 Fed. Reg. 38,977, 38,978 (1987). We also note that the October 15, 1987, supplement contains a section on "Severe Accident Considerations." Because that document was not part of the record below, we express no view on its content; because the Sierra Club has not preserved its right to appeal the general adequacy of the EA and has made no challenge to the timing of the Supplement to the EA, we express no view on that score either.

II. CONTENTION I(B)(7)

The Sierra Club objects to the Licensing Board's initial decision in this proceeding (LBP-87-25) only insofar as the disposition of contention I(B)(7) is concerned. This contention states that:

> the [applicant's] 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:
>
> 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[.]

LBP-87-25, 26 NRC at 184.[20] The Licensing Board's decision discusses PG&E's consideration of the two specified alternative onsite storage facilities. The Board notes that, although the evaluation was brief, PG&E explained that neither of the alleged alternatives offered an increase in safety over the high density racks, and that both proposed alternatives involved certain technical, regulatory, and other disadvantages. *See id.* at 185-86. The only evidence presented by the Sierra Club was its witness's testimony that, in his opinion, PG&E had not considered the alternatives seriously. *See* Tr. 443-45. The Licensing Board concluded that PG&E's consideration of alternatives was adequate and complied fully with the NRC's requirements. It therefore denied contention I(B)(7) on the merits. LBP-87-25, 26 NRC at 174, 198.

The Sierra Club argues that it "presented expert testimony showing that the consideration given these alternatives by the applicant was not adequate to protect the public health and safety." Sierra Club's Brief at 25. It contends that PG&E's assertion that the two alternatives would not provide added safety is not supported by fact. It claims further that the record provides no adequate basis for comparison of the alternatives with the high density reracking proposal. *Ibid.*[21]

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[20] The Sierra Club's Brief at 24-25 makes clear that the "Reports" at issue in this contention are those filed with the NRC by PG&E in support of its license amendment application. In view of our decision on contention I(B)(7), we have no need to decide whether the contention should have focused on the *NRC staff's*, rather than the applicant's, consideration of alternatives. *See Vermont Yankee*, ALAB-869, 26 NRC at 33.

[21] The Sierra Club also complains that the alternative of storing newly discharged fuel in low density racks, as recommended by two contributors to the BNL Report, was not considered. We have already addressed the Sierra Club's arguments in connection with the BNL Report. *See especially supra* pp. 456-60. We also note that, because contention I(B)(7) mentions two other particular alternatives, it is not surprising that the litigation of this issue thus focused on those alternatives, rather than on the new alternative the Sierra Club now suggests.

Intervenor's challenge to the Licensing Board's disposition of contention I(B)(7) is wholly without merit. The Sierra Club provides no references to the hearing transcript and underlying record — indeed, no specifics whatsoever to support its generalized complaints. *See ibid.* Because the Sierra Club's brief thus fails to comply with our Rules of Practice (*see* 10 C.F.R. § 2.762(d)(1)) and leaves us with no meaningful arguments to consider, we reject its appeal in connection with contention I(B)(7) summarily. *See Vogtle, supra* note 10, 26 NRC at 131-32. Nonetheless, we have reviewed the record (including the hearing transcript) and find no cause to overturn the Licensing Board's disposition of contention I(B)(7). *See, e.g.*, Shiffer, et al., fol. Tr. 179, at 28-30; Ferguson, fol. Tr. 442, at 2-3, 39-41; Cleary, fol. Tr. 604, at 2-9; Tr. 364-89, 393-98, 443-48.[22]

LBP-87-24, 26 NRC 159, and LBP-87-25, 26 NRC 168, are *affirmed*. It is so ORDERED.

FOR THE APPEAL BOARD

Eleanor E. Hagins
Secretary to the
Appeal Board

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[22] As is our practice, we have also reviewed on our own those portions of the Licensing Board's initial decision that have not been appealed, as well as the underlying record. *See Georgia Power Co.* (Vogtle Electric Generating Plant, Units 1 and 2), ALAB-859, 25 NRC 23, 27 (1987). We find no errors warranting corrective action.

Cite as 26 NRC 465 (1987) ALAB-861

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Administrative Judges:

Alan S. Rosenthal, Chairman
Thomas S. Moore
Howard A. Wilber

In the Matter of Docket No. 50-289-CH

GENERAL PUBLIC UTILITIES
NUCLEAR CORPORATION
(Three Mile Island Nuclear
Station, Unit No. 1)

December 31, 1987

In this discretionary hearing ordered by the Commission, the Appeal Board certifies to the Commission a question concerning the subject matter jurisdiction of the proceeding.

APPEARANCES

Michael W. Maupin, Richmond, Virginia, for Charles Husted.

Deborah B. Bauser, Washington, D.C., for intervenor General Public Utilities Nuclear Corporation.

Louise Bradford, Harrisburg, Pennsylvania, for intervenor Three Mile Island Alert.

Janice E. Moore for the Nuclear Regulatory Commission staff.

MEMORANDUM AND ORDER

Although the caption of this case reads *General Public Utilities Nuclear Corporation* and carries the docket number of Three Mile Island Nuclear Station, Unit 1, a more appropriate case name is *In the Matter of Charles Husted*. Mr. Husted is an employee of General Public Utilities Nuclear (GPUN) who is before us on appeal seeking to return to his previously held position as supervisor of NRC-licensed operator training. He was earlier barred from that post by a condition imposed upon GPUN in the proceeding involving the restart of TMI-Unit 1 by another Board of the Appeal Panel. Because the condition placed upon the licensee directly impacted Mr. Husted even though he neither was a party to the restart proceeding nor had notice of the condition or a chance to challenge it, the Commission, upon review of that Appeal Board action, offered Mr. Husted an opportunity to contest it. In its hearing notice, the Commission confined the hearing to several specific issues precipitating the imposition of the restart condition, i.e., the agency's investigation into cheating on NRC operator licensing examinations. To those issues, the designated Administrative Law Judge added another concerning Mr. Husted's job performance at GPUN. After taking evidence on all the issues, the judge below concluded that the restart condition should not be vacated.

As we explain more fully below, a jurisdictional deficiency in the proceeding leads us to certify a question to the Commission. We take this step because we find, unlike the Administrative Law Judge, that the record evidence on the issue of Mr. Husted's job performance is pivotal to the outcome. Yet that issue, inserted by the trial judge, is clearly beyond the scope of the hearing ordered by the Commission in its notice of hearing — the document delineating the hearing officer's subject matter jurisdiction. The structure and language of that notice is such that we cannot reasonably read it to encompass the issue of Mr. Husted's job performance at GPUN without winking at reality. In this circumstance, we think the best course is to certify to the Commission the question whether it wishes to expand retroactively the jurisdiction of the proceeding to encompass the issue introduced by the trial judge. The evidence in question is already in the record so there is no barrier to retroactive expansion of the subject matter jurisdiction and it well might be that the Commission would have broadened the trial judge's charter initially had this question been anticipated.

I.

A. After the accident at TMI-Unit 2, the Commission ordered that Unit 1 of the facility should remain in a cold shutdown condition until a hearing determined whether it could be operated without endangering the public health

and safety.[1] In the spring of 1981 while the restart proceeding for Unit 1 was ongoing, Mr. Husted, who was then an instructor of licensed operators at the plant, and a number of his fellow employees took NRC-administered reactor operator and senior reactor operator examinations. Allegations of cheating on those examinations surfaced and the agency conducted an investigation. As subsequent events would reveal, that investigation marked the beginning of Mr. Husted's prolonged difficulties with the NRC.

The agency's initial investigation resulted in a series of Board Notifications to the Licensing Board presiding over the restart proceeding that cheating on the examinations had occurred. When it received this information, the Licensing Board had already concluded the evidentiary hearing so it went ahead and issued its first partial initial decision. At the same time, the Board retained jurisdiction and reopened the record on the effect of the cheating incidents on the management issues in the case. It then appointed a Special Master to take evidence with respect to the cheating and instructed him to issue a recommended decision.[2]

During the NRC staff investigation of the test irregularities, Mr. Husted was interviewed twice by investigators from the former Office of Inspection and Enforcement. In prehearing discovery before the Special Master, he was also deposed by one of the intervenors in the proceeding. Although the staff investigation uncovered a number of individuals involved in cheating on the operator examinations, neither the staff investigation reports nor the pretrial discovery implicated Mr. Husted in such activity. Before the Special Master, however, an NRC investigator testified that another operator had alleged that Mr. Husted solicited an answer to a question on the senior reactor operator examination. Thereafter, Mr. Husted was called as a witness and he was questioned extensively in the hearing.[3]

In his report to the Licensing Board, the Special Master concluded that during the NRC examination Mr. Husted had solicited an answer from the other individual in the unproctored testing room and that he refused to cooperate with the subsequent NRC investigation. In reaching this conclusion, the Special Master also found that Mr. Husted lacked credibility as a witness, had a flippant demeanor, and displayed an unacceptable attitude toward the hearing on the cheating incidents. Because he could find no reliable standard for judging the seriousness of Mr. Husted's poor attitude and lack of cooperation with NRC investigators, the Special Master recommended that Mr. Husted not be removed

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[1] CLI-79-8, 10 NRC 141 (1979).
[2] *See* LBP-82-56, 16 NRC 281, 287-88 (1982).
[3] LBP-82-34B, 15 NRC 918, 957-58, 960-61 (1982).

from licensed duties but instead suggested to the Licensing Board that some unspecified lesser sanction might be appropriate.[4]

Finding insufficient reliable evidence to support the Special Master's conclusion, the Licensing Board rejected the determination that Mr. Husted had solicited an answer to an examination question. The Board agreed with the Special Master, however, that Mr. Husted refused to cooperate with the NRC investigators. It also generally concurred in the Special Master's determination that Mr. Husted's testimony was not credible and conveyed the sense that Mr. Husted was unconcerned whether or not he was believed. Although the Board questioned whether, as a training instructor, Mr. Husted would impart a sense of seriousness and responsibility to TMI-Unit 1 operators, it found no evidence that Mr. Husted's attitude affected his performance as a teacher and concluded that his testimony and conduct during the investigation were unrelated to his status as a licensed operator. The Board therefore found that any action against his license would be inappropriate; rather, it required GPUN to establish qualifications for its training instructors and to audit its training program, paying particular attention to Mr. Husted's performance.[5]

A number of intervenors and the Commonwealth of Pennsylvania, as an interested State,[6] appealed the Licensing Board's decision. While the appeals were pending, the Commonwealth and GPUN entered into a stipulation to the effect that the Commonwealth would withdraw its appeal on the condition that the licensee would not permit Mr. Husted either to operate TMI-Unit 1 or to train operating license holders or trainees. Even before GPUN entered into the stipulation, the licensee already had moved Mr. Husted from his job as an instructor of licensed operators at TMI-Unit 1 to the position of supervisor of non-licensed operator training. While the Commonwealth's action in dropping its appeal removed the specific issues before the Appeal Board with respect to Mr. Husted and his licensed duties, the Board, on its own motion, questioned GPUN's judgment in promoting Mr. Husted in the face of his documented past failure to cooperate with the NRC's cheating investigation. Accordingly, the Board, as a condition of restart, barred GPUN from allowing Mr. Husted to have any supervisory responsibilities in the training of non-licensed personnel — employees who normally were on a career path to becoming licensed operators.[7]

In placing this condition upon GPUN, the Appeal Board first determined that the record supported the conclusions of the Special Master and the Licensing Board regarding Mr. Husted's poor attitude toward his responsibilities due to his failure to cooperate with the NRC investigation of the cheating incidents. It

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[4] *Id.* at 1045-46.
[5] 16 NRC at 318-20.
[6] *See* 10 C.F.R. § 2.715(c).
[7] ALAB-772, 19 NRC 1193, 1221-24 (1984).

then stated that, in a field where so much of the material conveyed to trainees by instructors concerns the need to comply with procedures, the ability to communicate a sense of responsibility is an important and integral part of the ability to teach. Noting that the record contained no direct evidence on whether Mr. Husted's bad attitude affected his teaching performance, the Appeal Board drew that inference and placed the sanction on GPUN because Mr. Husted's new job as supervisor of non-licensed operator training would place him in a position to instruct personnel in areas affecting the public health and safety. It also imposed the restart condition upon GPUN for a second reason. The Board stated it was inappropriate for GPUN to elevate Mr. Husted to a supervisory position where he likely would have a voice in establishing the criteria for training instructors and in auditing the training program when the license condition regarding GPUN's training had been ordered, in part, by the Licensing Board as a remedy for Mr. Husted's failure to cooperate with the NRC.[8]

In responding to GPUN's petition for review of the Appeal Board's decision, the Commission announced that, in addition to the several issues urged upon it by the licensee, the Commission would review, on its own motion, the restart condition imposed upon GPUN by the Appeal Board. The Commission noted, however, that it was not concerned with the underlying justification for the condition but rather with the question whether an adjudicatory board may impose a condition on a licensee that, in effect, operates as a sanction against an individual where the impacted employee is not a party to the proceeding and has no notice of the sanction or any opportunity to request a hearing.[9] After briefing, the Commission then decided against resolving the issue it had posed. Instead, it exercised its discretion and offered Mr. Husted an opportunity to request a hearing on whether the condition imposed upon GPUN by the Appeal Board should be vacated. Mr. Husted subsequently requested a hearing, which stayed the effect of the restart condition pursuant to the terms of the Commission hearing offer.[10]

At the same time he requested a hearing, Mr. Husted also asked the Commission to expand its scope to include the question whether concerns about his integrity or attitude should exclude him from serving as a licensed operator, an instructor of licensed operators, or a training supervisor — the positions closed to him by GPUN's stipulation with the Commonwealth of Pennsylvania. The Commission granted Mr. Husted's request in its hearing notice, observing that the expanded scope would not require any additional agency resources. It also pointed out to Mr. Husted that the Commission was powerless to undo the stipulation between GPUN and the Commonwealth barring him from certain licensed

[8] *Id.* at 1223-24.
[9] CLI-84-18, 20 NRC 808, 810-11 (1984).
[10] CLI-85-2, 21 NRC 282, 317 (1985).

activities and that, for reinstatement, he would have to seek direct relief from those parties if the hearing evidence warranted. It next directed that the hearing

> focus on whether the following four concerns regarding Mr. Husted are true, and, if so, whether they require that he not be employed in the jobs in question:
>
> (1) The alleged solicitatic of an answer to an exam question from another operator during the April 1, 1981 NRC written examination;
>
> (2) The lack of forthrightness of his testimony before the Special Master;
>
> (3) His poor attitude toward the hearing on the cheating incidents; and
>
> (4) His lack of cooperation with NRC investigators.[11]

Finally, the Commission ordered that the hearing be held before an Administrative Law Judge and that "[t]he NRC staff . . . participate as a full party . . . to ensure that the record is fully developed."[12]

B. In a number of prehearing orders, the Administrative Law Judge granted the intervention petitions of Three Mile Island Alert (TMIA) and GPUN and admitted their proffered contentions. TMIA's contentions enveloped the issues identified by the Commission in the hearing notice and alleged that Mr. Husted's bad attitude and lack of integrity precluded him from supervisory responsibilities for the training of non-licensed operators as well as serving as a licensed operator or instructor or supervisor of such operators. GPUN's contention was to the opposite effect.[13] To the issues identified by the Commission as forming the scope of the proceeding, the trial judge added the question of what Mr. Husted's job performance at GPUN reflected about his attitude and integrity.[14] Next, the judge below ruled that Mr. Husted was entitled to a *de novo* hearing on the factual issues and that the proceeding was tantamount to a hearing on an agency enforcement action where the staff fulfills the role of the proponent of the sanction and has the burden of going forward and the ultimate burden of proof.[15]

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[11] 50 Fed. Reg. 37,098 (1985).

[12] *Id.* at 37,099.

[13] Memorandum and Order (December 6, 1985) at 4.

[14] Report and Order on Initial Prehearing Conference (February 27, 1986) at 5.

Although the Administrative Law Judge's prehearing conference order listed two further matters at issue concerning whether any remedial action against Mr. Husted was required and what remedial action was appropriate, those questions merely particularized the Commission's question from the hearing notice asking whether Mr. Husted should be precluded from licensed or non-licensed operator training or supervisory positions. *Id.* at 11. *See* 50 Fed. Reg. at 37,098.

[15] Report and Order on Initial Prehearing Conference (February 27, 1986) at 7-8.

In reaching this conclusion, the Administrative Law Judge noted that the history of this matter and the vagueness of the hearing notice made it difficult to decipher the type of proceeding the Commission intended. Nevertheless, he reasoned that "because Mr. Husted was not a party to the restart proceeding, the Commission in ordering a new hearing found, in effect, that the record before the Appeal Board was insufficient and that there was the possibility of imposing on Mr. Husted the same sanction as the Appeal Board originally placed upon GPUN. Thus, the trial

(Continued)

Even though the staff initially agreed with the trial judge that the proceeding was in the nature of an enforcement proceeding, the staff subsequently objected to the prehearing order claiming that it should not be considered the proponent of the agency sanction with the concomitant ultimate burden of proof. In reconsidering his earlier order, the judge below reiterated that the burden could not fall properly upon Mr. Husted. But he accepted the staff's argument that it should not be directed to be an advocate for the sanction against Mr. Husted and to have the ultimate burden of persuasion on the propriety of the sanction. His ruling was silent, however, as to what party had the ultimate burden although he instructed the staff to declare prior to the hearing whether it supported or opposed the sanction.[16] Thereafter, the staff announced it advocated vacating the sanction affecting Mr. Husted.[17]

The Administrative Law Judge heard the testimony of five staff witnesses, six witnesses on Mr. Husted's behalf (including Mr. Husted), and one witness subpoenaed by TMIA. Like the Licensing Board in the *TMI restart* proceeding, the trial judge found, first, that there was no convincing evidence that Mr. Husted cheated on the 1981 senior reactor operator licensing test by soliciting an examination answer.[18] Second, the judge below found that Mr. Husted failed to cooperate with the agency investigators probing the cheating incidents by providing unreliable and misleading information. In this regard, he determined that, although the agency investigators' first interview with Mr. Husted was marked by Mr. Husted's resistance to answering questions and other deficiencies, it should not be viewed as an overall failure to cooperate with the investigation. But when the deficiencies of the first interview were added to Mr. Husted's conduct in the second (where he concluded Mr. Husted misled the interviewer), the hearing judge found the record convincing that Mr. Husted failed to cooperate with the NRC investigators.[19]

Third, the trial judge found that Mr. Husted's testimony before the Special Master was not forthright (i.e., lacking ambiguity, straightforward) and that the internal inconsistencies in Mr. Husted's testimony resulted in testimony that lacked credibility and obfuscated what occurred. The judge also found that Mr. Husted's explanations for the various inconsistencies, contradictions and

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judge concluded that the hearing best fit the mold of an enforcement action. He buttressed this conclusion by noting that when the Commission ordered the hearing for Mr. Husted and instructed the staff to participate as a full party there were just two parties so, at that time, the hearing only could be viewed as an enforcement proceeding. He found, therefore, that the subsequent intervention of TMIA could not change the nature of the proceeding and that TMIA could not be saddled with the burden of proof. Similarly, he concluded that constitutional constraints of due process precluded Mr. Husted, the target of the possible sanction, from bearing the burden of proof. *Id.* at 7-9.

[16] Ruling on Staff Objections to Prehearing Conference Order (March 26, 1986).

[17] Letter from George E. Johnson, Counsel for NRC Staff, to Judge Margulies (June 12, 1986).

[18] ALJ-87-3, 25 NRC 345, 355-57 (1987).

[19] *Id.* at 366-70.

lack of seriousness in parts of his testimony were unsatisfactory and evidenced a disregard for the regulatory process.[20] Fourth, the judge below found that the evidence establishing that Mr. Husted had failed to cooperate with NRC investigators, and had been neither completely forthright nor serious in some of his testimony, also demonstrated that Mr. Husted had a poor attitude toward the hearing on the cheating incidents. The judge could find no basis for excusing or overlooking Mr. Husted's poor attitude and found that, in the current hearing, Mr. Husted continued to display some of the same traits that led to the initial conclusion about his bad attitude.[21]

With regard to the issue that he added to the proceeding, the judge found that Mr. Husted's job performance in a variety of positions over all his years at GPUN was satisfactory and that the uncontroverted evidence established that Mr. Husted's attitude toward his job, nuclear safety, the NRC, and regulatory requirements always had been professional and appropriate to his responsibilities. Further, the Administrative Law Judge found that Mr. Husted's classroom evaluations from his time as an instructor showed that he was a generally competent instructor who had never revealed any demeanor or attitudinal problems.[22] Nevertheless, in deciding the last issue (i.e., whether the "punishment" fit the "crime"), the trial judge concluded that the original license condition should not be vacated and that Mr. Husted also should be disqualified from serving as a licensed operator or an instructor or supervisor of such operators. In short, the judge found from Mr. Husted's failure to cooperate with the NRC investigators, his lack of forthrightness before the Special Master, and his continuing disregard in the current hearing for the regulatory process that "[t]he potential continues to exist that this unacceptable attitude toward the NRC regulatory process can adversely affect his teaching performance or the exercise of his management responsibilities contrary to public health and safety."[23]

II.

In his appeal from the trial judge's decision, Mr. Husted claims the judge erred in refusing to vacate the condition barring him from his former position as supervisor of non-licensed operator training. He argues that the judge below applied an erroneous legal standard that permitted the judge to ignore the favorable evidence regarding Mr. Husted's job performance and attitude as an employee of GPUN.[24] Next, Mr. Husted asserts that the hearing judge erred in

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[20] *Id.* at 370-73.
[21] *Id.* at 373-76.
[22] *Id.* at 376-81.
[23] *Id.* at 384.
[24] Brief of Charles Husted (May 18, 1987) at 14-38.

finding that he (1) failed to cooperate with the NRC investigators, (2) was not forthright in his testimony before the Special Master, and (3) had a poor attitude toward the hearing on the cheating incidents — the factual findings supporting the trial judge's determination not to vacate the license condition.[25] The NRC staff supports Mr. Husted's appeal and essentially mirrors his arguments.[26] Similarly, GPUN supports Mr. Husted's appeal but it focuses its argument almost entirely on the legal standard it perceives the trial judge applied in continuing the disqualification of Mr. Husted from his former position.[27] On the other side of the coin, TMIA urges affirmance of the Administrative Law Judge's decision, arguing generally that the trial judge's factual findings are all supported by the record.[28]

We initially address the second argument of Mr. Husted and the staff attacking the trial judge's factual findings. We then turn to the other arguments of the parties.

A. As the briefs of Mr. Husted and the staff recognize, we clearly have the power in reviewing the factual findings of an administrative law judge or a licensing board to substitute our judgment for that of the fact finder if the record fairly sustains a different result.[29] That is not to say, however, that in conducting our appellate review we may ignore the trial judge's findings and simply find the facts anew for "we are not free to disregard the fact that the Licensing Boards [and Administrative Law Judges] are the Commission's primary fact find[ers]."[30] Rather, when we review findings of fact we will "reject or modify findings of the [trial judge] if, after giving [his] decision the probative force it intrinsically commands, we are convinced that the record compels a different result."[31] Thus, we must be persuaded that the record evidence as a whole compels a different conclusion and we will not overturn the hearing judge's findings simply because we might have reached a different result had we been the initial fact finder.[32]

Before us, Mr. Husted complains that the trial judge erred in finding that he failed to cooperate with NRC investigators, was not forthright in his testimony before the Special Master, and had a poor attitude toward the hearing on the cheating incidents. He places these three findings under a microscope, arguing as to each that the judge below should have reached an opposite conclusion and

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[25] *Id.* at 38-54.
[26] Brief of NRC Staff (June 30, 1987).
[27] Brief of GPUN (June 30, 1987).
[28] Brief of TMIA (August 3, 1987).
[29] *Duke Power Co.* (Catawba Nuclear Station, Units 1 and 2), ALAB-355, 4 NRC 397, 403 (1976).
[30] *Northern Indiana Public Service Co.* (Bailly Generating Station, Nuclear 1), ALAB-303, 2 NRC 858, 867 (1975).
[31] *Niagara Mohawk Power Corp.* (Nine Mile Point Nuclear Station, Unit 2), ALAB-264, 1 NRC 347, 357 (1975). *See Carolina Power and Light Co.* (Shearon Harris Nuclear Power Plant), ALAB-837, 23 NRC 525, 531 (1986).
[32] *See Wisconsin Electric Power Co.* (Point Beach Nuclear Plant, Unit 2), ALAB-78, 5 AEC 319, 322 (1972).

thus that none of these findings can support the further finding that the license condition should not be vacated. We disagree. When we apply the test under which we review factual findings, we can find no convincing bases upon which to dispute the Administrative Law Judge's findings.[33]

The trial judge's findings on each issue and the support for them are set forth at length in his decision and no purpose is served by reiterating them here.[34] Suffice it to note that we have reviewed the evidentiary record and closely examined the findings on each issue and conclude that they are supported by record evidence or valid inferences drawn from such evidence. Likewise, we have scrutinized each of Mr. Husted's numerous arguments. Although his brief offers a multitude of interpretations, rationalizations, explanations and excuses for the critical evidence relied upon by the trial judge, Mr. Husted's arguments are no more credible for reaching his result than the explication presented by the Administrative Law Judge. Further, in reviewing these factual findings, we must bear in mind that it was the trial judge, not us, that observed Mr. Husted as he testified and from that observation and testimony concluded that part of Mr. Husted's testimony "lacked credibility" and that the witness had a "selective" memory that left a "negative impression."[35] We simply are not convinced, as we must be to overturn the trial judge's findings, that the record compels the conclusion that Mr. Husted cooperated with the NRC investigators, was forthright in his testimony before the Special Master, and had a satisfactory attitude toward the hearing on the cheating incidents. Indeed, after reviewing the entire record on these three issues, we cannot state with conviction that we would not have made similar findings had we been the initial fact finder. (We might, however, have explained some of our findings differently.) Moreover, although it has played no part in our decision, we note that the Special Master, the Licensing Board and another Appeal Board in the *TMI restart* proceeding reached essentially the same conclusions on nearly the same evidence.

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[33] Although in their briefs the parties ignore the question, our review of the trial judge's factual findings is not affected by the unusual circumstance in the hearing below that no party was assigned the ultimate burden of proof. *See supra* p. 470 & note 15. In spite of that, the parties presented evidence on each of the issues and the trial judge made his findings without turning his decision on the burden question. Because the question of which party bears the burden is significant only where the evidence is evenly balanced and here the trial judge did not find the evidence in equipoise, the burden question now is largely immaterial.

In this regard, we note that at oral argument each party was quick to disclaim that the burden fell on it or him but none could tell us where the burden properly lay. At this point, the proceeding simply can be viewed as one where the burden fell on the proponent of the contentions encompassing the issues identified in the hearing notice. But we think the far better view is the one initially expressed by the trial judge that the Commission intended the hearing to mimic a typical enforcement proceeding where the burden would fall upon the staff. *See supra* note 15. In such circumstance, if the staff felt, for whatever reason, that it could not prosecute the case pursuant to the Commission's instructions, the better course would have been for it to return to the Commission and seek to have the license condition vacated or the burden question clarified.

[34] 25 NRC at 355-85.

[35] *Id.* at 376.

Similarly, we cannot find from the evidentiary bases of those three findings that the trial judge's determination that the license condition should not be lifted is in error. In reaching that conclusion, the judge below added to the equation his belief that Mr. Husted's conduct in the current hearing evidenced some of the same traits that led to the judge's other findings: "Mr. Husted has been unable or unwilling to change his attitude toward the NRC's regulatory process sufficiently for it to be found acceptable."[36] But even without this added factor, and putting aside the evidence on the issue added to the proceeding by the hearing judge concerning Mr. Husted's job performance at GPUN (a subject we deal with in Part II.B), the trial judge's determination that the license condition should not be vacated is fully supported by a valid inference drawn from the evidence underlying his other findings. Thus, the judge found that "[t]he potential continues to exist that this unacceptable attitude toward the NRC regulatory process can adversely affect his teaching performance or the exercise of his management responsibilities contrary to public health and safety" and that the license condition should not be lifted.[37] But that inference is valid only if the uncontradicted evidence of Mr. Husted's job performance at GPUN cannot be considered. We now turn to that issue.

B. We agree with Mr. Husted, staff and GPUN to the extent they contend that the license condition barring Mr. Husted from his prior position as supervisor of non-licensed operator training cannot stand in the face of the substantial, uncontroverted, direct evidence that Mr. Husted's actual job performance at GPUN was satisfactory and his attitude at work toward safety, the NRC, and regulatory requirements was professional and appropriate to his responsibilities. As previously indicated, the trial judge found Mr. Husted fulfilled his job responsibilities without showing any signs of a negative attitude toward the licensing

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[36] *Id.* at 384.

[37] *Id.*

Rather than simply reading the trial judge's findings as drawing an inference from the evidentiary facts that Mr. Husted's bad attitude toward the regulatory process was quite likely to carry over into his work if he was allowed to return to his former position, Mr. Husted (joined by his supporters) took this finding as a legal standard by which the judge assessed Mr. Husted's conduct. Specifically, he argues the hearing judge established a legal standard to the effect that the mere existence of the potentiality that a bad attitude will adversely affect job performance is sufficient basis for job disqualification. As Mr. Husted recognizes, the trial judge's decision on this score is subject to various interpretations. We think the better view, however, is to read the portion of the hearing judge's initial decision labeled "Findings of Fact" as factual findings, not as establishing a legal standard.

We note that our reading also comports with ALAB-772, 19 NRC at 1223-24. There the Appeal Board, exercising its *sua sponte* review authority and its authority to make supplemental factual findings based on the existing record (*see Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), ALAB-422, 6 NRC 33, 42 (1977), *aff'd*, CLI-78-1, 7 NRC 1 (1978)), inferred from the evidence supporting the Licensing Board's factual findings that Mr. Husted's bad attitude likely would adversely affect his job performance. (*See supra* pp. 468-69.) Our interpretation of the trial judge's decision is also consistent with the Commission's view, cited by the trial judge in his findings (25 NRC at 381 n.11), that "[t]he focus of this hearing is not a legal one, but rather a factual determination of whether the Appeal Board's condition should remain in place." Commission Order (March 20, 1986) at 2.

process or GPUN's training program.[38] But instead of accepting this evidence as controlling, the trial judge inferred from Mr. Husted's past conduct during the agency's investigation and hearing on the cheating episodes and from his actions in the current hearing, that Mr. Husted's past and present bad attitude likely would infect Mr. Husted's teaching performance or management responsibilities to the detriment of the public health and safety if he were allowed to return to his prior positions.[39] In the absence of any direct evidence to the contrary, this inference is not unreasonable and is sustainable from the facts found by the hearing judge. But that inference can no longer be drawn reasonably in the face of overwhelming uncontroverted evidence that Mr. Husted always demonstrated a proper attitude in his job performance toward safety and the regulatory process. Nor is there any question that the evidence convincingly establishes the correctness of the trial judge's findings regarding Mr. Husted's on-the-job performance and attitude.[40] Thus, the inference the trial judge drew from the evidence underlying his other findings that Mr. Husted's bad attitude toward the hearings on the cheating incidents would corrupt Mr. Husted's job performance cannot stand if the direct evidence of Mr. Husted's job performance is properly part of the record. Likewise, the license condition supported by that inference must fall. But the issue of Mr. Husted's job performance, and the corresponding evidence on that point, is beyond the subject matter jurisdiction of the Administrative Law Judge set by the Commission in its hearing notice. Consequently, that evidence cannot be considered as the case now stands.

It is well settled that NRC licensing boards and administrative law judges do not have plenary subject matter jurisdiction in adjudicatory proceedings. Agency fact finders are delegates of the Commission who may exercise jurisdiction only over those matters the Commission specifically commits to them in the various hearing notices that initiate the proceedings.[41] Thus, the scope of the proceeding spelled out in the notice of hearing identifies the subject matter of the hearing and the hearing judge "can neither enlarge nor contract the jurisdiction conferred by the Commission."[42] Here, the Commission's hearing notice is clear and explicit regarding the scope of the proceeding. It states that the hearing shall "focus on whether the following four concerns regarding Mr. Husted are true, and, if so, whether they require that he not be employed in the jobs in question."[43] The notice then lists the four factual issues of whether Mr. Husted (1) cheated on the NRC licensing examination, (2) was forthright in his testimony before the

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[38] 25 NRC at 380.
[39] *Id.* at 384.
[40] *Id.* at 376-81.
[41] *Duke Power Co.* (Catawba Nuclear Station, Units 1 and 2), ALAB-825, 22 NRC 785, 790 (1985).
[42] *Consumers Power Co.* (Midland Plant, Units 1 and 2), ALAB-235, 8 AEC 645, 647 (1974).
[43] 50 Fed. Reg. at 37,098.

Special Master, (3) exhibited a poor attitude toward the hearing on the cheating incidents, and (4) failed to cooperate with NRC investigators.[44]

The hearing notice limits the inquiry to the period of the NRC investigation into the cheating incidents and the subsequent hearing before the Special Master, and nothing in the notice authorizes a general inquiry into Mr. Husted's past or present job performance at GPUN. Nor can such an inquiry be justified as part of the question whether Mr. Husted should be barred from his former positions because the Commission expressly limited this inquiry to whether the four particularized factual issues should preclude Mr. Husted from his prior jobs. The trial judge, however, added the issue of Mr. Husted's job performance at GPUN to the hearing, declaring that "[a] full and fair hearing" requires it[45] and that such an issue is a "logical extension[ ] of [the other] factual issues."[46] But that ruling is simply contrary to the plain language of the hearing notice and such an issue cannot be fairly found within its four corners.

Although the considerable passage of time since the original hearing before the Special Master makes the evidence of Mr. Husted's job performance at GPUN useful in assessing whether the public health and safety require the continuation of the license condition, only the Commission can expand the subject matter of a hearing. That principle is so fundamental to the agency's adjudicatory process that we simply cannot gloss over the addition of this issue to the proceeding by the trial judge even though such a step admittedly would be an easy and practical way to resolve the case. Indeed, because maintenance of the public health and safety, not punishment, is the purpose behind every license

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[44] *Id.*

[45] Report and Order on Initial Prehearing Conference (February 27, 1986) at 5.

[46] *Id.* at 12.

The trial judge also sought to justify the addition of this issue by relying upon the Commission's hearing notice. He stated that the notice "calls for what is a *de novo* hearing to provide 'Mr. Husted with an opportunity to demonstrate his fitness for the position at issue.'" Report and Order on Initial Prehearing Conference (February 27, 1986) at 5. By taking the quoted language from the hearing notice entirely out of context, however, the judge below misapprehended the meaning of the Commission's notice.

As we pointed out previously (*supra* p. 469), at the same time he requested a hearing, Mr. Husted asked the Commission to expand its scope to include the question of whether Mr. Husted should be excluded from the positions covered by the stipulation between the Commonwealth of Pennsylvania and GPUN. Mr. Husted's request was premised upon the fact that an expanded hearing "would involve consideration of the same factual issues as would the proffered hearing." 50 Fed. Reg. at 37,098. In granting his request in the hearing notice, the Commission relied upon the fact that the factual issues would remain the same so no additional agency resources would be required. It then stated:

> The Commission recognizes the rights of the parties to this Stipulation. Nonetheless, the Stipulation resulted, at least in part, from an NRC proceeding to which Mr. Husted was not a party. Therefore, in fairness to Mr. Husted the Commission has decided to grant Mr. Husted's request for an expanded scope of hearing. This will provide Mr. Husted with an opportunity to demonstrate his fitness for the positions at issue, and, if results of the hearing are favorable to Mr. Husted, he can then take up the Stipulation with GPU Nuclear and the Commonwealth.

50 Fed. Reg. at 37,099. As is evident from the full text, the language quoted by the trial judge does not support his expansive reading of the Commission's hearing notice.

condition, it is not unlikely that the Commission would have included this issue in the original hearing notice had the matter been brought to its attention.

Accordingly, we *certify* to the Commission the question whether it wishes to expand retroactively the subject matter jurisdiction of the proceeding to include the issue of Mr. Husted's job performance at GPUN. Because that evidence is already in the record no further hearing is necessary. When the Commission responds to the certified question, we will then decide the appeal. As we have explained, the evidence of Mr. Husted's job performance requires that the license condition barring Mr. Husted from his former position be vacated. On the other hand, if that evidence is excluded from the record, we must affirm the trial judge's result.

It is so ORDERED.

FOR THE APPEAL BOARD

C. Jean Shoemaker
Secretary to the
Appeal Board

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LICENSING BOARDS

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

John H Frye, III, Chairman
Dr. Oscar H. Paris
Frederick J. Shon

In the Matter of

Docket No. 50-322-OL-5
(ASLBP No. 86-534-01-OL)
(EP Exercise)

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

December 7, 1987

Board concludes that the February 13, 1986 Exercise of LILCO's offsite emergency plan for the Shoreham Station did not comply with ¶ IV.F.1 of Appendix E to 10 C.F.R. Part 50 in that the following portions of the plan were not tested: transmission of an EBS message to and authentication of that message by the EBS radio station; school emergency plans; ingestion exposure pathway emergency plans; and coordination and communication between LERO and special facilities.

EMERGENCY PLANS: SCOPE OF INITIAL EXERCISE

Paragraph IV.F.1 of Appendix E to 10 C.F.R. Part 50 requires that the initial full-participation exercise, which is required prior to operation in excess of 5% of power, must test as much of the plan as is reasonably achievable and must include participation by all response organizations within both the plume and ingestion exposure EPZs.

EMERGENCY PLANS: SCOPE OF INITIAL EXERCISE

Where local government action or the lack of federal standards prevents the testing or evaluation of a portion of an emergency plan, testing of that portion is deemed to be not reasonably achievable.

TECHNICAL ISSUE DISCUSSED

Statistical validity of FEMA's sampling technique.

APPEARANCES

Donald P. Irwin, Lee B. Zeugin, Kathy E.B. McCleskey, and **Jessine A. Monaghan,** Hunton & Williams, Richmond, Virginia, for the Long Island Lighting Company.

Lawrence Coe Lanpher, Karla J. Letsche, and **Michael S. Miller,** Kirkpatrick & Lockhart, Washington, D.C., for Suffolk County, New York.

Richard J. Zahnleuter, Albany, New York, for Mario M. Cuomo, Governor of the State of New York.

Oreste R. Pirfo, Charles A. Barth, and **George E. Johnson,** Bethesda, Maryland, for the Nuclear Regulatory Commission Staff.

William R. Cumming, Washington, D.C., for the Federal Emergency Management Agency.

PARTIAL INITIAL DECISION

Introduction

In this Partial Initial Decision, we address the question whether the February 13, 1986 Exercise of the offsite emergency plan for the Shoreham Nuclear Power Station satisfied the terms of 10 C.F.R. Part 50, Appendix E, ¶ IV.F.1. That provision states the requirements for initial exercises of offsite emergency plans for power reactors that must occur prior to commercial operation. This question was presented by Contentions EX-15 and EX-16, which assert that the Exercise was too limited in scope, and by Contention EX-21, which asserts that the sample sizes used by FEMA were too small to support its conclusions. We have

concluded that, because of the failure to test certain functions, the Exercise did not meet the requirements of ¶ IV.F.1.

The issues raised by these contentions present questions not previously resolved in an adjudication. Our conclusions on those questions may have a substantial impact on the posture of this proceeding. Thus, while we are still considering the parties' positions with respect to LERO's performance during the Exercise, we have decided to issue this Partial Initial Decision detailing the reasons for our conclusion in advance of our decision on the remainder of the contentions. We believe this to be consistent with the Commission's direction to expedite this proceeding to the maximum extent consistent with fundamental fairness.

This case represents the first time that, because of state and local government opposition to its application, a power reactor operating license applicant has taken on the entire responsibility for offsite emergency preparedness. Long Island Lighting Company ("LILCO") has done this by preparing an offsite emergency response plan, known as the "SNPS Local Offsite Radiological Emergency Response Plan" ("LILCO Plan"), and by setting up an organization that would implement the Plan in an emergency, known as "LERO" (Local Emergency Response Organization). LERO is composed primarily of LILCO employees and contractors, working with support organizations such as the American Red Cross, the U.S. Coast Guard, the U.S. Department of Energy, and various bus, ambulance, and service companies. *See* LILCO Plan, Chap. 2.

The adequacy of offsite preparedness was extensively considered by the Licensing Board in proceedings spanning 1983 through 1985. Intervenors Suffolk County, the Shoreham Opponents Coalition, the Town of Southampton, the North Shore Coalition, and New York State raised issues regarding the planning aspects of the LILCO Plan. After hearing, the Licensing Board issued a Partial Initial Decision ("PID") on offsite emergency planning. *See* LBP-85-12, 21 NRC 644 (1985). The PID included findings of fact and conclusions of law on issues of human behavior, credibility, conflict of interest, EPZ boundary, LERO workers, training, notification, information to the public, sheltering, protective action recommendations, evacuation, special facilities, schools, ingestion pathway, loss of offsite power, strike by LILCO employees, and legal authority issues.

After further hearings on the issue of relocation centers, the Licensing Board issued a concluding Partial Initial Decision on emergency planning, ruling on the relocation center issues and on whether the LILCO Plan provides reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency at Shoreham. LBP-85-31, 22 NRC 410 (1985). The Board found that it did not. The Board found that there is not "anything unique about the demography, topography, access routes, or jurisdictional boundaries in the area in which Shoreham is located. To the contrary, the record fails to reveal any basis to conclude that it would be impossible to fashion and implement

an effective offsite emergency plan for the Shoreham plant." However, the Board noted that its inability to find reasonable assurance stemmed in large part from Suffolk County's and New York State's opposition to the plant. *Id.* at 427. Portions of these decisions on offsite emergency planning were appealed; certain aspects were remanded for further consideration before another Licensing Board, and some are still pending appeal.[1]

On June 20, 1985, the NRC, at LILCO's request, asked FEMA to conduct an Exercise to test offsite emergency preparedness at Shoreham based upon the LILCO Plan. In a one-day Exercise held between 05:30 and 16:00 on February 13, 1986, a team of thirty-eight federal evaluators observed and graded LERO's performance pursuant to that Plan. The results of the Exercise are set forth in a Post-Exercise Assessment issued by the Federal Emergency Management Agency on April 17, 1986 ("FEMA Report"), which was admitted into evidence as FEMA Exhibit 1.

In a motion dated March 7, 1986, Suffolk County, New York State, and the Town of Southampton ("Intervenors") requested that the Commission advise the parties to this proceeding of their procedural responsibilities concerning any hearings on the February 13, 1985 Exercise. LILCO and the NRC Staff responded later that month; LILCO requested the appointment of a board to hear exercise-related matters and the conduct of expedited hearings. On June 6, 1986, the Commission ordered "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." CLI-86-11, 23 NRC 577, 579 (1986). It directed the Chairman of the Atomic Safety and Licensing Board Panel to appoint a Board consisting of the members of the Board that issued the PID, if they were available. It directed that Board "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." *Id.* at 582.

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[1] LILCO took appeals on three issues from the PID (legal authority, conflict of interest, and lack of state plan) and one issue from the concluding PID (concerning the number of persons who might seek monitoring). Intervenors appealed a host of issues from both PIDs. The Appeal Board severed LILCO's legal authority appeals from the factual appeals, and affirmed the Licensing Board's findings on LILCO's preemption, realism, and immateriality arguments. ALAB-813, 22 NRC 651 (1985). On review the Commission reversed, deferring consideration of the preemption question while remanding on the realism and immateriality arguments. CLI-86-13, 24 NRC 22 (1986). The Licensing Board has not yet initiated proceedings on the realism remand.

The Appeal Board initially took up only Intervenors' factual appeals: it affirmed the Licensing Board on most findings but remanded four issues: (1) EPZ size; (2) role conflicts/school bus drivers; (3) hospital evacuation plans; and (4) denial of discovery and evidentiary rulings relating to reception center issues. ALAB-832, 23 NRC 135 (1986). On petitions for review, the Commission accepted review of just three issues, two concerning EPZ size and the third concerning hospital evacuation plans. Order of September 19, 1986. In CLI-87-12, 26 NRC 383 (1987), the Commission affirmed the remand of the hospital evacuation issue and reversed the remand of the two EPZ size issues. Upon the Commission's suggestion in CLI-86-13, the Appeal Board considered LILCO's appeals, ruling in LILCO's favor on conflict of interest and remanding on the absence of a state plan. ALAB-847, 24 NRC 412 (1986). The issue of the suitability of two reception centers was litigated recently before the OL-3 Board; that Board has recently received the state plan issue by summary disposition. LBP-87-30, 26 NRC 425 (1987).

The litigation of the Exercise issues proceeded. The Intervenors in this phase of the emergency planning litigation are Suffolk County, New York State, and the Town of Southampton, although the Town of Southampton did not participate in the prehearing conferences or the hearing. On August 1, 1986, Intervenors submitted 162 pages of contentions which were ruled on by the Board in an unpublished Prehearing Conference Order of October 3, 1986. That Order prompted a motion for reconsideration from FEMA and objections from Intervenors. In an unpublished Memorandum and Order of December 11, 1986, we clarified and largely reaffirmed the October 3 Order. FEMA sought interlocutory review of that portion of the latter Order that reaffirmed the admission of Contentions EX-15 and EX-16 which are decided herein. Its petition was denied in ALAB-861, 25 NRC 129 (1987).

The hearings on Contentions EX-15 and EX-16 began on May 13, 1987, with LILCO's witnesses and continued through May 15.[2] Tr. 5961-6247. LILCO's panel resumed the stand and completed their testimony on May 20. Tr. 6801-978. LILCO's witness on Contention EX-21 testified on May 26.[3] Tr. 7255-354. New York State and Suffolk County presented testimony on Contentions EX-15 and EX-16 beginning on May 20 and concluding on May 21.[4] Tr. 6918-7250. Suffolk's witness on Contention EX-21 testified on May 26 and June 18.[5] Tr. 7354-411, 8876-915, respectively. FEMA presented its entire testimony June 9 through 12, 16 and 17.[6] Tr. 7446-8750. Staff presented testimony on June 18.[7] Tr. 8764-876.

All of the proposed findings of fact and conclusions of law submitted by the parties on Contentions EX-15, EX-16, and EX-21 have been considered in formulating this Decision. Those not incorporated directly or inferentially in this Decision are rejected as unsupported in fact or law or as unnecessary to the rendering of this Decision.

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[2] LILCO's EX-15 and EX-16 testimony was presented by Charles A. Daverio and Dennis M. Behr. It was admitted as LILCO Exhibit 12. Tr. 5968.

[3] LILCO's testimony on EX-21 was presented by Charles A. Daverio. It was admitted as LILCO Exhibit 21. Tr. 7267, 7359.

[4] This testimony was presented by James C. Baranski, William Lee Colwell, Lawrence B. Czech, Gregory C. Minor, James D. Papile, Charles B. Perrow, Frank R. Petrone, and Harold Richard Zook. It was admitted as New York State Exhibits 1, 2, and 3. Tr. 7080. Mr. Zook withdrew for personal reasons. Tr. 7054.

[5] Suffolk's prefiled testimony was sponsored by Gary A. Simon and Stephen Cole. The latter was unavailable to testify and the testimony was corrected appropriately. It was admitted as Suffolk County Exhibit 99. Tr. 7354-59.

[6] FEMA's testimony was presented by Roger B. Kowieski, Joseph H. Keller, and Thomas E. Baldwin. It was admitted as FEMA Exhibit 5. Tr. 7453. In general, we found FEMA's testimony to be forthright, candid, and unbiased. It has been most valuable to us in the preparation of our decision on these and the remaining issues.

[7] Staff's testimony was presented by Sheldon Schwartz and Bernard H. Weiss. It was admitted as Staff Exhibit 1. Tr. 8765.

Discussion

I. CONTENTIONS EX-15 AND EX-16

A. The Allegations

Contentions EX-15 and EX-16 allege that the February 13, 1986 Exercise of the LILCO Plan was not a "full-participation" exercise as defined in NRC regulations. Intervenors allege that the Exercise did not yield meaningful results on implementation capability as required by 10 C.F.R. § 50.47 in that it did not include demonstrations or evaluations of (1) major portions of the LILCO Plan or (2) the emergency response capability of many persons and entities relied upon for Plan implementation.

B. The Regulatory Scheme

The Commission's regulations bearing on these contentions state:

> A full-participation[4] exercise which tests as much of the licensee, State and local emergency plans as is reasonably achievable without mandatory public participation shall be conducted for each site at which a power reactor is located for which the first operating license for that site is issued after July 13, 1982. This exercise shall be conducted within two years before the issuance of the first operating license for full power (one authorizing operation above 5% of rated power) of the first reactor and shall include participation by each State and local government within the plume exposure pathway EPZ and each State within the ingestion exposure pathway EPZ. . . .

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[4] "Full participation" when used in conjunction with emergency preparedness exercises for a particular site means appropriate offsite local and State authorities and licensee personnel physically and actively take part in testing their integrated capability to adequately assess and respond to an accident at a commercial nuclear power plant. "Full participation" includes testing the major observable portions of the onsite and offsite emergency plans and mobilization of State, local and licensee personnel and other resources in sufficient numbers to verify the capability to respond to the accident scenario.

10 C.F.R. Part 50, Appendix E, ¶ IV.F.1; 52 Fed. Reg. 16,823, 16,829 (May 6, 1987).

While the parties have focused principally on the terms of the quoted paragraph of the regulation, it is necessary to understand how that paragraph fits into the scheme of the provision dealing with exercises in order to understand the Commission's intent with regard to the scope of the exercise required prior to reactor operations in excess of 5% of rated power at a particular site (hereafter referred to as the "initial exercise"). The structure of ¶ IV.F, which contains the quoted paragraph as well as four others dealing with exercises, makes it clear that the initial exercise is to meet certain requirements that do not apply to

subsequent exercises. After providing that exercises are to be conducted, that provision lays down requirements applicable to initial exercises in ¶ 1, requires annual licensee exercises in ¶ 2, requires that state and local government plans for each operating reactor site be exercised biennially with either full or partial participation (hereafter referred to as "biennial exercises"), and sets standards governing the frequency of both full and partial state and local government participation in ¶ 3, provides for remedial exercises in ¶ 4, and requires critiques of exercises in ¶ 5.

The quoted paragraph is unique in this scheme in that it requires full participation in the initial exercise for a site by each state and local government within the plume exposure pathway EPZ and each state within the ingestion exposure pathway EPZ. In contrast, ¶ 3, while requiring full participation in at least one exercise at least biennially by each state and local government, permits partial participation with respect to any given site if the state or local government has fully participated at another site. Further, ¶ 3 allows a state that is included in any ingestion exposure pathway EPZ to exercise its related emergency plans only every 5 years.

Moreover, ¶ 1 states that the initial exercise is to "[test] as much of the licensee, State and local emergency plans as is reasonably achievable without mandatory public participation. . . ." No similar requirement is placed on subsequent exercises. Clearly, ¶ 1 states requirements for state and local participation in initial exercises, which are unique to those exercises.

Thus it appears that the definition of "full participation" found in footnote 4 applies to both initial and biennial exercises, and that ¶ IV.F.1 places certain requirements on initial full-participation exercises that do not apply to biennial full-participation exercises.

C. LILCO's and Staff's Positions

LILCO nonetheless takes the position that there are no additional requirements placed on initial full-participation exercises. Staff agrees. LILCO notes that the Commission's regulations, as originally adopted in 1980, contained a requirement that offsite exercises for all plants -- whether achieving their full-power licenses for the first time or already licensed — must test "as much of the licensee, State and local emergency plans as is reasonably achievable without mandatory public participation." This condition applied to all offsite exercises until the paragraph was amended in July 1984. LILCO states that during this period, exercises deemed "full scale" omitted various elements such as ingestion pathway and recovery/reentry, citing Tr. 7208-12 (Papile, Baranski).

LILCO notes that the July 1984 amendment relaxed the frequency of full-participation exercises for sites with operating licenses.[8] *See* 49 Fed. Reg. 27,733-35 (July 6, 1984). In so doing the Commission revised the language of ¶IV.F.1 to read essentially as it appears today, aside from a few unrelated differences. LILCO maintains that this amendment addressed only the frequency of exercises and was not intended by the Commission to make substantive changes in the scope of initial and biennial full-participation exercises. Tr. 6219-20 (Behr); Tr. 6191, 6853 (Daverio).

LILCO correctly notes that the sentence structure:

> A full participation exercise which tests as much of the licensee, State and local emergency plans as is reasonably achievable without mandatory public participation shall be conducted . . .

is ambiguous because it confuses the grammatical rules concerning restrictive and nonrestrictive clauses. However, LILCO believes that the grammatical confusion is largely cleared up by the derivation of the sentence which shows that (1) the phrase "full-participation" exercise (and its apparently synonymous predecessor "full scale" exercise) applied to both initial exercises and plants that already held full-power licenses, (2) exercises run during that period omitted various plan elements, yet were still found to comply with the Commission's regulations, and (3) there was no intent on the part of the Commission, evident from the Statement of Consideration in the 1984 amendment to the rule, to alter the general applicability or meaning of the phrase.

LILCO finds support for its position in the preface to the Commission's latest revision to these rules. *See* 52 Fed. Reg. 16,823-29 (May 6, 1987). It notes that when the Commission revised its rules in 1984, it did not make a similar change regarding the required frequency of initial full-participation exercises. However, concerned about scheduling burdens as a result of a judicially imposed requirement to subject exercise results to the hearing process as well as the resource burden placed on state and local governments by the requirements for annual full-participation exercises, on May 6, 1987, the Commission revised its rules to require a full-participation exercise within 2 years prior to the full-power licensing of a power plant — the same scheduling requirement mandated for full-participation exercises after licensing. 52 Fed. Reg. at 16,824.

In response to comments filed by citizen groups that opposed this latest rule change on the basis, *inter alia*, that it ignored a previously drawn distinction

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[8] It is interesting to note that the July 1984 amendment transformed a statement that the initial exercise for a site should permit each state and local government within the plume exposure pathway EPZ and each state within the ingestion exposure pathway to participate into a requirement that they participate, while dropping the requirement that biennial exercises test "as much of the . . . plans as is reasonably achievable. . . ."

between pre- and post-operational exercises, the Commission said there was no reason to treat NTOLs and operating plants differently:

> The Commission has . . . been left with a regulatory scheme for frequency of full participation emergency preparedness exercises that treats sites with an operating license differently than sites without an operating license. The Commission does not believe this disparity in treatment is warranted. . . .

52 Fed. Reg. at 16,826.

As in the 1984 rulemaking, there is no discussion in the Statement of Consideration of imposing any special additional substantive requirements regarding the scope of initial exercises. LILCO believes that such additional requirements are a concept the Commission almost surely would have mentioned in the context of its remarks had it intended a substantive scope change for NTOLs, especially in light of the fact that in practice, no distinction had historically been made between operating sites and NTOLs.[9]

D. Intervenors' Position

Intervenors do not share LILCO's view. They begin with the proposition that, in ¶IV.F.1 of Appendix E, the Commission addresses the scope of the initial full-participation exercise prior to reactor operations in excess of 5% of power. Their testimony, Intervenors maintain, demonstrated that, prior to the initial full-participation exercise, there is no "track record" regarding the capabilities or preparedness related to that particular site. Accordingly, it makes sense that the initial full-participation exercise be comprehensive. NYS Exh. 1 at 25. Intervenors believe that this is an especially important consideration for Shoreham because implementation of the Plan is largely dependent upon LILCO personnel whose everyday work does not include emergency response.

Intervenors find support for this interpretation in the regulatory history. They believe that the original requirement of Appendix E that all sites, regardless of their previous operating history, "test[ ] as much of the licensee, State, and local emergency plans as is reasonably achievable without mandatory public participation . . ." (45 Fed. Reg. 55,413, col. 1 (1980); *see* Tr. 7102 (Petrone)) made sense because, at that time, there was no track record of performance at any site.

Intervenors believe that, in dropping the requirement that operating plants "test[ ] as much of the . . . plans as is reasonably achievable without mandatory

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[9] Staff also makes this argument. Additionally, Staff states that the notion that the initial exercise may lead to major changes is probably an illusion, citing the fact that neither FEMA nor Staff has found this to be the case. Staff urges us not to "read into" ¶IV.F.1 any additional requirements for initial exercises. *See* Staff's Proposed Findings at 30-31. However, those additional requirements are clearly stated in that paragraph.

public participation . . ." in 1984, the Commission indicated its intent that initial full-participation exercises should be more complete than full-participation exercises at operating sites. Indeed, in relaxing the exercise frequency requirement from 1 to 2 years, the Commission noted that by 1984, it had gained experience at about 150 exercises. *See* 49 Fed. Reg. 27,735, col. 1 (1984). While the Commission did not expressly link this experience to its removal of the "as much as reasonably achievable" language, the rationale for the change in exercise frequency applies to that change as well.

E. Legal Conclusion

Intervenors read the regulation correctly. It is clear that the July 1984 amendment did make substantive changes in the required scope of initial and biennial exercises.[10] Despite the ambiguity in footnote 4, LILCO's arguments simply do not overcome the clear language of ¶ IV.F.1. Consequently, we do not find it necessary to address Intervenors' arguments in support of their reading. Suffice it to say that although the Commission has found it necessary to amend the regulation twice, it did not see fit to change these clear requirements or, for that matter, to specifically address them in a statement of consideration accompanying either a proposed or final rule.[11]

Our conclusion concerning ¶ IV.F.1 makes it unnecessary for us to consider the parties' positions regarding the interpretation of the definition of full participation found in footnote 4 of that paragraph. Because the initial exercise must

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[10] *See* note 8, *supra*.

[11] The language quoted by LILCO from the Statement of Consideration supporting the rule permitting initial exercises to be conducted within 2 years, rather than 1 year, of commercial operation does not dictate a contrary conclusion. That language, when placed in context, was directed to the problem posed by the necessity to complete both an exercise and any related litigation within a 1-year time period and simply points to the fact that there is no reason why the initial exercise should occur within a shorter time period than subsequent exercises. It does not contradict the clear language of ¶ IV.F.1. Indeed, logic would suggest that, having mandated the more complete initial exercise prior to licensing, the Commission could well rely on its results for at least as long a period as that which would apply to the less complete biennial exercises.

LILCO also relies on Planning Standard N of NUREG-0654/FEMA-REP-1 (LILCO Exh. 12, Attach. C), FEMA Guidance Memorandum (GM) PR-1 (*id.*, Attach. E), and draft GM EX-3 (*id.*, Attach. G). LILCO's witnesses argued that this guidance is directly applicable. They attempted to point (1) to explicit references in FEMA Guidance Memoranda to the NRC's Appendix E regulations (Tr. 6199-200, 6222, 6235-38, 6242, 6804-05 (Daverio, Behr)); (2) to language appearing in Appendix E that is echoed by language in FEMA Guidance Memoranda (Tr. 6822-23 (Behr)), and in NUREG-0654 Planning Standard N (Tr. 6184-85 (Daverio)); and (3) to their understanding of the real-world interrelationship between FEMA and NRC as a result of their practical experience in the emergency planning area (Tr. 6184-85, 6190-92, 6231-33, 6242-44, 6815-23 (Daverio, Behr)). LILCO believes that FEMA and NRC Staff witnesses agreed that the FEMA guidance documents and NUREG-0654 are applicable. *See* FEMA Exh. 5 at 89-90; NRC Exh. 1 at 5; Tr. 7492 (Keller); Tr. 7620-21 (Keller, Kowieski).

While this guidance may accurately reflect the practice that Staff and FEMA have followed in conducting exercises, a cursory perusal of it reveals that it either ignores the distinction between initial and biennial exercises or was intended to be limited to biennial exercises. Thus, it is of no value in understanding the additional requirements for initial full-participation exercises. Moreover, because it is guidance only and does not rise to the status of a regulation, it does not override the clear language of ¶ IV.F.1.

be more comprehensive than the biennial exer[illegible]s, *a fortiori* an exercise that meets that requirement will qualify as a full-parti[illegible]tion exercise.

F. The Alleged Omissions from the Exercise

We now consider whether the facts alleged in these contentions demonstrate a fundamental flaw. Intervenors point to certain specifi[illegible] omissions and inadequacies in the Exercise in support of their views. For purposes of this discussion, these have been grouped under the standard exercise objective to which they relate.

1. Alert and Notification

Standard exercise objective 13 governs this topic. It provides: Demonstrate the ability to alert the public within the 10-mile EPZ, and disseminate an initial instructional message, within 15 minutes. This objective was evaluated under the following Emergency Operations Center (EOC) objectives:

13. Demonstrate the ability to provide advance coordination of public alerting and instructional messages with the State and county (State and county participation simulated);
14. Demonstrate the ability to activate the prompt notification siren system in coordination with the State and county (State and county participation simulated);
15. Demonstrate the 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 (to be simulated); and
21. Demonstrate the ability to prepare and implement EBS in a timely manner (to be simulated within 15 minutes after command and control decision for implementation of protective action recommendations).

FEMA Exh. 5 at 97; FEMA Exh. 1 at 10.

FEMA concluded that objectives EOC 13, 15, and 21 were met, while EOC 14 was partly met. *See* FEMA Exh. 1 at 33-34, 38. Intervenors assert that the scope of the Exercise and the participation of response organizations was too limited with respect to these objectives. Specifically, Intervenors assert that "[p]rocedures for the actual notification of the public and actual issuance of emergency information and protective action recommendations to the public . . . were excluded from the exercise, in that sirens, the LILCO EBS system, and WALK Radio were not tested, used, demonstrated, or involved in the exer-

cise.[12] Thus neither the notification capabilities of LILCO or WALK Radio personnel, nor the notification capabilities of LILCO's EBS system, were evaluated during the exercise." Contention EX-15A. *See also* Contentions EX-16C, EX-16D, and EX-24.

Additionally, although Intervenors asserted in Contentions EX-15B and EX-18C(iv) that procedures for notifying and issuing protective action recommendations to the public in the water portion of the EPZ were excluded in that the U.S. Coast Guard did not participate, in their prefiled testimony (NYS Exh. 1 at 119), they state that they have no basis on which to dispute LILCO's and FEMA's accounts of the Coast Guard's participation. *See* LILCO Exh. 12 at 33-34; FEMA Exh. 5 at 108-09. Consequently, we have not further considered these contentions. However, in our discussion of EOC 16, we address Intervenors' position stated in Contention EX-16B that the testing of the implementation of protective action recommendations in the water portion of the EPZ was inadequate.

There is no dispute concerning the sirens, EBS system, and WALK Radio. All parties acknowledge that the sirens were not sounded, no EBS messages were broadcast, and WALK Radio did not participate. FEMA concluded that the sirens should be sounded in the future (FEMA Exh. 1 at 34; FEMA Exh. 5 at 106, 123), and the FEMA witnesses voiced their opinion that this test should occur prior to operation at more than 5% of power, although they were uncertain whether such a regulatory requirement exists. Tr. 8383-87. Such a test would necessarily involve the broadcast of a test EBS message to inform the public of the reason the sirens were sounded. Tr. 7553-54. More importantly, FEMA agreed with Intervenors that the test of the alert and notification system was not as complete as FEMA normally expects (Tr. 7563-65), and that there was no evaluation of WALK Radio's capability to carry out its responsibilities under the Plan (Tr. 7579).

LILCO notes that certain legal developments prevented the testing of the alert and notification system. Specifically, a February 1985 decision of the New York Supreme Court in *Cuomo v. LILCO* (Consol. Index 84-4615) raised the possibility that any sounding of sirens or broadcast of EBS messages might be deemed to be an unlawful exercise of police power. In January 1986, the Suffolk County legislature adopted Local Law 2-86 which imposed civil and criminal sanctions on anyone participating in an exercise activity that could affect the general public. Although that law was enjoined as unconstitutional in *LILCO v. County of Suffolk*, 628 F. Supp. 654, 666 (E.D.N.Y. 1986), that decision,

[12] Contention EX-16E asserts that Marketing Evaluations, Inc., which has responsibility to verify siren operation and to assess the progress of any evacuation, did not participate in the Exercise. Because the sirens were not sounded and no actual evacuation was demonstrated, we find that there was no need for Marketing Evaluations to participate. *See* Intervenors' Proposed Findings at 43 n.51.

coming only 3 days prior to the Exercise, was too late to permit a test of the alert and notification system to be inserted into the Exercise. LILCO maintains that the system was tested to the fullest extent possible. *See* LILCO Exh. 12 at 16-17.

Intervenors do not agree. They believe that the failure to activate the sirens and EBS system and to interact with WALK Radio is significant in determining whether the Exercise met the standards for full-participation exercises. They testified that it was standard practice in FEMA Region 2 to sound the sirens and air a test EBS message. Tr. 7149. They believe that the sounding of the sirens and accompanying radio broadcasts are a "major observable portion" of the Plan as that term is used in 10 C.F.R. Part 50, Appendix E, ¶ IV.F. They also believe that the failure to activate also necessarily precluded observation and evaluation of critical mechanical and human interactions. Tr. 7183. Specifically, they believe that the following elements were omitted:

1. sounding of the sirens;
2. broadcast of an EBS message;
3. activation of tone alert radios;
4. contact with WALK Radio; and
5. authentication of the EBS message by WALK.

Tr. 7182-84.

LILCO maintains that what was done at the Exercise was sufficient to constitute full participation and that the untested mechanical aspects of the system will be demonstrated during a so-called FEMA-REP-10 test (LILCO Exh. 12 at 32). Given the County's efforts to preclude any testing of the alert and notification system at the Exercise, it ill behooves the Intervenors to complain that steps one through three above were not carried out at the Exercise. Moreover, those efforts clearly dictate the conclusion that testing of these portions of the Plan was not reasonably achievable. Consequently, we do not consider their omission in determining whether the requirements of ¶ IV.F.1 were met.[13]

The last two items, which concern the lack of communication with WALK Radio, present a different question. The record does not reflect whether the County prevented their inclusion in the Exercise, and LILCO concedes that their inclusion would not have involved mandatory public participation. *See* Tr. 6828-33 (Daverio). However, LILCO maintains that the interaction with

[13] This conclusion also applies to Intervenors' Contention EX-15C, which asserts that there was no evaluation of the adequacy of LERO's public information materials. The local law enacted by the Suffolk County legislature similarly prevented any distribution of those materials and thus prevented any evaluation of their adequacy as a part of the Exercise. We also note that there is no standard objective that covers the public information materials. Tr. 8424-25.

the EBS station is much more mechanical than Intervenors portray and that FEMA was satisfied with LERO's performance in this regard. *See* LILCO's Reply Findings, Vol. II, at 3 (comment on Intervenors' Proposed Finding 59). This may well be so. Nonetheless, FEMA found that LERO exhibited weaknesses in communications skills.[14] Clearly, accurate communication of the text of EBS messages to the radio station which is to broadcast them is of paramount importance. It is not a mechanical activity that appropriately can be covered in a FEMA-REP-10 test. Consequently, we conclude that the testing of communications with WALK Radio was reasonably achievable and should have been included in the Exercise. We conclude that the alert and notification system was partially tested at the Exercise.

2. *Evacuation of the EPZ*

Intervenors assert that the Exercise failed to test various functions related to this topic, which is governed by standard objective 15: Demonstrate the organizational ability and resources necessary to manage an orderly evacuation of all or part of the plume EPZ. This objective was evaluated under the specific objectives EOC 16 and Field 9.

Intervenors assert in Contentions EX-15H and EX-16B that implementation of protective action recommendations in the water portion of the EPZ and by transients on beaches and in parks was not adequately tested. In Contentions EX-16K and EX-18C(i), Intervenors assert that the participation of certain commercial bus companies, which are relied upon to furnish buses in the event of an evacuation, was too limited. In Contentions EX-18C(iii) and EX-18C(vi), Intervenors also assert that the participation of the Nassau County Red Cross, which is relied upon in connection with congregate care centers, and Nassau County itself, which is relied upon to perform police functions in connection with the coliseum, were both too limited. Finally, in Contentions EX-15D and EX-16H, Intervenors note that procedures related to evacuation of EPZ hospitals were not demonstrated and hospital officials did not participate in the Exercise.

Under EOC 16, FEMA evaluated LERO's organizational ability to manage an orderly evacuation. FEMA observed LERO's ability to coordinate notification of the public and access control on the waters of the EPZ with the Coast Guard. FEMA Exh. 5 at 110; FEMA Exh. 1 at 34. FEMA also verified that the Coast Guard simulated establishing a Maritime Safety Zone and simulated emergency radio broadcasts to all shipping on the distress frequencies, as well as actually dispatching a boat for access control, although there was no objective to evaluate

[14] FEMA assigned a deficiency to the communications within the EOC and an ARCA because of the confusing state of EBS messages furnished to the press at the ENC. In our forthcoming decision on the contentions related to LERO's performance, we will address these matters in detail.

Coast Guard performance. *See* FEMA Exh. 5 at 109; Tr. 7661. FEMA did not observe any other elements relevant to Contentions EX-15H and EX-16B under either this objective or Field 9. FEMA believes that, in light of the fact that the Exercise occurred in February, further evaluation of the challenged portions of these objectives should await a summer exercise. *See* FEMA Exh. 5 at 111

LILCO believes that there was an adequate demonstration of the implementation of protective action recommendations. *See* LILCO Exh. 12 at 34. Intervenors take the position that FEMA should have evaluated the Coast Guard's ability to formulate a message and get that message to boaters within 45 minutes. They point out that the water portion of the EPZ constitutes approximately 50% of the EPZ which, during certain months of the year, might contain large numbers of boaters. NYS Exh. 1 at 121.

The record indicates that the organizational ability and resources necessary to manage an orderly evacuation in the water portion of the EPZ were adequately tested. FEMA either observed or verified the actions that were taken in this regard.

Contentions EX-16K and EX-18C(i) basically concern the participation of bus companies that have agreed to provide buses in the event of an evacuation. In its direct testimony, FEMA notes that it is standard practice in Region II to evaluate a sample of bus companies at each exercise, taking care not to evaluate the same sample at each exercise. In order to evaluate LERO's integrated capability to provide buses, FEMA independently selected eight out of a total of forty-three transit-dependent general population bus routes to be run and "randomly" picked the drivers to run them. FEMA Exh. 5 at 130-31. Each FEMA evaluator who picked a driver accompanied that driver to the bus yard and along the route. FEMA's records do not indicate whether these evaluators may have spoken to bus company officials concerning the availability of buses. However, FEMA did not, as it had indicated it would on page 73 of its testimony filed in this proceeding on April 17, 1984, verify with the bus companies the actual number of buses that were available. Tr. 7680-86.

Intervenors take the position that, first, FEMA's actions provide an inadequate basis on which to conclude that an adequate number of buses would be available and, second, those actions did not comport with its actions in other exercises where it generally requires that all bus companies affected by the scenario be contacted and verifies with those companies the number of buses that are available. NYS Exh. 1 at 138-39. LILCO believes that there is no reason to doubt that the bus companies would provide the number of buses to which they have agreed, noting that the provision of buses is their only function, and thus there is no reason why the bus companies should have had a greater role in the Exercise. LILCO Exh. 12 at 41-42.

We agree with LILCO. Clearly, what is involved is counting buses. Intervenors advance no concrete reason why this should be accomplished in con-

nection with an exercise other than the fact that FEMA testified in 1984 that it would do so. There does not appear to be any reason to doubt the bus companies' ability to provide buses and thus no reason to insist on a greater role in the exercise for them.[15]

Contentions EX-18C(iii) and EX-18C(vi) assert that the participation by the Nassau County Red Cross and Nassau County was too limited. Intervenors offered no direct testimony or proposed findings on these contentions, and we see no need to further consider them.[16]

Contentions EX-15D and EX-16H assert that procedures related to the evacuation of EPZ hospitals should have been demonstrated and hospital officials should have participated in the Exercise. Intervenors filed extensive direct testimony on these contentions NYS Exh. 1 at 92, *et seq*. FEMA points out that sheltering is the primary protective action to be undertaken by EPZ hospitals. Therefore, no objective was included concerning the hospitals and there was no need for them to participate. FEMA Exh. 5 at 114-15. This is in accord with the Licensing Board's holding that it was not necessary to plan for the evacuation of hospitals. *See* LBP-85-12, *supra*, 21 NRC at 844. This holding was, subsequent to the Exercise, remanded to the Licensing Board with directions to require "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." The Board was directed by the Appeal Board to hold the remand in abeyance pending instructions from the Commission. ALAB-832, *supra*, 23 NRC at 154-57, 163. In CLI-87-12, *supra*, the Commission affirmed the remand, but indicated that the Licensing Board might again conclude that hospital evacuation need not be considered. In light of this, we conclude that FEMA correctly excluded any objectives concerning hospitals from the exercise scenario. Moreover, the fact that the Appeal Board directed that the remand be held in abeyance, coupled with the Commission's decision to take review of the Appeal Board's decision, dictates that FEMA's conclusion should remain undisturbed.

We conclude that the exercise of the elements of LERO's organizational ability and resources necessary to manage an orderly evacuation called into question by these contentions complied with ¶ IV.F.1.

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[15] Our conclusion is based on the fact that the bus companies' role is limited to providing buses. Were they also responsible for briefing, equipping, and dispatching drivers, our conclusion would be different.

[16] FEMA notes that one Red Cross representative participated in the EOC throughout the Exercise and that several participated at the Nassau County Coliseum and congregate care centers. FEMA Exh. 5 at 139. LILCO notes that both the Red Cross and Nassau County participated. LILCO Exh. 12 at 42-43.

3. Protective Actions for Schools

Intervenors raise a number of issues under this heading which cut across several exercise objectives. First, standard exercise objective 19 provides: Demonstrate the organizational ability and resources necessary to effect an orderly evacuation of the schools within the plume EPZ. This objective was evaluated under specific objectives EOC 20 and Field 16. Second, FEMA added specific objective EOC 18 which provides: Demonstrate the organizational ability necessary to effect an early dismissal of schools within the 10-mile EPZ; and a corresponding specific objective, Field 15, which provides: Demonstrate a sample of resources necessary to effect an early dismissal of schools within the 10-mile EPZ. The specific objectives added by FEMA are not covered by a standard objective.

In their contentions, Intervenors assert that a demonstration of sheltering of schoolchildren should have been included as an objective (EX-15E), that there was no observation of the organizational ability necessary to effect an early dismissal of schools (EX-15F), that evacuation procedures for schools were omitted from the Exercise (EX-15G), and that the participation of school officials and personnel, as well as school bus drivers, was too limited (EX-16F, EX-16G, EX-26, and EX-18C(v)).

FEMA testified that, pursuant to the Board's conclusion in LBP-85-12, *supra*, 21 NRC at 858, that "the written emergency plans required by New York State are adequate to provide reasonable assurance that adequate protective measures [at schools] can and will be implemented in the event of an emergency . . . ," it did not adopt an objective that would have required a demonstration of the ability to shelter schoolchildren. At the time he was preparing for the Exercise, FEMA's Region II RAC Chairman, Roger Kowieski, was not aware of an evolving FEMA policy that would have dictated that such an objective be included. Further, the FEMA witnesses were of the opinion that school emergency plans are required by the State Board of Education as a part of the school certification process. *See* FEMA Exh. 5 at 116; Tr. 8394-421, 8596-99.

In its direct testimony, FEMA noted, in response to the allegation that it did not observe any demonstration of the organizational ability to effect an early dismissal of schools, that such an observation could not be made because simulated telephonic advice not to open schools was given to school officials by LERO officials from the latter's homes prior to reporting to the EOC. FEMA Exh. 5 at 117. On cross-examination, the FEMA witnesses equated early dismissal and not opening for the day. Tr. 7595, 7601. They testified that the organizational ability necessary to effect either was demonstrated by the act of telephoning the schools (Tr. 7599-601), and that while the telephone calls were not observed by a FEMA evaluator, they were verified by interviewing the individual who made the calls (Tr. 7595). Thus it appears that, although the

telephone calls were not observed, FEMA nonetheless regards objective EOC 18 as having been met.

Only the Shoreham-Wading River School District participated in the Exercise. Tr. 6848, 6932. Therefore, FEMA based its conclusions with regard to objectives Field 15 and 16 on interviews of those school officials and school bus personnel and on actual observation of the completion of one school bus route using LERO resources. FEMA Exh. 5 at 119. FEMA concluded that the simulated dispatch of seventeen school buses to the Shoreham-Wading River High School[17] and the release of students for transportation to their homes demonstrated these objectives (FEMA Exh. 1 at 43), and that objective Field 16 was only partly met by the Patchogue Staging Area with respect to the bus route run by a LERO bus because of a 40-minute delay in dispatching the bus (FEMA Exh. 1 at 66). The FEMA witnesses believe that a greater degree of participation on the part of the schools is necessary "in order to reach any kind of a conclusion [concerning] the capability of school districts more generally to respond to a Shoreham emergency" (Tr. 7603), and assigned an ARCA recommending that, in the future, all schools must be included in federally evaluated exercises and drills (FEMA Exh. 1 at 41). FEMA had requested such participation prior to the Exercise, but LILCO determined not to invite other school districts to participate. Tr. 7605-09.

In its direct testimony, LILCO offered no explanation of its determination not to invite more school districts to participate. On examination by Staff counsel, LILCO's witness Daverio testified that he was aware of various resolutions and other expressions of opinion concerning emergency preparedness attributed to school districts and related organizations. *See* NYS Exh. 2, Attach. 7. The following colloquy then took place:

> Q Given the apparent position of these resolutions and petitions, would participation by the schools have been a reasonably achievable objective, in your view, for the February 13th exercise?
>
> A Given the resolutions as I think I said before, I didn't have direct knowledge that they wouldn't participate but I would have a hard time believing they would have.
>
> Q . . . was the same view expressed to you by LILCO management?
>
> A They expressed the view that they did not want to write the letter. And, I assume that was the reason but I don't know.

Tr. 6973-75; *see also* Tr. 6848. This is the only explanation in the record of LILCO's decision not to seek participation by the school districts, although even Intervenors acknowledge that it is unlikely that the schools would have

[17] Under the Plan, the schools utilize their own resources to implement protective actions with LERO providing backup resources if necessary. LILCO Exh. 12 at 37; Tr. 6940-41.

participated if invited. Intervenors' Proposed Findings at 135. LILCO has committed to seek broader participation by school districts in the future. Tr. 6953.

LILCO maintains that sheltering, early dismissal, and evacuation are activities that are frequently carried out by schools under their existing emergency plans, and consequently, they need not be exercised. Further, LILCO asserts that the means to effect early dismissal were demonstrated, as well as LERO's ability to assist in evacuation. *See* LILCO Exh. 12 at 36-38. On cross-examination, LILCO's witnesses conceded that more schools should have been involved in the Exercise. They adhered to their position, however, that one could infer from the participation that in fact occurred and from the existence of emergency plans in the schools that the affected schools could implement protective actions in the event of a Shoreham emergency. Tr. 6951-53.

Intervenors have no substantial disagreement with the facts set forth above. They argue that these facts show that FEMA did not conform to its normal practices in the Shoreham Exercise insofar as its evaluation of school preparedness is concerned and that the Exercise did not conform to regulatory requirements. NYS Exh. 1 at 68-84.

All parties recognize that there must be more extensive school participation. We agree that school participation is of great importance. The issue that we must decide is whether the participation that did in fact take place was all that was reasonably achievable. There is nothing in the record that indicates whether the schools would have participated if asked. Indeed, we have only Mr. Daverio's speculation, elicited by Staff counsel, on the reason LILCO management decided not to issue the invitation when asked to do so by FEMA, and the probable response of the schools had an invitation been issued. LILCO bears the burden of proof. *See* 10 C.F.R. § 2.732. It has not established that the school participation that did take place was all that was reasonably achievable. Consequently, we must conclude that greater participation was reasonably achievable.[18]

Certain subsidiary issues concerning the scope of school participation are raised by this record. We decline to decide them. It appears that at the time of the Exercise, guidance on these issues was developing. GM EV-2, the purpose of which is to provide guidance to federal, state, and local government officials with respect to emergency preparedness for schools, came into existence in draft form shortly before the February 13 exercise and was issued on November 13, 1986. As a result, the present policy with respect to participation by schools in exercises differs from that which existed when the Exercise was planned and executed. *See* NYS Exh. 2, Attach. 6; Tr. 8394-96, 8406-08. Given our

[18] Were the burden of proof on Intervenors, we would be forced to conclude that they had not demonstrated that greater school participation was reasonably achievable, and consequently decide this issue in LILCO's favor. This is a rare instance when, evidence establishing one condition or the other lacking, the issue must be decided against the party bearing the burden of proof.

conclusion that greater school participation was reasonably achievable, it makes little sense to consider whether the policy with respect to schools in effect at the time of the Exercise was both appropriate under the regulation and satisfied by what transpired.

4. Ingestion Pathway

This topic is covered by the following standard exercise objectives:

9. Demonstrate appropriate equipment and procedures for collection, transport, and analysis of samples of soil, vegetation, snow, water, and milk;
11. Demonstrate the ability to project dosage to the public via ingestion pathway exposure, based on field data, and to determine appropriate protective measures, based on PAGs and other relevant factors; and
12. Demonstrate the ability to implement protective actions for ingestion pathway hazards. Contentions EX-15I, EX-16A, EX-37A, EX-37B, EX-37C, and EX-37D raise matters concerning the ingestion exposure pathway.

None of these objectives were evaluated during the Exercise. FEMA takes the position that not "all major planning and preparedness elements incorporated in the 35 exercise objectives . . ." need to be included in every full-scale exercise. It notes that the NRC requested an exercise that emphasized a demonstration of response capabilities within the plume exposure EPZ and did not object when ingestion pathway objectives were not included. Tr. 7529-30. FEMA also notes that there has not been a full-scale exercise of the ingestion exposure pathway at any of the three operating nuclear sites in New York. Tr. 7526-28. Consequently, FEMA agreed with LILCO that ingestion pathway objectives would not be included in the Exercise.[19] FEMA Exh. 5 at 125-26.

LILCO's position is that ingestion exposure pathway objectives need not be tested in order to qualify as a full-participation exercise. LILCO Exh. 12 at 39. Intervenors' position is contrary, although they concede that ingestion pathway objectives are not currently included in exercises at other New York nuclear sites. NYS Exh. 1 at 148-49. State officials testified that they have refused to include such objectives until guidance concerning them is forthcoming from FEMA. Tr. 7208-10, 7232-33. While FEMA apparently has accepted this position on the part of New York State, it acknowledges that ingestion pathway objectives could have been tested and that the major factor dictating that they be excluded was the guidance emanating from Staff that "FEMA emphasize evaluation of the functional areas of emergency preparedness related to the

[19] LILCO takes the position that it wanted ingestion pathway objectives tested at the Exercise. Tr. 6837.

demonstration of response capabilities within the plume exposure (10-mile) Emergency Planning Zone." Tr. 7239; June 20, 1985 Memorandum for Richard W. Krimm of FEMA from Edward L. Jordan of NRC.

Paragraph IV.F.1 clearly requires, in addition to testing as much of a plan as is reasonably achievable, that each state within the ingestion exposure pathway EPZ participate in the initial full-participation exercise. Thus both Connecticut and LERO, substituting for New York, should have been included and the exercise scenario should have included ingestion pathway objectives.[20] It is unfortunate that these objectives were excluded on the suggestion of the Staff. Nonetheless, that circumstance cannot alter the fact that this Exercise did not meet the requirements of ¶ IV.F.1 in this respect.

5. *Recovery and Reentry*

Like the ingestion exposure pathway, this topic was not included in the Exercise. It is covered by the following standard objectives:

34. Demonstrate the ability to estimate total population exposure; and
35. Demonstrate the ability to determine and implement appropriate measures for controlled recovery and reentry.

Contention EX-15M asserts that recovery and reentry objectives should have been included in the Exercise. FEMA excluded these objectives for largely the same reasons that it excluded ingestion pathway objectives, plus the fact that the U.S. Environmental Protection Agency had not promulgated final guidance governing these activities. FEMA regards its decision in this regard as consistent with its practice in other full-scale Region II exercises. FEMA Exh. 5 at 128. On cross-examination, the FEMA witnesses indicated that, while recovery and reentry is a major observable portion of the Plan, the lack of final guidance from EPA concerning doses that would be considered acceptable on reentry meant that there was no standard against which to measure Exercise performance. This situation led Region II to agree with New York State officials that it was appropriate to exclude recovery and reentry objectives from New York exercises. These objectives had been included until August 1983. Tr. 7673-79.

LILCO concedes that recovery and reentry activities were excluded from the Exercise despite LILCO's willingness to include them, but does not believe that that fact demonstrates a fundamental flaw. LILCO Exh. 12 at 40-41; Tr. 6921. We conclude that the lack of final EPA guidance on acceptable reentry doses dictates the conclusion that testing these functions was not reasonably

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[20] We cannot agree with LILCO that the requirement for participation by ingestion exposure pathway states merely requires participation to the extent dictated by the scenario. Tr. 6850-52. Such an interpretation would effectively read this requirement out of the regulations.

achievable. Therefore, we do not consider the absence of this demonstration in determining whether this Exercise met the requirements of ¶ IV.F.1.

6. *Special Facilities*

Standard objective 18 provides: Demonstrate the organizational ability and resources necessary to effect an orderly evacuation of mobility-impaired individuals within the plume EPZ. This objective was evaluated under specific objectives Field 13 and Field 14. Intervenors assert in Contention EX-16I that officials of nine nursing and adult homes located in the EPZ did not participate, in Contention EX-16J that officials from facilities outside the EPZ that are relied on to receive the special-facility evacuees did not participate, in Contention EX-15K that procedures related to the radiological monitoring and decontamination of these evacuees were excluded, and in Contentions EX-16I and EX-18C(ii) that certain ambulance companies did not participate.

During the Exercise, LILCO assessed the seriousness of the accident and decided to evacuate residents of special facilities. With perhaps two or three exceptions (*see* Tr. 6833-34, 2904 (Daverio)) LILCO's communications with special facilities were simulated. Tr. 7592, 7628 (Baldwin). FEMA evaluated the performance of one ambulance and one ambulette that were sent to two special facilities within the EPZ and then to locations outside the EPZ. There was no test of the availability of facilities outside the EPZ to handle special-facility evacuees. NYS Exh. 1 at 87, 105, 106-07; Tr. 6931 (Daverio). Most special-facility reception centers have yet to be arranged. Tr. 2913 (Daverio); FEMA Exh. 3, Attach. 1, at 12; Harris and Mayer, ff. Tr. 2992, at 13. There was no specific test of LILCO's capability to register, monitor, or decontaminate special-facility evacuees. NYS Exh. 1 at 104-05. LILCO takes the position that the techniques are the same as those demonstrated at the Nassau Coliseum for the general population.[21] LILCO Exh. 12 at 40; FEMA Exh. 5 at 127. FEMA did not evaluate whether LILCO had enough ambulances and ambulettes or drivers available to handle an evacuation, although it acknowledged that this was something that it had committed to evaluate in a Shoreham exercise. NYS Exh. 1 at 109-10; Tr. 7689-92 (Kowieski, Keller). FEMA interviewed no ambulance company officials and thus did not evaluate whether ambulance company officials were knowledgeable about what was expected under the Plan. NYS Exh. 1 at 108-10, 112; Tr. 7192-94 (Petrone). FEMA did not evaluate, even on a spot-check basis, the capabilities of the personnel at special facilities inside or outside the EPZ to carry out the actions contemplated under the LILCO Plan. NYS Exh. 1 at 87, 100, 102, 103, 105.

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[21] We will consider this issue in detail under Contention EX-47.

The FEMA witnesses indicated that it is not standard practice to evaluate the capabilities of special-facility personnel. FEMA Exh. 5 at 115. The evidence indicates generally that, with respect to special-facility residents, the Shoreham test was approximately the same as at most other exercises, with the exception that actual phone calls are often made to special facilities at other exercises. NYS Exh. 1 at 100 n.46; Tr. 8663 (Kowieski).

In 1984, FEMA testified that it would evaluate, through a sampling approach during an exercise, the level of coordination between LILCO and adult and nursing homes. Tr. 7662-63 (Keller). In this hearing, the FEMA witnesses stated that this was necessary because such coordination constitutes a major observable portion of the Plan. They took the position, however, that this evaluation did not have to occur during the first Shoreham exercise. Tr. 7663-64 (Keller).

We agree that the level of coordination between LERO and the special facilities should be evaluated and add only that such evaluation must include an evaluation of LERO's ability to communicate with special facilities. Further, we agree that an evaluation of the preparedness of the ambulance and ambulette companies should have been included. No showing has been made that a test of these aspects of the Plan was not reasonably achievable. Consequently we conclude that such an evaluation should have been a part of this Exercise in order to satisfy the requirements of ¶ IV.F.1.

We do not agree with Intervenors that we should disapprove FEMA's practice of declining to review the emergency plans of special facilities themselves. *See* Intervenors' Proposed Findings at 137. No reason is apparent on this record why FEMA's practice should be disapproved. Similarly, we see no reason to reject LILCO's position that the monitoring and decontamination of special-facility populations requires no showing in addition to that made for the general population.

G. Conclusion on Contentions EX-15 and EX-16

In sum, we find that testing of the following portions of the Plan was reasonably achievable and should have been accomplished:

a. transmission of an EBS message to WALK Radio and authentication of that message by WALK Radio;
b. participation by more school districts in the exercise scenario;
c. implementation of protective actions in the ingestion exposure pathway in both Connecticut and New York; and
d. coordination and communication between LERO and special facilities, including a review of the preparedness of ambulance companies relied on by LERO.

In reaching these conclusions, we do not question the oft-repeated testimony of the FEMA witnesses that the February 13, 1986 Exercise was as compre-

hensive as any conducted in FEMA Region II up to that time. *See, e.g.*, FEMA Exh. 5 at 92, 105; Tr. 7633, 7645-46, 8476, 8491. However, the fact remains that the exercise scenario failed to properly take the Commission's regulatory requirements for initial full-participation exercises into account. As a result, the Exercise failed to test some parts of the Plan that reasonably could have been tested, and therefore failed to comply with 10 C.F.R. Part 50, Appendix E, ¶ IV.F.1.

II. CONTENTION EX-21

A. The Allegations

Contention EX-21 alleges that FEMA had insufficient data to support the conclusion that certain exercise objectives were met. The sample sizes used by FEMA in making its review, it alleges, were much too small to support FEMA's conclusions concerning these objectives.

While Contention EX-21 was admitted as an independent contention, it is closely related to and was heard with Contentions EX-15 and EX-16. In their proposed findings (at 146-47) Intervenors point out that the conceptual difference between the contentions is that Contention EX-21 focuses on whether FEMA had a valid basis to find that particular Shoreham objectives had been satisfied, while Contentions EX-15 and EX-16 focus on Appendix E. For decisional purposes, they believe Contention EX-21 is best addressed as a further basis for the Intervenors' position that the Shoreham Exercise was too limited.

In Intervenors' view, most of the factual matters raised in Contention EX-21 and which are the subject of dispute, namely the sufficiency of school (EX-21C), bus (EX-21B), and special-facility (EX-21D) testing, are covered in Contentions EX-15 and EX-16. In our discussion of those contentions, we concluded that the testing of schools and special facilities had been insufficient to comply with ¶ IV.F.1 of Appendix E, and we do not address these matters again. We did not reach the same conclusion with respect to buses, because Intervenors' position boiled down to the proposition that available buses should have been counted during the Exercise. The question of the adequacy of the sample of bus drivers tested by FEMA was raised only by Contention EX-21; that question is discussed below.

Two subparts of Contention EX-21 — dealing with Traffic Guides and Congregate Care Centers — were not addressed in great detail or at all by Intervenors in the context of that contention. Intervenors state that there was no substantial evidence to support the view that the Exercise was too limited with respect to the Traffic Guides (EX-21E). Intervenors' Proposed Findings at 146 n.145; Suffolk Exh. 99 at 62-63; Tr. 7393-94 (Simon) (County's witness does not strenuously criticize looking at 32 of 165 Traffic Guides). On the question

of Congregate Care Centers, Intervenors offered no testimony in support of the allegations in Contentions EX-15L, EX-32, EX-22K, and EX-16N, which were not separately admitted, but considered as additional bases for Contention EX-21. We do not address either of these matters.

The alleged failure of FEMA to include a realistic number of road impediments (EX-21F) will be dealt with in connection with Contention EX-41. The only other Contention EX-21 factual area concerns the testing of LILCO's Route Alert Drivers (EX-21A), who are to provide notification to the public in the event of siren failures. The route alerting situation is discussed below.

B. Suffolk County's Testimony

Suffolk's witness on Contention EX-21 was Dr. Gary A. Simon, an Associate Professor of Statistics at New York University's Graduate School of Business Administration. Suffolk Exh. 99. Dr. Simon testified that the evaluation of the Exercise was done without reasonable thought as to sample sizes or random selection mechanisms. *Id.* at 5.

The FEMA evaluation was a decisionmaking investigation, designed to determine whether Exercise objectives were met, based on the performance of particular emergency functions. Dr. Simon believes that, in order for FEMA to determine the appropriate size of the samples it reviewed, it should have specified in advance its target value (what proportion of adequate player performances constitutes meeting the Exercise objective), its bad value (what proportion of inadequate performance would constitute unambiguously or definitely not meeting the Exercise objective), and the probability with which it wished to be able to make that distinction. A large sample selected without regard to these criteria will nonetheless succeed in revealing blatant aspects of the population. Small samples, on the other hand, will produce results with such large error bounds that they are virtually meaningless. *Id.* at 16-17; Tr. 7404-05. LILCO and FEMA agreed that the use of small samples produces results that are subject to wide statistical variation. Tr. 7300 (Daverio); Tr. 8480 (Kowieski).

Dr. Simon testified that, from what he had been able to review, FEMA essentially made no reasoned sample-size decisions based on what it was trying to determine or how accurately it was trying to determine it. A casual, haphazard selection process, as opposed to randomization, was used by FEMA in its evaluation.[22] He believes that FEMA's failure to use the principles of random sampling, at least in some modified form, greatly diminishes the validity of

[22] Tr. 7292 (Daverio). As witness Daverio pointed out, a nonstatistical synonym for "random" is "haphazard." In statistics, however, "random selection" refers to a process in which every item or individual in the population has the same probability of being selected; a selection process that depends on chance but in which procedures are not taken to ensure equal probability of selection is referred to as "haphazard." Our use of these terms will be consistent with the statistical definitions.

FEMA's conclusions. Suffolk Exh. 99 at 18; Tr. 7367-68. FEMA acknowledged that its method of selection was haphazard. Tr. 8582-83 (Baldwin, Keller, Kowieski).

Subcontention EX-21A alleges that only three Route Alert Drivers, one from each Staging Area, were dispatched by LERO during the Exercise in response to simulated siren failures, and that this small sample of Route Alert Drivers observed invalidates FEMA's conclusion with respect to objectives Field 5, SA 9, and EOC 15. Suffolk Exh. 99 at 27-28.

Dr. Simon testified that a sample size of three out of a total of sixty was not enough to reach a valid conclusion about the entire population of Route Alert Drivers. *Id.* at 28. Nor was a sample of one driver out of a total of twenty in each staging area sufficient to justify conclusions about the entire population of drivers in each staging area. Because of the small sample sizes, Dr. Simon believes that there was no basis for FEMA to conclude that exercise objective Field 5 was "partly met" at each Staging Area.[23]

Subcontention EX-21B alleges that FEMA observed only two bus drivers from each of the Riverhead and Port Jefferson Staging Areas, whereas 100 bus drivers are required to make 139 trips out of the Riverhead Staging Area, and 108 bus drivers are required to make 169 trips out of the Port Jefferson Staging Area. Suffolk alleges that FEMA's conclusions that objective Field 9 was met at the Riverhead and Port Jefferson Staging Areas are without basis and invalid. At the Patchogue Staging Area, FEMA observed four bus drivers, and on the basis of their inadequate performance concluded that objective Field 9 was not met. Based on its observations of these eight drivers making a total of eight runs, of which three were judged unsatisfactory, FEMA concluded that objective EOC 16 was met. Suffolk alleges that the small sample size invalidates this conclusion. Suffolk Exh. 99 at 36-37.

Dr. Simon testified that observing 8 out of a total of 333 bus drivers is inadequate to determine whether there are significant departures from the desired performance targets or to determine the actual probability of good performance from the population as a whole. Moreover, since at least three of the eight drivers in the sample performed inadequately, a positive conclusion concerning

[23] Suffolk Exh. 99 at 29. Dr. Simon presented some hypothetical statistics based on a sample size of three taken from a population of sixty, to show what the 95% confidence limits would be in zero to three successes in the three samples. For only one success out of three, the result would be: it is 95% certain that anywhere from one to fifty-one of sixty Route Alert Drivers would perform properly. For three out of three, the result would be: it is 95% certain that anywhere from twenty-three to sixty out of sixty Route Alert Drivers would perform properly. Dr. Simon characterized these confidence intervals as "terribly wide." *Id.* at 33-34. If a sample size of ten were used with a target value of 75% proper performance and a range of "bad" values from 0% to 35%, one could make distinctions with a confidence of 70%. Finer distinctions would require still larger sample sizes. *Id.* at 35.

the performance capabilities of the entire population would be particularly improper.[24]

C. Discussion and Conclusion

Dr. Simon's testimony was essentially unchallenged, and appears to accurately reflect, from a statistical standpoint, the nature of FEMA's observations on these points. LILCO took the position in its proposed findings (at 56-58) that it was not necessary to employ the statistical techniques advocated by Dr. Simon for purposes of evaluating emergency planning exercises. Staff views Dr. Simon's testimony as failing to allege or prove: first, that a fundamental flaw exists in the Plan, and, second, that FEMA's method of observation is unreliable. Staff also views the testimony as a challenge to the regulations.[25] Staff Proposed Findings at 32-39.

In their proposed findings (at 149-51), Intervenors note that the definition of "Full participation" contained in footnote 4 to ¶ IV.F.1 requires "mobilization of . . . personnel and other resources in sufficient numbers to verify the capability to respond to the accident scenario." They raise the question whether FEMA's sampling technique permits any valid conclusions with regard to response capability, given its statistical infirmities. However, they also note that LILCO and FEMA correctly point out that the regulations do not call for any statistically valid technique, and that FEMA's expertness and experience enable it to reach a judgment with regard to performance. They urge that neither position be accepted in full. They also urge us not to decide the issue. Based on this, in its reply findings (at 25-26), LILCO urges that this contention be dismissed.

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[24] Suffolk Exh. 99 at 40; Tr. 7377. Again Dr. Simon presented a table of hypothetical statistics to show what results could be expected from a sample of 8 out of a population of 333. *Id.* at 41. With five out of eight bus drivers performing adequately, as FEMA found during the Exercise, the confidence interval ranges from 29% to 89%; that is, it is 95% certain that between 29% and 89% of the LERO bus drivers could adequately perform their jobs in a Shoreham accident. In Dr. Simon's opinion, this result does not support the conclusion that there is reasonable assurance that the busing plan can and will be implemented effectively. In addition, Dr. Simon criticizes FEMA's haphazard selection of the bus drivers to be observed, as opposed to random selection. He believes a haphazard selection process could be a good substitute for a scientifically random process, but states that we have no way of knowing what kind of biases were introduced into the process. For example, he suggests the selections might have been based upon the ease of FEMA evaluators to observe particular bus routes, which may have resulted in selection of routes that were particularly easy, or particularly difficult, etc. But even if the selection had been properly randomized, the small sample sizes would still have precluded reasonable findings. *Id.* at 42-43; Tr. 7377-78, 7396-97.

[25] Staff, citing Tr. 7609, claims that Dr. Simon stated, in concluding his testimony, that the NRC regulations should require random statistical sampling. We find no statement by Dr. Simon on the cited transcript page. At Tr. 7408-09, however, Staff counsel Barth asked Dr. Simon, "Is it your view that the NRC should require statistical samples in these exercises?" Dr. Simon replied, "Well, you know, it is like asking a Minister if he believes in God, I suppose. It is a statistical Article of Faith that samples randomly selected have many features that make them desirable and appropriate. So, the answer is, "yes." With that counsel Barth concluded his questions. If Staff intended to cite this exchange to support the position that Dr. Simon's testimony was a challenge to the regulations, we strongly disagree — it looks more like the witness was being set up. Dr. Simon's response was an honest, if whimsical, answer to a devious question, the subtlety of which we believe he did not appreciate.

We are happy to accept Intervenors' invitation to refrain from deciding what appears to us to be a complicated issue. While Dr. Simon's conclusions regarding the statistical validity of FEMA's observations of route alert and bus drivers appear to be beyond question, the issue of whether statistically valid sampling techniques are required involves considerations far beyond those dealt with at this hearing. Consequently we reach no conclusion as to the requirements of footnote 4 to ¶ IV.F.1, and have included a discussion of Dr. Simon's testimony so as to bring this issue to the attention of the Commission.

III. CONCLUSION

We have concluded, for the reasons indicated in the foregoing, that the February 13, 1986 Exercise of the offsite emergency plan for the Shoreham Nuclear Power Station did not comply with the requirements of 10 C.F.R. Part 50, Appendix E, ¶ IV.F.1.

In accord with 10 C.F.R. § 2.760(a), this Partial Initial Decision will constitute the final action of the Nuclear Regulatory Commission thirty (30) days after its date unless an appeal is taken. In accordance with 10 C.F.R. § 2.762(a), any party may take an appeal by filing a notice of appeal within ten (10) days after service of this Partial Initial Decision.

THE ATOMIC SAFETY AND
LICENSING BOARD

Oscar H. Paris
ADMINISTRATIVE JUDGE

Frederick J. Shon
ADMINISTRATIVE JUDGE

John H Frye, III
ADMINISTRATIVE JUDGE

Bethesda, Maryland
December 7, 1987

Directors' Decisions Under 10 CFR 2.206

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

OFFICE OF NUCLEAR REACTOR REGULATION

Thomas E. Murley, Director

In the Matter of Docket No. 50-341

DETROIT EDISON COMPANY, *et al.*
(Enrico Fermi Atomic Power
Plant, Unit 2) December 8, 1987

The Director of the Office of Nuclear Reactor Regulation denies the petition filed by the Government Accountability Project pursuant to 10 C.F.R. § 2.206, requesting the U.S. Nuclear Regulatory Commission to take certain actions with regard to Detroit Edison Company's "employee concern" program at Fermi-2 Plant entitled SAFETEAM, due to the absence of a substantial health and safety issue that could cause the Staff to initiate show-cause proceedings.

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

1. Introduction

The Government Accountability Project (GAP or the Petitioner) submitted a Petition dated May 7, 1987, pursuant to 10 C.F.R. § 2.206, on behalf of the Safe Energy Coalition of Michigan and the Sisters, Servants of the Immaculate Heart of Mary Congregation, requesting that the U.S. Nuclear Regulatory Commission (the NRC) take certain actions with regard to Detroit Edison Company's (Licensee) "employee concern" program entitled SAFETEAM at Fermi-2 Plant and, as necessary, modify, suspend, or revoke the facility's operating license. The actions GAP has requested the NRC to take with regard to SAFETEAM include (1) taking possession of all the SAFETEAM files, reviewing the safety-related allegations, and making these concerns public; (2) requiring that all SAFETEAM allegations be processed by the Licensee in accordance with 10 C.F.R. Part 50, Appendix B; and (3) requiring the Licensee to inform all its employees about

the SAFETEAM program before the employees choose to submit information to the program rather than submitting information to the NRC.

As bases for these requests, GAP asserts that (a) allegations of wrongdoing were identified; that is, workers who turned over allegations to the SAFETEAM were harassed, fired, or otherwise discriminated against; (b) the Office of Investigations (OI) did not analyze the safety significance of the investigative shortcomings of the SAFETEAM program; (c) the SAFETEAM program was not being properly implemented and was ineffective; (d) SAFETEAM interviewers are inadequately trained; (e) deficiencies reported to the SAFETEAM are not recorded on nonconformance reports and are not evaluated by the site quality assurance/quality control staff; and (f) there is no quality check or accountability for the SAFETEAM program.

2. *Background*

The SAFETEAM program at the Fermi-2 plant was instituted in 1983 and implemented voluntarily by the Licensee to assist plant managers in the early identification and investigation of errors or omissions during all phases of plant construction and operation. The program, in principle, provides an opportunity for site workers to express, in confidence, concerns that may not be recognized or effectively responded to through normal channels of communication within the Licensee's organization. The program is designed to provide early identification and correction of problems pertaining to public safety, industrial safety, and other less significant problems. The Licensee considers the program to be a safety net surrounding the project. The SAFETEAM program is not required by current NRC regulations and is separate and independent from the Licensee's programs and controls required to comply with NRC regulatory requirements. These latter programs are inspected against existing NRC regulations and license requirements.

As a result of allegations received by the NRC in 1985 expressing concern with the SAFETEAM program, the Licensee agreed to complete a review of the SAFETEAM program prior to the Commission's consideration of the issuance of a full-power operating license for Fermi-2. At that time, the SAFETEAM files contained approximately 750 concerns. Based on discussions held with the NRC, the Licensee agreed to sample at least 50% of the safety-related concerns on file. The NRC regional inspection staff then reviewed all of the SAFETEAM files with the Licensee in order to appropriately classify concerns having potential safety significance. All of the safety-related concerns were then divided equally between the Licensee and the NRC inspectors for subsequent review. In addition, the NRC randomly reviewed about 20% of the safety-related concerns initially reviewed by the Licensee. Further, the OI independently investigated the SAFETEAM program, at the request of the Region III Regional

Administrator, to assess the adequacy and effectiveness of the SAFETEAM program and its implementation in the identification, disposition, and resolution of both the technical and wrongdoing issues.

As a result of these inspections and the OI investigation, certain programmatic weaknesses were identified; however, safety-related concerns were found to have been properly addressed by the Licensee. The results of the NRC inspection findings were documented in NRC Inspection Report Nos. 50-341/85029 and 50-341/85037, and were discussed during a subsequent Commission meeting (*see* Commission Meeting Transcript, July 10, 1985, at 27-34). SAFETEAM issues were deliberated and no impediments to full-power licensing were found by the NRC.

3. *Discussion*

The NRC has reviewed the Petitioner's request that a proceeding be initiated to modify, suspend, or revoke the Fermi-2 license pursuant to § 2.206 in light of the assertions made in the May 7, 1987 Petition concerning the Fermi-2 SAFETEAM program. The NRC findings and determinations relative to each asserted basis follow:

(a) *Workers Who Turned Over Allegations to the SAFETEAM Were Harassed, Pressured, Forced to Quit, Fired, or Otherwise Discriminated Against*

The Petitioner provides no specific information to support its claim. None of the NRC inspections or the OI evaluation of the SAFETEAM identified any concern regarding discriminatory action against workers because they had turned over allegations to the SAFETEAM. Notably, the Safe Energy Coalition of Michigan (SECOM) was requested by letter dated March 30, 1987, before the § 2.206 Petition was filed, to provide specific factual information related to any safety issue. SECOM has not responded to the NRC request.

(b) *OI Did Not Analyze the Safety Significance of the Investigative Shortcomings of the SAFETEAM Program*

The Petitioner is correct in that OI did not analyze the safety significance of the discrete inspection matters contained in the SAFETEAM program. This is not the function of OI. The purpose of the OI independent review of the SAFETEAM program was to evaluate the SAFETEAM process. OI investigated the SAFETEAM program for overall adequacy and effectiveness; the SAFETEAM program was specifically checked to determine how issues of po-

tential safety significance and/or wrongdoing were identified, investigated, and ultimately resolved. It is a matter of record that OI identified deficiencies in the program. In a letter to James G. Keppler from Ben B. Hayes, dated October 4, 1985, OI determined that:

> the Fermi Safeteam Program was not staffed or supervised by experienced investigative personnel. It was also discovered that interviews, in many cases, lacked sufficient information because of this apparent inexperience. OI bases this conclusion on the fact that the interviews which were reviewed in the investigative files could not provide information concerning basic questions such as who, what, when, where, how or why. The Fermi Safeteam Program, therefore, did not exhibit the characteristics normally attributed to an investigative activity.

Notwithstanding this finding and a similar conclusion reached by the regional inspection staff, the NRC concluded that the technical issues identified in SAFETEAM file cases were satisfactorily resolved and they did not impact public health and safety. This review is documented in NRC Inspection Report No. 50-341/85037 (¶ 4.b at 7 and ¶ 12.e at 14-15).

(c) The SAFETEAM Program Was Not Being Properly Implemented and Was Ineffective

The Petitioner reiterates findings contained in NRC Inspection Report No. 50-341/85037 and those resulting from GAP's own interview of site workers who have expressed dissatisfaction with the SAFETEAM process. However, as stated above, the Licensee was informed of the programmatic weaknesses of the SAFETEAM program and has since improved the effectiveness of its voluntary program. The programmatic weaknesses cited by the Petitioner (at 4-5 of the Petition) are taken from NRC Inspection Report No. 50-341/85037 (at 15). Although the Petitioner highlights the weaknesses, it fails to acknowledge the follow-on conclusion which states:

> Although some flaws were identified . . . an overall good effort went into the SAFETEAM project . . . . Overall the inspectors believe the packages were complete and well documented and the concerns were adequately addressed.

Because the SAFETEAM program is a voluntary program and the special inspections and OI evaluation identified no safety-related concerns that were not properly addressed, the NRC considers this issue resolved. No additional inspection of the SAFETEAM program has been conducted nor is one contemplated.

(d) SAFETEAM Interviewers Are Inadequately Trained

The Petitioners state (at 6 of the Petition):

> Another basic problem with the SAFETEAM system results from the inadequate training SAFETEAM interviewers receive in the areas of allegation investigation, and nuclear power plant regulation.

This shortcoming was identified by both the independent OI and the regional inspection staffs from their reviews of the SAFETEAM process. The OI evaluation report was especially critical of this shortcoming. Notwithstanding this shortcoming, the NRC found no impact on public health and safety. The Licensee has improved the overall effectiveness of the SAFETEAM program processes.

(e) Deficiencies Reported to the SAFETEAM Are Not Recorded on Nonconformance Reports and Are Not Evaluated by the Site Quality Assurance/Quality Control Staff

The Petitioner asserts (at 8 of the Petition) that because of deficiencies that exist in the documentation of SAFETEAM reviews, a large number of safety-related deficiencies are allowed to exist in the SAFETEAM files without requiring compliance with federal regulations. Existing federal regulations (i.e., 10 C.F.R. Part 50, Appendix B) address the handling and disposition of safety-related deficiencies. Furthermore, none of the special inspections or the OI evaluation identified deficiencies in the Licensee's treatment of safety-related issues with respect to the requirements of Part 50, Appendix B. The NRC inspectors have found (as documented in NRC Inspection Report No. 50-341/85037 at 15) that appropriate action is being taken to resolve safety-related matters brought to the attention of the SAFETEAM by site workers.

(f) There Is No Quality Check or Accountability for the SAFETEAM Program

The Petitioner states (at 8 of the Petition):

> The NRC has provided the SAFETEAM with a mechanism to avoid regulatory accountability for violations of federal requirements. The program does not even attempt to comply with 10 C.F.R. Part 50, Appendix B criteria.

While the NRC encourages programs like SAFETEAM, such programs are voluntary and are not required by NRC regulations. The requirements of Part

SC, Appendix B, have been and are currently adequately implemented by the Fermi-2 quality assurance program.[1]

4. Conclusion

In summary, the asserted concerns regarding the SAFETEAM program have been reviewed by the Licensee and the NRC, including a review by NRC OI. These reviews indicate that there is no support for the relief requested in the Petition and that there is an absence of a substantial health and safety issue that would cause the Staff to initiate show-cause proceedings. *See Northern Indiana Public Service Co.* (Bailly Generating Station, Nuclear-1), CLI-78-7, 7 NRC 429, 433-34 (1978), *aff'd sub nom. Porter County Chapter of the Izaak Walton League, Inc. v. NRC*, 606 F.2d 1363 (D.C. Cir. 1979)).

Accordingly, the Petitioner's request for action pursuant to § 2.206 is denied.

FOR THE NUCLEAR
REGULATORY COMMISSION

Thomas E. Murley, Director
Office of Nuclear Reactor
Regulation

Dated at Bethesda, Maryland,
this 8th day of December 1987.

[1] The Petitioner also argues that allegations received by SAFETEAM must be processed in accordance with NRC Manual Chapter 0517 (Petition at 14-17). This argument is misplaced. Manual Chapter 0517 makes clear that the policies and procedures set forth therein apply only to allegations "received for resolution by NRC offices." *See* Chapters 0517-01 and 0517-022. The policies and procedures of these Manual Chapters are internal NRC procedures which are not applicable to allegations received by a licensee through the SAFETEAM program.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

OFFICE OF NUCLEAR REACTOR REGULATION

Thomas E. Murley, Director

In the Matter of

Docket Nos. 50-498-OL
50-499-OL

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

December 13, 1987

The Director of the Office of Nuclear Reactor Regulation denies a petition filed by Lanny Sinkin on behalf of Citizens Concerned About Nuclear Power, Inc. (CCANP) requesting that the record in the South Texas Nuclear Project (STNP) licensing hearings be reopened and that fuel loading be suspended. CCANP based its request on testimony of intimidation and harassment by NRC personnel before a Senate Committee, which CCANP claims sheds doubt on the credibility of NRC witnesses at the STNP licensing hearing.

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

The Nuclear Regulatory Commission, having already considered and resolved in a licensing proceeding the issues that a petitioner raises, need not reconsider those issues if the petitioner provides no information relating the testimony before Congress with the specific facility and petitioner already had an opportunity to examine NRC witnesses to determine credibility at the prior hearing. Conjecture by petitioners is not enough.

THE STANDARDS FOR INITIATING PROCEEDING UNDER 10 C.F.R. § 2.206

The standards for initiating a proceeding under 10 C.F.R. § 2.206 based on alleged defects in the earlier licensing hearing record is the same as that for a motion to reopen under 10 C.F.R. § 2.734 (i.e., requiring a demonstration that a different result would be reached).

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

INTRODUCTION

On May 29, 1987, Lanny Sinkin, on behalf of Citizens Concerned About Nuclear Power, Inc. (CCANP or Petitioner), filed a motion before the Commission requesting that the record in the South Texas Nuclear Project (STNP) licensing hearings be reopened and that fuel loading, then scheduled for June 1987, be suspended pending resolution of the matters described in the motion. By Memorandum and Order dated July 24, 1987, the Commission denied the request for a stay of fuel loading and referred the remainder of the motion to the Staff for consideration under 10 C.F.R. § 2.206.[1]

In its motion, entitled "Intervenor Citizens Concerned About Nuclear Power, Inc. Motion to Reopen the Record," the Petitioner asserted that the Atomic Safety and Licensing Board (ASLB or Licensing Board) decisions with regard to STNP should be altered. The Petitioner asserted as grounds for this request that, based upon testimony given by NRC witnesses during hearings commencing on April 9, 1987, before the Senate Committee on Governmental Affairs, there is evidence of intimidation and harassment of NRC personnel in Region IV which sheds doubt on the credibility, accuracy, and objectivity of the testimony presented by NRC personnel in the operating license proceeding on which the Licensing Board relied in reaching its decisions.

By letter dated August 27, 1987, the Petitioner was informed that its petition would be treated under § 2.206 of the Commission's regulations and that a decision would be issued within a reasonable amount of time.

The evaluation of matters raised by the Petitioner have now been completed, and for the reasons stated in this Decision, the Petitioner's request is denied.

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[1] The Office of Nuclear Reactor Regulation authorized a low-power License for STNP Unit 1 on August 21, 1987.

DISCUSSION

A brief historical review is helpful at this point in order to respond to the Petitioner's concerns.

An Atomic Safety and Licensing Board conducted hearings involving the application for operating licenses for the South Texas Nuclear Project, Units 1 and 2, by Houston Lighting & Power Company (HL&P), the City Public Service Board of San Antonio, Central Power and Light Company, and the City of Austin, Texas (hereinafter referred to collectively as the Applicants). HL&P was the Lead Applicant and was designated the responsibility for constructing and operating the plant. This proceeding was divided into three phases. The first phase included various contentions that bear on the managerial character and competence of HL&P to operate nuclear facilities. The intervenors in that proceeding included the Petitioner here, CCANP.[2] 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 — the ASLB was not able to complete the record on the character and competence issues. The ASLB deferred to Phase II those issues that were not resolved in Phase I.[3]

In Phase II, the ASLB considered five additional issues related to character and competence, one issue related to the Applicants' quality assurance program for operation, and a contention dealing with the design and construction of the STNP to withstand hurricanes.[4] The ASLB found that, subject to certain caveats, HL&P possessed adequate managerial character and competence for the Applicants to be granted operating licenses for STNP Units 1 and 2.

In Phase III, two aspects were considered related to the contention dealing with the adequacy of the design and construction of STNP to withstand hurricanes and hurricane missiles[5] In its Partial Initial Decision for Phase III, the ASLB authorized the Staff to issue licenses permitting fuel loading and low-power operations upon completion of its technical review.[6]

On October 8, 1986, the Atomic Safety and Licensing Appeal Board, *sua sponte*, reviewed and affirmed the last two of the Licensing Board's decisions. ALAB-849, 24 NRC 523 (1986). The Commission did not review the

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[2] The only other intervenor besides CCANP was Citizens for Equitable Utilities, Inc. (CFU). CEU withdrew from the proceeding prior to the Phase I hearings.

[3] LBP-84-13, 19 NRC 659 (1984), *aff'd in part*, ALAB-799, 21 NRC 360 (1985), *review declined by the Commission*, Letter dated July 30, 1985.

[4] LBP-86-15, 23 NRC 595 (1986).

[5] LBP-86-29, 24 NRC 295 (1986).

[6] *Id.* at 318.

Appeal Board's decision, and it became a final agency decision in December 1986.

On April 9, 1987, Senator John Glenn, Chairman of the Senate Committee on Governmental Affairs, held hearings to examine, among other matters, the conduct of certain NRC actions, none of which is directly related to the South Texas Nuclear Project.

The thrust of the petition is that, based on the statements made by a number of individuals before this Committee of Congress, the validity of the testimony heard and certain other information considered by the ASLB in the *South Texas* hearing is brought into question. The Petitioner suggests that both the Staff's testimony and a response filed by the Staff (treated by the ASLB as a response to a motion for summary disposition) may be biased as a result of undue influence by NRC management at Region IV and/or Headquarters. For this reason, the Petitioner requests that further hearings be held to permit examination of all NRC witnesses testifying in the *South Texas* proceeding as well as of other witnesses who provided information to the NRC's Office of Inspector and Auditor (OIA Investigator, Mr. George Mulley.[7] For the following reasons, the relief requested is denied.

The only testimony referenced by the Petitioner that was given before the Senate Committee on Governmental Affairs which is arguably pertinent to the relief sought by the Petitioner is that given by Messrs. H. Shannon Phillips and George Mulley.[8] However, their testimony, as well as the OIA investigation that was the subject of their testimony, both pertain to circumstances arising in connection with the Comanche Peak Steam Electric Station, another facility located in the State of Texas but being constructed by wholly different applicants than the South Texas Nuclear Project.

Messrs. Mulley and Phillips have been consulted by NRC Staff, and it has been determined that their testimony before Congress on April 9, 1987, was not intended by either to raise concerns about the South Texas Nuclear Project review performed by the Staff. Mr. Phillips also confirms that neither the testimony that he gave in the *South Texas* proceeding as a member of the NRC Staff panel nor his inspection efforts at the South Texas facility were biased as

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[7] In March 1986, OIA initiated an investigation concerning allegations by an NRC inspector, Mr. H. Shannon Phillips. Mr. Phillips had alleged that he had been intimidated and harassed by his superiors in the NRC's Region IV for reporting safety problems. Mr. Mulley and Mr. Phillips subsequently testified before the Senate Committee on Governmental Affairs regarding this investigation at the April 9 hearing.

[8] The Petitioner also provides excerpts of statements by Senator Glenn, Julian Greenspun, who, as Deputy Chief of Litigation in the General Litigation section of the Criminal Division of the Department of Justice, had supervised the prosecution of criminal violations of NRC regulations, and Ben Hayes, the Director of the NRC's Office of Investigations (OI). These excerpts are general statements that do not raise issues concerning the credibility of the evidence relied upon by the Licensing Board in reaching its decision in the *South Texas* proceeding, nor has the Petitioner attempted to show how these statements relate to the *South Texas* proceeding. Absent such a showing, further action with regard to this testimony is not warranted. *See, e.g., Philadelphia Electric Co.* (Limerick Generating Station, Units 1 and 2), DD-85-11, 22 NRC 149, 154 (1985).

a result of influence by either Region IV or Headquarters management. Like assurances have been obtained from Mr. Shewmaker and Mr. D.W. Hayes, the other members of the Staff's witness panel that testified in the *South Texas* proceeding.

With respect to the Staff's testimony relating to the summary disposition ruling discussed by the Petitioner,[9] no substantive reason is presented to question the veracity of the statements made under oath by the Staff witnesses. The essence of Petitioner's assertions regarding this matter is that the Staff "grossly abused the use of 'open items' to avoid writing up violations," so as not to hinder the Applicants from obtaining operating licenses for STNP. However, no specific information regarding the South Texas Nuclear Project is given in the petition to support this assertion, which rests only on the inferences drawn by Petitioner from a reading of the statements made before Congress. As discussed above, Mr. Phillips, who was a principal inspector at the South Texas Nuclear Project, has confirmed that both his testimony and his inspection efforts were unaffected by pressure from either Region IV or Headquarters management. Thus, there is no reason to question the categorization of deficiencies found as either open items or violations.

In addition, the Petitioner's request does not seek to raise any new substantive issue but, at most, requests an opportunity to challenge the credibility of the testimony and a summary disposition granted by the ASLB. This opportunity was already afforded in the context of the hearing held in the past. The Petitioner, as a party to the proceeding, had full opportunity to cross-examine every Staff witness concerning the preparation of his testimony to determine whether there was any bias that might affect the weight to which it was properly entitled. And while the specific statements and views more recently made known through the OIA report and subsequent congressional testimony were not available to the Petitioner at the time of the hearing, there is no reason given by the Petitioner to believe that information regarding NRC management influence could not have been elicited at that time if it could be shown to be at all relevant to the *South Texas* proceeding, as opposed to Comanche Peak. Indeed, a review of the cross-examination of the Staff panel, which notably included one of the individuals who recently testified before Congress (Mr. Phillips), reveals that the panel's credibility was in fact questioned. *See* Tr. 9872. Consequently, the credibility of the Staff and the weight to be given its evidence was considered by the Licensing Board in its decisions. With respect to the summary disposition ruling cited by the Petitioner, the ASLB had found that the Petitioner had failed to provide any

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[9] The ruling in question occurred when the ASLB granted summary disposition during the Phase II proceeding for the remaining management competence issues. CCANP had contended that summary disposition was inappropriate since all open items in I&E inspection reports constituted unresolved factual questions bearing on the adequacy of Applicants' competence. LBP-86-15, 23 NRC at 629-36.

reasons why any particular open items should have been classified as a violation and had not even attempted to relate particular open items to the NRC criteria for violations. 23 NRC at 635-37. The record thus demonstrates that the Petitioner failed to thoroughly pursue the open-item issue at the time of the hearing in the *South Texas* proceeding.

The principle is firmly established that parties must be prevented from using § 2.206 procedures as a vehicle for reconsideration of issues previously decided. *See 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) (citing cases). In this regard, the Commission's denial of a petition to review a Director's Decision under § 2.206 in *Northern Indiana Public Service Co.* (Bailly Generating Station, Nuclear-1), CLI-78-7, 7 NRC 429, 434 (1978), provides significant precedent. There, the Commission stated:

> The Director properly has discretion to differentiate between those petitions which, upon examination, indicate that substantial issues have been raised warranting institution of a proceeding, and those which seek to reopen issues previously resolved, or those which serve merely to demonstrate that in hindsight, even the most thorough and reasonable of forecasts will prove to fall short of absolute prescience.

Here, nothing presented in the petition rises to more than mere speculation that, in connection with the *South Texas* proceeding, there may be some question as to the weight properly given to the Staff's testimony and the granting of summary disposition; however, no "substantial issues" have been raised.

And, while not minimizing the significant role of the Staff in the NRC's adjudicatory proceedings, even if it were shown with greater conviction that some doubt may be present with respect to the weight accorded the Staff's evidence, the institution of a further proceeding for the purposes described in the petition is not compelled. The unquestionable burden of proof with respect to matters in controversy in any NRC licensing proceeding (indeed, in regard to the entirety of the application for operating licenses) falls on the applicant. 10 C.F.R. § 2.732. Thus, under the circumstances described in the petition, to warrant the initiation of yet a further evidentiary proceeding as requested, the Petitioner would have to demonstrate that a different result would have been reached by the Licensing Board in spite of the evidence of record adduced by the Applicants. Stated otherwise, a petitioner would have to show that, but for the evidence given by the Staff on those matters in controversy, the evidence presented by the applicant was insufficient to sustain its burden and thus the application should not be granted.

The standard for reopening hearings under § 2.206 would thus be the same as that for a motion to reopen under 10 C.F.R. § 2.734 (i.e., requiring a demonstration that a different result would be reached). In this instance, the petition simply speculates as to the applicability of the statements made before

Congress concerning Comanche Peak to the *South Texas* proceeding and fails to establish how, even if applicable, these statements might have altered the outcome of the proceeding. Such conjecture falls far short of the requisite factual specificity that might provide a sufficient basis for action. *See Public Service Co. of Indiana* (Marble Hill Nuclear Generating Station, Units 1 and 2), CLI-80-10, 11 NRC 438, 443 (1980).

CONCLUSION

In sum, the Petitioner has failed to provide any new evidence that would warrant the relief that it has requested. Consequently, the Petitioner's request is denied.

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

FOR THE NUCLEAR
REGULATORY COMMISSION

Thomas E. Murley, Director
Office of Nuclear Reactor
Regulation

Dated at Bethesda, Maryland,
this 13th day of December 1987.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

OFFICE OF NUCLEAR REACTOR REGULATION

Thomas E. Murley, Director

In the Matter of

POTENTIAL IMPLICATIONS OF CHERNOBYL ACCIDENT FOR ALL NRC-LICENSED FACILITIES

December 15, 1987

The Director of the Office of Nuclear Reactor Regulation acts on a request by the Government Accountability Project (GAP) and others (together, Petitioners) that the NRC (1) suspend further licensing of nuclear facilities in the United States pending completion of a study and report on the accident at the Chernobyl plant, (2) review the findings of the final report for their applicability to facilities licensed by the NRC, and (3) request public comments on whether the record should be reopened to consider new issues raised in the final report that are material to any pending licensing proceeding or current license. To the extent that the Petitioners request that the Staff undertake a study and review, those requests have, in effect, already been granted. Petitioners' other requests are found to be without merit and are denied.

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

Introduction

By letter to the Director of the Office of Nuclear Reactor Regulation, dated May 1, 1987 (Petition), Thomas Carpenter, on behalf of Government Accountability Project (GAP) and others (together, Petitioners), requested that the Commission order immediate implementation of the relief that the Petitioners had requested in a petition filed on May 6, 1986, as a result of the April 25, 1986 accident at the Chernobyl power station in the Ukraine, USSR. The action

requested in the May 6, 1986 petition was that the NRC (1) suspend further licensing of nuclear facilities in the United States pending completion of a study and report on the accident at the Chernobyl plant, (2) review the findings of the final report for their applicability to facilities licensed by the NRC, and (3) request public comments on whether the record should be reopened to consider new issues raised in the final report that are material to any pending licensing proceeding or current license.[1] The present Petition essentially requests the same relief. This Petition, which is supported by an enclosure entitled, "Memorandum of Points and Authorities in Support of Chernobyl Petition," asserts that there is a similarity between the Chernobyl reactor and boiling water plants in the United States. Furthermore, the Petition maintains that the Chernobyl accident provides important experience that warrants a review of existing industry standards under NRC regulations.

By letter dated June 8, 1987, the Petitioners were informed that immediate implementation of their requests was not warranted, but that their Petition would be treated under 10 C.F.R. § 2.206 of the Commission's regulations and that action would be taken on their requests within a reasonable time.

I have now completed my evaluation of the matters raised by the Petitioners. As discussed below, the Staff has completed a study and prepared a final report of the Chernobyl accident and reviewed the findings of the final report for their applicability to currently licensed facilities or facilities under construction. Thus, to the extent that the Petition requests that the Staff undertake such a study and review, those requests have, in effect, already been granted. For the reasons discussed below, the additional relief requested by the Petitioners is denied.

Discussion

I.

The Petitioners request that the NRC (1) initiate all currently available legal options to learn as expeditiously as possible all material facts concerning the Soviet accident; (2) prepare and make publicly available ongoing analyses of the relevance of this information to NRC-licensed facilities; (3) prepare a final, published report of these findings; (4) review the findings of the final report to determine the safety consequences with respect to licensed facilities operating or under construction in the United States; and (5) suspend the granting of operating licenses for facilities under construction in the United States until the final report is completed.

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[1] The May 6, 1986 petition was denied by letter dated May 27, 1986. The denial was based upon the Petitioners' failure to provide specific information that would compel a halt to licensing of facilities in the United States.

Immediately upon learning of the event at the Chernobyl plant in the Soviet Union, the NRC formed a task force to evaluate thoroughly the accident and to learn as much as possible about its causes, course, and consequences. The results of this effort, including a detailed account of the accident progression at Chernobyl, were published in January 1987 in NUREG-1250, "Report on the Accident at the Chernobyl Nuclear Power Station," which was prepared collaboratively by the NRC, other U.S. government agencies, and other groups.

The NRC also has issued for public comment a draft report entitled, "Implications of the Accident at Chernobyl for Safety Regulation of Commercial Nuclear Power Plants in the United States" (NUREG-1251, August 1987). NUREG-1251 assesses the implications of the Chernobyl accident with respect to a number of reactor safety regulatory issues associated with significant factors that led to or exacerbated the consequences of the Chernobyl accident. These issues include the areas of administrative controls and operational practice, design, containment, emergency planning, severe-accident phenomena, and graphite-moderated reactors.

The causes of the accident at Chernobyl are documented and discussed in detail in NUREG-1250. As set forth therein, although the Chernobyl accident was initiated by serious operator violations of safety procedures, the ensuing reactor damage stemmed from basic design features of the RBMK 1000 reactor. The design of reactors in the United States specifically precludes the type of damage that occurred at Chernobyl. The RBMK reactor design does not use large steel reactor pressure vessels with water as a moderator, such as are employed in the designs of reactors in the United States. Rather, the RBMK uses a graphite-moderated pressure tube concept, which, in some conditions or modes of operation, has an undesirable characteristic known as a positive void coefficient.

A positive void coefficient means that rapid power increases, leading to vaporization of cooling water in the pressure tubes, will produce further power increases. This condition is extremely difficult to control. At Chernobyl, this condition developed so quickly that the operators and automatic safety systems had no opportunity to respond, and an explosion resulted. In addition, before the event, some safety systems had been deactivated and a number of operating procedures were violated. Moreover, the slow-acting safety control rod system of the RBMK design further contributed to the event, which was exacerbated still further by the ensuing graphite fire.

In the United States, as commercial nuclear power was being developed, the importance of control stability and negative void and negative power coefficients was explicitly recognized. As documented in NUREG-1251, the nuclear cores of commercial reactors in the United States are designed specifically to prevent the power instability that caused the Chernobyl accident. Unlike the Chernobyl reactor, the cores in reactors in the United States are equipped with fast-acting

safety control rod systems. Thus, because of the physics inherent in their design, reactors in the United States respond to an increase in voiding by reducing power.

Notwithstanding important design differences between the Chernobyl reactor and commercial reactors in the United States, the findings from NUREG-1250 and NUREG-1251 have added to our understanding of some of the phenomena that may be involved in a severe nuclear accident, and they have provided some additional insights that are useful in guiding our severe-accident programs. The overall conclusion of the Staff regarding the implications of the Chernobyl accident for the safety regulation of commercial nuclear power plants in the United States is stated in NUREG-1251 as follows:

> No immediate changes are needed in the NRC's regulations regarding the design or operation of U.S. commercial nuclear reactors. Nuclear design, shutdown margin, containment, and operational controls at U.S. reactors protect them against a combination of lapses such as those experienced at Chernobyl. Although the NRC has always acknowledged the possibility of major accidents, its regulatory requirements provide adequate protection against the risks, subject to continuing vigilance for any new information that may suggest particular weaknesses, and also subject to taking measures to secure compliance with the requirements. Assessments in the light of Chernobyl have indicated that the causes of the accident have been largely anticipated and accommodated for commercial U.S. reactor designs.

Thus, the Staff's actions have essentially satisfied the requests in the Petition that the NRC (1) study and prepare a report of the accident and (2) review the findings of the report for applicability to currently licensed facilities. With respect to the Petitioners' request that the NRC suspend the granting of operating licenses for facilities under construction until completion of the final report, this request is denied. As discussed above, the steam explosion in the reactor core, which ruptured the reactor core and the surrounding building, was caused by a nuclear physics design vulnerability specific to the RBMK reactor. On that basis and because of other factors discussed above, I find that the contention of the Petitioners concerning the suspension of the granting of operating licenses to facilities under construction is without merit.

II.

The Petitioners further request that the NRC request public comments on whether the "record" should be opened to consider "new issues" raised in the final report on Chernobyl that are material to any pending licensing proceeding. In general, the Petitioners argue that, following the accident at Three Mile Island, the Commission established a precedent that mandates a review of existing industry standards whenever an event within the industry provides "important industry experience." The Petitioners assert that the Chernobyl accident meets

the requirement of "important industry experience" necessary for a review of Commission and industry standards. Hence, the Petitioners claim that the Commission must take the same initiative in response to the Chernobyl incident that it did in reviewing its regulations following the accident at Three Mile Island, and that a failure to do so, absent a full explanation, would constitute "arbitrary and capricious behavior" prohibited by the Administrative Procedure Act.

As discussed in the preceding paragraphs, the NRC did respond immediately to the accident at Chernobyl by forming a task force and coordinating a major fact-finding effort. The NRC's commitment to identify the lessons learned from the Chernobyl accident and determine their relevance to facilities in the United States and existing industry standards is evidenced by the publication of draft NUREG-1251, "Implications of the Accident at Chernobyl for Safety Regulation of Commercial Nuclear Power Plants in the United States." After all comments received during the public comment period are duly considered, a final report will be issued.

The basic design differences between the RBMK reactor at Chernobyl and reactors in the United States had a direct bearing on the NRC's response to the accident at Chernobyl. The accident at Chernobyl was a highly energetic reactivity excursion that mechanically disrupted the core. Fragmented fuel that came into contact with water rapidly vaporized the water. This generated combustible hydrogen by the chemical reaction of core materials and water at the high temperatures reached in the accident. Because of the basic design differences between the RBMK reactor at Chernobyl and reactors in the United States, the specific accident mechanisms involved at Chernobyl have no exact parallel in reactors in the United States. Within days of the accident at Chernobyl, it was recognized that the inherent vulnerabilities in the RBMK design were not present in commercial reactor design in the United States. Therefore, it was determined that immediate regulatory action was not warranted. However, as a precaution, it was deemed that the most prudent course of action was to undertake an intensive effort to understand the accident phenomenology and to assess U.S. power plant design and operational practices in light of the factors that led to and exacerbated the accident at Chernobyl. NUREG-1251 provides this assessment.

The Petitioners specifically identify three basic areas that they allege constitute "industry weaknesses," for which they claim consideration and revision of existing standards are warranted. Broadly stated, these areas involve (1) containment structures, (2) operator training, and (3) emergency planning. The Petitioners also state that consideration and revision of standards need not be limited to these areas.

With regard to containment, the Petitioners argue that the containment used at Chernobyl was the type commonly employed at many boiling water reactors in the United States, and that the Chernobyl accident, in light of this

similarity, creates new "industry experience" that must be considered by the Commission. In this connection, the Petitioners call for (1) a complete review of all containment structures at both completed plants and those under construction, in order to provide a uniform, complete standard of adequacy for all plants; and (2) a public forum on the containment standard proposed by the NRC.

Because the accident phenomenology at Chernobyl was unique to the RBMK design, it is impossible to directly compare how reactor containments in the United States would survive an accident similar to that at Chernobyl. However, the role of the containment building as a vital barrier to the release of fission products to the environment has been recognized for some time in power plant design and regulation in the United States. The NRC began to give attention to severe accidents even before the accident at Three Mile Island and has increased its emphasis in this area since that accident. The Chernobyl accident focused new attention on containments and their performance under severe-accident conditions. Thus, design differences notwithstanding, the implications of the Chernobyl accident were evaluated with respect to containment design and performance.

Specifically, the Staff evaluated the implications of the accident at Chernobyl with respect to activities already in place in the areas of containment integrity and the ability to prevent the release of large quantities of fission products during severe accidents. In its assessment of the impact of the Chernobyl experience on current programs addressing containment adequacy (NUREG-1251, Chap. 3), the Staff concludes that ongoing research programs and regulatory initiatives are adequate to identify and implement the design and operational improvements needed to provide greater assurance of containment survival in severe accidents. These programs under way include the systematic search for plant-specific vulnerabilities in containment structures and performance to be achieved through the implementation of the Commission's Severe Accident Policy. Section 3.1.1 of NUREG-1251 provides a brief summary of the basis and purpose of the Commission's Severe Accident Policy:

> Severe-accident evaluations and research had progressed to the point that the Commission issued a Severe Accident Policy Statement in August 1985 (50 *FR* 32138) concluding that existing plants posed no undue risk to the public. However, the Commission pointed out that at each plant there will be systems, components, or procedures that are the most significant contributors to risk. Utilities should identify these contributors and develop appropriate courses of action, if and as needed to ensure acceptable margins of safety. Furthermore, the Commission stated that such examinations "will include specific attention to containment performance in striking a balance between accident prevention and consequence mitigation."

Implementation of the Severe Accident Policy Statement through the Individual Plant Examinations (IPEs), utilizing emerging research, is expected to indicate whether risk outliers exist at specific plants that justify improvements in contain-

ment system performance. This implementation is the principal NRC program for identifying plant-specific severe-accident risk outliers and for implementing new requirements. Other ongoing programs and initiatives that address the adequacy of containment designs are described in more detail in § 3.1.2 of NUREG-1251. Inasmuch as the implementation of the Commission's Severe Accident Policy will require the review of containments for all plants, the Petitioners' request for review of containment structures has been granted.

With regard to operator training, the Petitioners argue that the existing NRC regulations governing the establishment of training programs as set forth in 10 C.F.R. Part 50, Appendices E and F, do not provide for monitoring operator training or the individuals who will provide such training. Asserting that Chernobyl provides important "industry experience" in this area, the Petitioners claim that current regulations must be revised to provide for such monitoring.

Contrary to the Petitioners' assertion, 10 C.F.R. Part 50, Appendix E, § F requires initial training, periodic retraining, and exercises to test the adequacy of training for control room shift personnel to ensure their familiarity with emergency response plans and duties. The adequacy of this training is evaluated by NRC through inspections and exercise evaluations. With regard to training received by operators in the use of and adherence to operating procedures, Chapter 1 of NUREG-1251 describes and assesses the adequacy of administrative controls and operational practices for reactors in the United States. Section 1.1.1 provides details of NRC requirements and guidance for procedure development and use, required procedure coverage, standards, and NRC inspection and enforcement in these areas:

> The NRC has a large body of guidance and requirements that includes general and specific measures for development and use of administrative procedures and controls. These controls govern all operating activities at nuclear power plants, and are designed to avoid the types of violations that occurred at Chernobyl. Procedures are violated in licensed plants, but only rarely with the knowledge that a violation is being committed. In its program to ensure safety and quality, the NRC has developed and published quality assurance requirements for activities affecting nuclear safety. Criterion V of 10 C.F.R. 50 Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants," . . . prescribes the general requirement for having procedures and for following them. A second level of administrative controls for procedures is contained in each plant's Technical Specifications (TS), which are a part of the license. . . . Both Technical Specifications and Criterion V have the force of law.
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> Technical Specifications require procedures to be reviewed by the Unit Review Group when initially written and before being changed, except for temporary changes made on the spot that do not alter the intent. The Unit Review Group is made up of key plant supervisory personnel who are knowledgeable about plant safety. The objective of this review is to ensure that experts from the various technical disciplines review the procedures for operations or changes that could affect safety. This review backs up the technical procedure writer and his/her supervisor's decisions on safety. There is a further screening of procedures and changes to procedures to determine whether or not they may involve an unreviewed safety

question or technical specification, in which case prior NRC approval is required by 10 CFR 50.59. The NRC requires that all of these activities, including compliance with procedures, be periodically audited, and audit results be provided to appropriate management; corrective action is required when deficiencies are found.

Additionally, reactor operators must be licensed by the NRC. Because plant operation requires extensive use of procedures, operators are trained in both the technical details of procedures and in their implementation. NRC examines operators in these areas in accordance with 10 C.F.R Part 55.

In view of the fact that the Commission's existing regulations provide for operator training, an assessment of the adequacy of the training, and an examination of operators themselves, I find the Petitioners' contention that, in light of Chernobyl, regulations must be revised to provide for monitoring of operator training, to be without merit.

Finally, with regard to emergency planning, the Petitioners argue that reevaluation of NRC standards for individual emergency plans is necessary to incorporate lessons learned from Chernobyl. The Petitioners claim that at Chernobyl, even with well-established emergency and evacuation procedures, coordination with local officials hindered the effectiveness of emergency efforts. The Petitioners allege that Chernobyl provides important "industry experience" in this area and provides the greatest amount of data available against which existing emergency and evacuation plans can be compared. Thus, the Petitioners argue that the Commission must provide a comprehensive plan for review of emergency procedures currently in place at existing facilities. The Petitioners also request that the Commission provide a detailed plan for coordination among owners, the NRC, and the state officials during emergency situations and for the sharing of critical data on plant operation during the emergency. The Petitioners also request that the Commission provide a public forum on a detailed plan to be submitted by the NRC on evacuation, on a state-by-state basis, that will provide an overall strategy for evacuation based on individual plant design parameters.

The Petitioners did not support their claim that coordination with local officials hindered the effectiveness of emergency efforts at Chernobyl. Further, the Petitioners did not establish a relationship between Soviet emergency planning and U.S. emergency planning, nor do they establish a relationship between Soviet emergency response at Chernobyl and a possible U.S. response during a domestic accident. In addition, it should be noted that the NRC has reviewed the Soviet emergency response to the Chernobyl accident for implications for U.S. emergency planning and did not identify issues that would support the Petitioners' recommendations in this regard. Section 7.2 of NUREG-1250 states that, initially, Soviet emergency response was hindered by a lack of adequate equipment and facilities and an underestimation of the severity of the accident by plant personnel and local officials. However, these did not prevent a massive

and apparently effective response by the Soviets. NUREG-1250 also indicates that the delays in evacuation were dictated by local radiological conditions and logistics:

> The available information indicates that Soviet protective actions during the Chernobyl emergency consisted of sheltering, administration of KI, evacuation, decontamination, and measures to prevent radiation exposure in the ingestion pathway.
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> The decision to shelter the residents of Pripyat rather than to evacuate them on the day of the accident was based on the permissible levels of radiation measured in Pripyat, while at the same time high levels were measured along potential evacuation routes.
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> * * *
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> Evacuation of Pripyat did not commence until about 36 hours after the accident at Chernobyl because of this delayed increase in radiation levels at Pripyat and the need for coordinating the needed logistical resources, and preparing evacuation routes. Ad hoc evacuation plans had to be prepared since not all "existing arrangements" could be applied (INSAG, 1986, p. 78).[2] Arrangements for transportation, setting up relocation centers, providing radiation monitoring and decontamination services for people, providing replacement clothing and other necessities, identifying and augmenting medical facilities, are some of the things that had to be done in order to carry out an effective evacuation. These actions were planned and put into place during the roughly 36 hours from the time of the accident to the start of the evacuation (Sanders, 1986, pp. 3-4).[3] Time was also needed to take precautions along the evacuation routes that had been contaminated above permissible levels. This was done by using a polymer substance to cover land areas along the roads used for the evacuation (Sanders, 1986, p. 4).[4]

In comparing the U.S. and Soviet programs, NUREG-1251 cautions that there is a substantial difference in the emergency planning base between the United States and the Soviet Union. Specifically, NUREG-1251 states that after the accident at Three Mile Island, large resources were expended to improve emergency planning and response capabilities around plants in the United States. The report also states that, in contrast, there is little indication that the Soviets have comparable *site-specific* emergency plans for the general public around their nuclear power plants. The report further cautions that economic and societal differences play a part. For example, in the United States, most people have access to private transportation, and necessary alternative transportation is preplanned around nuclear power plants.

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[2] International Nuclear Safety Advisory Group (INSAG), "Summary Report on the Post-Accident Review Meeting on the Chernobyl Accident," August 30-September 5, 1986, GLC (SPL.1)/5, IAEA, Vienna, September 24, 1986.
[3] Sanders, Marshall, Federal Emergency Management Agency, testimony prepared for the U.S. Senate Subcommittee on Nuclear Regulation of the Committee on Environmental and Public Works (hearing cancelled), September 29, 1986, Washington, D.C.
[4] *Id.* at 4.

NUREG-1250 notes that the dimensions of the Soviet response and the utility of the Soviet planning were dictated by the magnitude of the accident at Chernobyl:

> Similarly, the Russian delegation also stated . . . that when the response team from Moscow and other locations arrived at Chernobyl, it found the response plans had only limited value and that the team had to resort to "ad hoc" planning (Sanders, 1986).[5] The massive scale of the accident probably was a major factor in forcing ad hoc planning, as it was noted to have overwhelmed local resources. This was because the release of several million curies initially with similar though smaller releases daily was not included in Soviet preplanning (INSAG, 1986, p. 79;[6] Warman, 1986a, p. 3).[7] For example, a major difficulty was that, because of the "actual situation . . . not all existing arrangements could be applied" (INSAG, 1986, p. 78).[8]

As NUREG-1251 points out, specifics of the Chernobyl release are unique to the RBMK design. The amounts of radioactive material released from plants in the United States would, for most accident sequences, be considerably less because, among other things, plants in the United States have substantial containments. In addition, although low-probability, fast-moving accident sequences are possible, severe accidents at plants in the United States would, in general, progress more slowly, resulting in longer warning times before radioactive material would be released.

NUREG-1251 notes that the NRC did not find any apparent deficiency in emergency plans and preparedness in the United States, including the 10-mile plume exposure pathway EPZ (emergency planning zone) size and the 50-mile ingestion exposure pathway EPZ size. NUREG-1251 concludes that these zones provide an adequate basis to plan and carry out the full range of protective actions for the populations within these zones, as well as beyond them, if the need should arise. However, NUREG-1251 does note that the planning bases for relocation and decontamination and for protective measures for the food ingestion pathway are being reexamined in the light of new research information.

Regarding the Petitioners' recommendations, the Petitioners fail to establish a nexus between the alleged weaknesses in the Soviet emergency response to the accident at Chernobyl and U.S. emergency planning and preparedness for nuclear power plants. The Petitioners fail to show that their recommendations for review of U.S. planning are warranted by the Soviet experience at Chernobyl. Further, the United States' own review of the Soviet response at Chernobyl, and its

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[5] *See* note 3, *supra*.

[6] *See* note 2, *supra*.

[7] Warman, Edward A., Senior Consulting Engineer, Stone and Webster Engineering Corporation, Notes of Private Discussions with Soviet Delegates at Vienna Meeting, September 5, 1986.

[8] *See* note 2, *supra*.

review of implications for U.S. emergency planning and preparedness, still in draft form, do not support the Petitioners' recommendations.

Conclusion

As discussed above, the NRC has already extensively studied the accident that occurred at the Chernobyl facility and the implications of the accident on facilities in the United States. The NRC has completed and published for comment a factual report (NUREG-1250) on the events of Chernobyl and a draft report (NUREG-1251) on the issue of the implications of the Chernobyl accident. Therefore, to the extent that the Petition requests that the NRC initiate all currently available legal options to learn the material facts concerning the Chernobyl accident, prepare analyses of the relevance of this information for NRC-licensed facilities, and prepare a final published report of findings on this issue and review these findings to determine the safety consequences with respect to facilities operating or under construction, those requests are, in effect, granted. For the reasons stated above, the additional relief requested by the Petitioners is not warranted and 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.

FOR THE NUCLEAR
REGULATORY COMMISSION

Thomas E. Murley, Director
Office of Nuclear Reactor
Regulation

Dated at Bethesda, Maryland,
this 15th day of December 1987.

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