NUREG-0750
Vol. 20, No. 1
Pages 1-247

NUCLEAR REGULATORY COMMISSION ISSUANCES

July 1984

U.S. NUCLEAR REGULATORY COMMISSION

8412100269 841130
PDR NUREG
0750 R PDR

Available from

NRC/GPO Sales Program

Superintendent of Documents
Government Printing Office
Washington, D.C. 20402

A year's subscription consists of 12 softbound issues,
4 indexes, and 2 hardbound editions for this publication.

Single copies of this publication
are available from National Technical
Information Service, Springfield, VA 22161

Microfiche of single copies are
available from NRC/GPO Sales Program
Washington, D.C. 20555

Errors in this publication may be reported to Vicki E. Yanez, Division of
Technical Information and Document Control, Office of Administration,
U.S. Nuclear Regulatory Commission, Washington, D.C. 20555
(301/492-8925)

NUREG-0750
Vol. 20, No. 1
Pages 1-247

NUCLEAR REGULATORY COMMISSION ISSUANCES

July 1984

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

Prepared by the Division of Technical Information and Document Control,
Office of Administration, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555
(301/492-8925)

COMMISSIONERS

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

Alan S. Rosenthal, Chairman, Atomic Safety and Licensing Appeal Panel
B. Paul Cotter, Chairman, Atomic Safety and Licensing Board Panel

CONTENTS

Issuances of the Nuclear Regulatory Commission

METROPOLITAN EDISON COMPANY, *et al.*
(Three Mile Island Nuclear Station, Unit 1)
Docket 50-289-SP
DECISION, CLI-84-11, July 26, 1984 1

Issuances of the Atomic Safety and Licensing Appeal Boards

LONG ISLAND LIGHTING COMPANY
(Shoreham Nuclear Power Station, Unit 1)
Docket 50-322-OL-4 (Low Power)
MEMORANDUM AND ORDER, ALAB-777, July 20, 1984.... 21

PHILADELPHIA ELECTRIC COMPANY
(Limerick Generating Station, Units 1 and 2)
Dockets 50-352, 50-353
MEMORANDUM AND ORDER, ALAB-778, July 23, 1984.... 42

Issuances of the Atomic Safety and Licensing Boards

CLEVELAND ELECTRIC ILLUMINATING COMPANY, *et al.*
(Perry Nuclear Power Plant, Units 1 and 2)
Dockets 50-440-OL, 40-441-OL
MEMORANDUM AND ORDER, LBP-84-28, July 26, 1984... 129

KANSAS GAS & ELECTRIC COMPANY, *et al.*
(Wolf Creek Generating Station, Unit 1)
Docket 50-482-OL (ASLBP No. 81-453-03-OL)
INITIAL DECISION, LBP-84-26, July 2, 1984..... 53

KANSAS GAS & ELECTRIC COMPANY, *et al.*
(Wolf Creek Generating Station, Unit 1)
Docket 50-482-OL (ASLBP No. 81-453-03-OL)
MEMORANDUM AND ORDER, LBP-84-27, July 26, 1984... 125

THE REGENTS OF THE UNIVERSITY OF CALIFORNIA
(UCLA Research Reactor)
Docket 50-142-OL (Proposed Renewal of Facility License)
MEMORANDUM, LBP-84-29, July 17, 1984 133

Issuances of Directors' Decisions

BOSTON EDISON COMPANY
(Pilgrim Nuclear Power Station)
Docket 50-293
FINAL DIRECTOR'S DECISION UNDER 10 C.F.R. § 2.206,
DD-84-15, July 3, 1984 157

CONSUMERS POWER COMPANY
(Midland Plant, Units 1 and 2)
Dockets 50-329, 50-330
DIRECTOR'S DECISION UNDER 10 C.F.R. § 2.206
DD-84-17, July 24, 1984 226

DUKE POWER COMPANY, *et al.*
(Catawba Nuclear Station, Units 1 and 2)
Dockets 50-413, 50-414
DIRECTOR'S DECISION UNDER 10 C.F.R. § 2.206,
DD-84-16, July 6, 1984 161

METROPOLITAN EDISON COMPANY, *et al.*
(Three Mile Island Nuclear Station, Unit 1)
Docket 50-289
DIRECTOR'S DECISION UNDER 10 C.F.R. § 2.206,
DD-84-18, July 27, 1984 243

Commission Issuances

Cite as 20 NRC 1 (1984) **CLI-84-11**

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

COMMISSIONERS:

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

In the Matter of **Docket No. 50-289-SP**

METROPOLITAN EDISON COMPANY,
et al.
(Three Mile Island Nuclear Station, Unit 1)

July 26, 1984

The Commission reviews five issues decided by the Appeal Board in ALAB-729, 17 NRC 814 (1983) on plant design and procedures in this restart proceeding. The Commission decides four of the issues on the basis of the record in the proceeding, finding with respect to each that the existing evidence provides reasonable assurance of safe operation. The Commission refers a fifth issue (pertaining to environmental qualification of electrical equipment) to the staff for specified action, subject to possible further decision by the Commission.

RULEMAKING: EFFECT ON ADJUDICATION

The Commission's generic rulemaking on environmental qualification of equipment does not preclude challenges to the continued operation of plants where it is alleged those plants cannot be safely operated because of specific environmental qualification deficiencies.

ADJUDICATORY BOARDS: DELEGATED AUTHORITY (ASSESS HEALTH AND SAFETY RISKS)

The boards must closely examine any accident sequence which in their judgment poses an unacceptable risk to the public health and safety. Probabilistic or numerical calculations or any other mitigative actions deemed necessary by the boards may be included in such an examination. *Florida Power & Light Co.* (St. Lucie Nuclear Power Plant, Unit 2), CLI-81-12, 13 NRC 838, 843-44 (1981).

ADJUDICATORY BOARDS: DELEGATED AUTHORITY (ASSESS HEALTH AND SAFETY RISKS)

When reasonable questions are raised regarding the reliability of a plant system, a board has discretion to examine that system, even if it is safety-grade, to determine whether it poses an unacceptable risk to public health and safety. In making such an examination, a board may use the best available data, even if not plant-specific.

DECISION

On January 27, 1984, the Commission took review of five issues in the Appeal Board's decision, ALAB-729, 17 NRC 814 (1983), on plant design and procedures in the Three Mile Island, Unit 1 (TMI-1) restart proceeding. The NRC staff, the licensee, and the Union of Concerned Scientists (UCS) submitted initial and reply briefs. As explained more fully below, the staff and licensee argued generally that the Appeal Board's decision was correct, while UCS argued that the Appeal Board erred on all five issues.

The Commission has determined that four of the five issues can be resolved on their merits on the basis of the record already developed in this proceeding. The Commission finds on each of those issues that the evidence in the record provides reasonable assurance of safe operation, although on some issues the Commission's reasoning differs from that of the Appeal Board. On the fifth issue, involving environmental qualification of electrical equipment, the Commission has directed staff to certify the status of environmental qualification for equipment within the scope of the proceeding. If staff certifies that the equipment is qualified, this issue is moot. If staff certifies that the equipment is not qualified, then licensee is to submit a justification for continued

operation. After reviewing that justification, the Commission will decide what further action to take.

We will now address each of the issues in depth.

I. WHETHER THE ISSUE CONCERNING ENVIRONMENTAL QUALIFICATION OF ELECTRICAL EQUIPMENT HAS BEEN REMOVED FROM THE PROCEEDING BY THE COMMISSION'S GENERIC RULEMAKING

A. Background

UCS Contention 12 stated that all safety-related equipment should be environmentally qualified before restart. UCS subsequently withdrew its sponsorship of this contention, and it was adopted as a Board Question. *See* LBP-81-59, 14 NRC 1211, 1397 (1981). The Licensing Board limited this contention to "equipment important to safety in the containment building and auxiliary building," and also agreed with staff that analysis and testimony could be limited to accidents with a nexus to the TMI-2 accident. 14 NRC at 1401.

The Licensing Board found that all equipment would not be qualified prior to restart, but, since it did not know what equipment would be unqualified, it had no basis for judging the risk of operation prior to completion of qualification. Lacking substantive testimony, the Licensing Board found from *Petition for Emergency and Remedial Action*, CLI-80-21, 11 NRC 707 (1980), that operating plants could continue operating with environmental qualification deficiencies.[1] Noting the Commission's decision in CLI-81-3, 13 NRC 291 (1981), that TMI-1 was to be treated like an operating plant, the Licensing Board held that TMI-1 could operate safely until the equipment was qualified. The Licensing Board found from CLI-80-21 that June 30, 1982 was a reasonable time for compliance, and cited licensee testimony that reasona-

[1] In CLI-80-21, *supra*, the Commission, in response to a UCS petition for emergency action, announced its intention to institute a rulemaking proceeding to determine whether, or to what extent, a uniform standard for environmental qualification of equipment at all plants should be adopted. The Commission also approved the staff plan for evaluating the qualification of electrical safety equipment in accord with the criteria established in "Guidelines for Evaluating Environmental Qualification of Class IE Electrical Equipment in Operating Reactors" (the DOR Guidelines) and NUREG-0588. Although the Commission declined to shut down all plants during the rulemaking, it directed staff to complete its review by February 1, 1981 and ordered that all safety-related electrical equipment in all operating plants be qualified to the DOR Guidelines or NUREG-0588 by June 30, 1982.

The Commission in its interim rule on environmental qualification deleted the June 30, 1982 deadline. 47 Fed. Reg. 28,363 (1982).

In its final rule the Commission changed the date by which all equipment must be qualified to the end of the second refueling outage after March 31, 1982, or by March 31, 1985, whichever is earlier. *Ibid.*

ble progress had been made toward meeting that date. The Licensing Board also directed staff to certify to the Commission for its immediate effectiveness review "a report on Licensee's compliance with CLI-80-21 as it relates to safety equipment functioning in a radiological environment in a TMI-2 accident." 14 NRC at 1404.[2]

The Appeal Board agreed with the Licensing Board that the issue of environmental qualification of safety-related equipment was being resolved outside the restart proceeding pursuant to CLI-80-21 and related generic proceedings. Accordingly, the Appeal Board did not review the merits of UCS' individual arguments regarding equipment qualification.[3]

On June 30, 1983 the United States Court of Appeals for the District of Columbia Circuit vacated the Commission's June 30, 1982 interim rule on environmental qualification for failure to provide an opportunity to comment on "the sufficiency of current documentation purporting to justify continued operation pending completion of environmental qualification of safety-related equipment." *Union of Concerned Scientists v. NRC*, 711 F.2d 370, 383 (D.C. Cir. 1983). The court also stated that the final rule appears to be partially predicated on the Commission's conclusion that the safety of continued operation had been demonstrated by this documentation. *Id.* at 377. The court did not criticize the substance of the Commission's determination, noting that "the NRC maintains constant vigilance over the safety of nuclear power plants and monitors compliance with safety requirements at each nuclear reactor on a day-to-day basis." *Id.* at 383. The court also left it to the Commission to determine whether to proceed by generic rulemaking or separate adjudications.

On March 1, 1984, the Commission in response to the D.C. Circuit's opinion issued a Policy Statement on Environmental Qualification. 49 Fed. Reg. 8422 (1984). The Commission in that Policy Statement explained that evidence of environmental qualification deficiencies which would prevent a plant from going to and maintaining a safe shutdown condition in the event of a design basis accident will be the basis for enforcement action. That Statement also provided that enforcement action would generally not be taken where a licensee has asserted that operation will not involve undue risk, unless the staff has determined that continued operation cannot be justified. The Commission noted that the June

---

[2] Staff submitted its report as an attachment to "NRC Staff Comments on Immediate Effectiveness with Respect to Licensing Board Decision on Hardware/Design/Issues, Unit Separation and Emergency Planning" (January 28, 1982). Staff certified that at that time 65% of the equipment at TMI-1 was qualified under CLI-80-21.

[3] The Commission in this Order will cover the UCS' exceptions which are still at issue under this decision.

30, 1982 deadline was established to force licensee completion of the environmental qualification program in a reasonable time, but that blanket enforcement of the deadline was neither necessary nor desirable since licensees were making reasonable efforts to achieve environmental qualification. Finally, the Commission stated that any person who believed there was information "indicating that specific qualification deficiencies or other reasons related to environmental qualification require enforcement action at a particular plant," could provide such information under 10 C.F.R. § 2.206. The Commission also simultaneously instituted a notice-and-comment rulemaking proceeding formally to delete the June 30, 1982 compliance deadline from all licenses. 49 Fed. Reg. at 8445.

B. The Parties' Positions

UCS argues that the Commission's generic rulemaking did not and could not have been meant to resolve factual issues properly raised in a plant-specific proceeding. UCS maintains that it had a contention in the proceeding that TMI-1 should not be permitted to operate until General Design Criterion (GDC) 4 was met,[4] that no party attempted to show that TMI-1 meets GDC 4 and that no factual evidence was submitted by any party to justify a conclusion that TMI-1 is sufficiently safe to operate despite noncompliance with GDC 4. Therefore, UCS concludes, it has prevailed on this issue.

UCS also argues that the proper scope of the contention is the capability of safety components in the containment and auxiliary buildings to survive an accident at least as severe as the TMI-2 accident, with 30% to 50% fuel failure, and that it would be illegal for staff to certify the status of environmental qualification of equipment.

Licensee maintains that the Licensing Board correctly limited the scope of the UCS contention after UCS withdrew its sponsorship of that contention, and that the issue was litigated and resolved as limited. Licensee asserts in this connection that the issue in the restart proceeding was only whether the implications of the TMI-2 accident necessitated imposing some environmental qualification requirement beyond those generically established by the Commission.

---

[4] The General Design Criteria are contained in 10 C.F.R. Part 50, Appendix A. GDC 4 – *Environmental and missile design bases* – provides in pertinent part that "[s]tructures, systems and components important to safety shall be designed to accommodate the effects of and to be compatible with the environmental conditions associated with normal operation, maintenance, testing, and postulated accidents, including loss-of-coolant accidents."

The NRC staff concludes that the environmental qualification issue has been removed from the restart proceeding because the Commission has held that TMI-1 should be grouped with other operating reactors and there is a generic rule on environmental qualification of electrical equipment which applies to all operating reactors. Staff also argues that since UCS withdrew its sponsorship of the environmental qualification issue, the Licensing Board's determination that its concerns were being addressed generically is entitled to great weight.

C. Analysis

The Commission's generic rulemaking on environmental qualification does not preclude challenges to the continued operation of plants where it is alleged that those plants cannot be safely operated because of specific environmental qualification deficiencies. While the general intent was for such challenges to be brought under 10 C.F.R. § 2.206, there is no reason why such challenges cannot be brought in other appropriate proceedings. In the present case, UCS Contention 12 presented a general challenge that the equipment should be environmentally qualified under GDC 4 prior to restart. UCS conducted extensive cross-examination on this contention, and submitted proposed findings of fact. The Commission finds UCS' endeavors sufficient to raise a challenge to the continued safe operation of TMI-1.[5]

The Commission further finds that the Licensing Board properly limited the scope of the contention. The concern in this proceeding is with TMI-2-type accidents, i.e., small-break, loss-of-coolant accidents (LOCAs) and loss-of-main-feedwater transients. As explained by the Licensing Board, this limitation "is based on the facts that TMI-1 was reviewed and approved at the operating license stage and that, but for the accident, we would not be involved in this particular proceeding." LBP-81-59, *supra*, 14 NRC at 1730. *See generally* CLI-84-3, 19 NRC 555 (1984). Accordingly, the only concern regarding environmental qualification of electrical equipment should be with that equipment necessary to mitigate those types of accidents. Similarly, the Commission agrees with the Licensing Board's limitation on this issue to equipment in the containment and auxiliary buildings, the only areas in which a TMI-2-type accident would cause substantial environmental stresses. Finally, the Commission agrees with limiting the contention to submergence and radiation effects, rather than including temperature, pressure,

[5] The Commission does not find the UCS' withdrawal of its sponsorship of this contention dispositive in this particular case. UCS fully participated in the development of the record on this issue.

humidity, aging and chemical conditions, because the principal stresses caused by the TMI-2 accident were flooding and radiation.

It appears that the issue of submergence has been mooted. Licensee's response to the flooding during the accident was to relocate safety-related equipment to above the maximum calculated flood level from design basis accidents. The Licensing Board required the staff to review the reasonableness of licensee's relocation of equipment above the newly calculated flood level. The Commission finds this to be an acceptable solution, and staff has certified that the relocation has been completed.

With regard to radiation exposure, the Commission has concluded for purposes of this proceeding that equipment necessary to mitigate TMI-2-type accidents must be qualified at least to the radiation levels experienced during the TMI-2 accident even though those levels have not been generally associated in the past with so-called "design basis" small-break LOCAs. These levels are less than levels in the DOR Guidelines associated with so-called design basis large-break LOCAs. Accordingly the Commission believes that electrical equipment at TMI-1 needed to respond to a TMI-2-type small-break LOCA or loss-of-main-feedwater accident must be environmentally qualified to the radiation levels associated with DOR Guidelines for large-break LOCAs.

The record of this proceeding does not include information on the status of environmental qualification of electrical equipment at TMI-1, as defined above. The Commission therefore directs the staff within 14 days of the date of this order to certify the status of environmental qualification of equipment as discussed above for radiation levels associated with large-break LOCAs in accordance with the DOR Guidelines. If any equipment within this ambit will not be properly qualified for radiation prior to restart, licensee is to provide a specific justification for interim operation. The staff is to review that justification and present its recommendation to the Commission. If any such justifications are required and challenged by a party, the Commission will determine at that time what further action is required.

II. WHETHER THE APPEAL BOARD ERRED IN ITS TREATMENT OF THE LICENSING BOARD'S QUANTITATIVE ANALYSIS OF THE RELIABILITY OF THE EMERGENCY FEEDWATER SYSTEM, AND, IF SO, WHETHER THERE IS SUFFICIENT EVIDENCE IN THE RECORD TO SUPPORT A FINDING THAT THE EFW SYSTEM IS ADEQUATELY RELIABLE UNDER EITHER A QUANTITATIVE OR OTHER RATIONALE

A. Background

The underlying question here is whether the design of the emergency feedwater (EFW) system and the procedural changes since the TMI-2 accident provide sufficient assurance of EFW reliability to provide reasonable assurance of adequate protection of the public health and safety. The Licensing Board and Appeal Board differed in their treatment of this issue.

The Licensing Board, citing *Florida Power and Light Co.* (St. Lucie Nuclear Power Plant, Unit 2), ALAB-603, 12 NRC 30 (1980), *aff'd*, CLI-81-12, 13 NRC 838 (1981), examined the reliability of the EFW system from a probabilistic standpoint to determine whether the loss of all feedwater should be accommodated in the plant design basis. The Licensing Board explained that its concerns were based on the generic challenge rate to the EFW system (0.3 per Babcock and Wilcox (B&W) plant per year) and the past record with the "safety-grade" EFW systems at other plants (eight failures in pressurized water reactors with safety-grade systems in 200 reactor-years). The Licensing Board, citing staff's analysis that the probability of loss of all feedwater is about 1.5×10^{-4} per year,[6] concluded from its probabilistic analysis that the EFW system was not sufficiently reliable by itself, even though it was safety grade for accidents within the scope of this proceeding. However, the Licensing Board concluded that the decay heat removal capability at TMI-1 was sufficiently reliable because the feed-and-bleed method of decay heat removal could be used as a backup to the EFW system.

The Appeal Board, on the other hand, rejected the Licensing Board's probabilistic analysis and found that the EFW system by itself was suffi-

[6] This estimate was derived by multiplying the estimate for the reliability of the EFW system following completion of long-term modifications (4.5×10^{-4} per demand, rounded off to 5×10^{-4}) by the demand frequency of 0.3 per year from loss of main feedwater. The Licensing Board also found that this estimate was conservative by a factor of 2 to 4 because staff's analysis allowed only the 5 minutes available to steam generator dryout and did not allow the additional 15 minutes until the core would be damaged. This additional time would increase the probability of successful operator action to restore feedwater flow.

ciently reliable. Specifically, the Appeal Board lacked confidence that the data base (EFW challenge rate at B&W plants) used by the Licensing Board is applicable to TMI-1 because the design of the feedwater systems is the responsibility of the architect/engineers, not B&W, and accordingly may vary from plant to plant. The Appeal Board also questioned the use of 5 minutes for steam generator dryout as the controlling figure because EFW flow can be delayed for 20 minutes without core damage resulting. The Appeal Board also found that reliance could not be placed on feed-and-bleed as a backup to the EFW system on the record of this proceeding because of analytical uncertainties regarding that process.

B. Parties' Positions

UCS argues that the probabilistic analysis utilized by the Licensing Board shows that the EFW system is not sufficiently reliable. UCS argues in this regard that the Licensing Board correctly used the best available data, and that the Appeal Board erred in rejecting that analysis. UCS also argues, regardless of any probabilistic analysis, that the EFW system at TMI-1 fails to meet the requirements for a safety system under the General Design Criteria for 10 C.F.R. Part 50, Appendix A.

Licensee argues that there is sufficient evidence in the record to support a finding that the EFW system is adequately reliable. Licensee takes issue with the Licensing Board's probabilistic analysis and argues that compliance with all of the NRC's design requirements is adequate for a finding that the TMI-1 EFW system is reliable.

The NRC staff maintains that the EFW system is sufficiently reliable for scenarios within the scope of this proceeding to protect the public health and safety. Staff also agrees with the Appeal Board's critique of the Licensing Board's probabilistic analysis.

C. Analysis

The Commission indicated in *St. Lucie* that the Boards should examine

> closely any accident sequence which in their judgment poses an unacceptable risk to the public health and safety. Probabilistic or numerical calculations may be used in such an examination and boards have a responsibility to mandate whatever mitigative actions they deem necessary to protect adequately the public health and safety when such actions are supported by the record.

13 NRC at 843-44. Under that decision, when reasonable questions are raised regarding the reliability of a plant system, a board has the discre-

tion to examine that system, even if it is safety-grade, to determine whether it poses an unacceptable risk. A Board in making that examination may use the best available data, even if not plant-specific, to assist it in judging the acceptability of the system. However, any inadequacies in the data should be considered in making a final determination on the adequacy of the system, i.e., the less reliable the data are, the less the reliance which should be placed on it.

In this case, the Licensing Board placed too much weight on the generic EFW data in making its final determination on system reliability. As noted by the Appeal Board, the data base (EFW challenge rate at B&W plants) may not be applicable to TMI-1 because the design of the feedwater systems is not uniform in all B&W plants. The analysis used by the Licensing Board is then questionable. In addition to these uncertainties, the Licensing Board used 5 minutes to steam generator dryout as the time operators have to take corrective action. As the Appeal Board noted, the time operators have to take corrective action (i.e., the time before core damage) is more likely to be as long as 20 minutes. This provides a significant amount of additional time for operators to take corrective action.[7] Given the uncertainties of applying the generic data to TMI-1 and given the uncertainties in the analysis of recovery actions, the Commission has not attempted to quantitatively estimate the reliability of the EFW system. However, the Commission has not found in the record a specific reliability problem in the EFW system at TMI-1 that would justify further requirements. Further, the actual historic performance of the EFW system has been above average — there have been no failures of the TMI-1 EFW system upon demand.

The Commission also rejects the UCS argument that the EFW system at TMI-1 fails to meet the requirements for a safety system under the General Design Criteria for 10 C.F.R. Part 50, Appendix A. The Commission affirms the Boards' decisions that the system is safety-grade for accidents within the scope of the proceeding. Accordingly, the Commission agrees with the Appeal Board that the EFW system is sufficiently reliable to provide adequate assurance of protecting the public health and safety.[8]

---

[7] While the Commission does not believe that the Licensing Board's analysis can usefully be applied to TMI-1, the Commission notes that even the Licensing Board concluded that using 20 minutes rather than 5 minutes would reduce the unreliability number by a factor of 2-4.

[8] The environmental qualification of the EFW system is discussed elsewhere in this order. *See* pp. 6-7, *supra*.

III. WHETHER THE APPEAL BOARD ERRED IN HOLDING THAT THE ARGUMENTS CONCERNING USE OF THE PORV DURING LOW-TEMPERATURE OPERATION AND INADEQUATE CORE COOLING CONDITIONS WERE OUTSIDE THE SCOPE OF THE PROCEEDING, AND, IF SO, WHETHER THESE ALLEGED USES OF THE PORV REQUIRE THAT IT BE SAFETY-GRADE

A. Background

UCS argued to the Licensing Board that the PORV had six primary safety-related functions such that it should be safety-grade (i.e., designated as a "safety-related" system subject to the full range of safety requirements in 10 C.F.R. Part 50). The Licensing Board found on the merits that these six functions individually or collectively did not require the PORV to be safety-grade. The Appeal Board treated four of those functions on their merits and found that the PORV did not have to be safety-grade for those functions.[9] The other two alleged functions, which are at issue here, were:

(1) The PORV is used to prevent overpressurization of the reactor coolant system at low temperatures when the integrity of the reactor vessel becomes a limiting consideration; and

(2) The PORV is essential to depressurize the reactor coolant system in order to utilize the low-pressure injection system during conditions of inadequate core cooling.

With regard to the first issue, the Licensing Board found that the PORV is merely a backup to operator action and hence need not be safety-grade to mitigate transients during low-temperature conditions. With regard to the second issue, the Licensing Board found that procedures have been developed for coping with inadequate core cooling conditions without relying on the PORV, i.e., the operative steam generator could be used to depressurize, and the PORV is not required for safety reasons.

The Appeal Board seemed to agree with the Licensing Board's discussion on the merits of both issues. The Appeal Board further stated, however, that neither of these uses of the PORV is within the scope of the proceeding.

---

[9] Those four were:

1. The PORV is part of the reactor coolant pressure boundaries;
2. The PORV is used to limit the number of times the safety valves are called upon to open;
3. The PORV is used to reduce the challenge rate to the emergency core cooling system (ECCS);
4. The PORV is used to "bleed" cooling water during the feed-and-bleed cooling mode.

B. Parties' Positions

UCS asserts that both these uses of the PORV are clearly within the scope of its Contention 5.[10] UCS states that the TMI-2 accident raised the question of whether systems previously considered unrelated to safety do in fact perform safety functions, and hence should be safety-grade, and that its argument that the PORV performed safety functions and thus should be safety-grade therefore clearly has a nexus to the accident. UCS then argues that both of these uses of the PORV require that it be safety-grade.

Licensee argues that use of the PORV during low-temperature operation is outside the scope of the proceeding, but use of the PORV during inadequate core cooling conditions is within the proceeding. Licensee asserts that the Appeal Board's error is harmless, that there is ample evidence in the record to show that the PORV need not be made safety-grade for its potential use in either of these conditions.

Staff also argues that use of the PORV during inadequate core cooling conditions is within the proceeding, while use during low-temperature operation is outside the proceeding. Staff agrees with the Appeal Board that the steam generators are used to depressurize during inadequate core cooling conditions. However, staff does not agree that the reason given by the Boards for holding that the PORV usage in low-temperature operation does not require that it be safety-grade — that the PORV serves only as a backup to operator action — are supported by the record of this proceeding.

C. Analysis

1. Use of PORV for Primary Depressurization Under Inadequate Core Cooling Conditions

The Commission finds that the need for depressurization following an inadequate core-cooling event is clearly within the scope of the proceeding. The TMI-2 accident was an inadequate core-cooling event, and thus this issue clearly has a nexus to the accident. However, the Commission finds the Appeal Board's error to be harmless because the record on this issue is adequate to resolve it on the merits.

---

[10] UCS Contention 5 stated that

> [p]roper operation of power operated relief valves, associated block valves and the instruments and controls for these valves is essential to mitigate the consequences of accidents. In addition, their failure can cause or aggravate a LOCA. Therefore, these valves must be classified as components important to safety and required to meet all safety-grade design criteria.

The evidence in the record demonstrates that the operable steam generator(s) at TMI-1 is used to depressurize the plant following an inadequate core-cooling event. Moreover, depressurization can be facilitated by using either the letdown system or the pressurizer or loop vents installed in implementation of the TMI action plan. While use of the PORV may be helpful, it is not necessary.[11] The Commission notes in this regard that many systems in all plants are useful in mitigating accidents, but they need be safety-grade only if their use is required to mitigate an accident.[12] Operators are trained to use these systems, even though their use is not required, in order to be able to utilize all available systems. Hence the Commission finds that the PORV need not be safety-grade because of its potential use to depressurize under inadequate core cooling conditions.

2. Use of PORV During Low-Temperature Operations

A low-temperature overpressure event has no nexus to the TMI-2 accident because it is not a reasonable consequence of a loss-of-feedwater transient or a small-break LOCA. That the PORV stuck open during the TMI-2 accident does not mean that all potential uses of the PORV have a nexus to the accident. *See* CLI-84-3, *supra*. Nor does the fact that mitigating an accident will necessarily lead to low-temperature operation mean that low-temperature operation has a nexus to the accident No safety concerns regarding low-temperature operation were raised by the accident, and hence hypothetical low-temperature operation concerns have no nexus to the accident. The Commission therefore finds that this issue is outside the scope of this proceeding.

However, since no party objected to this issue and it was fully litigated, the Commission in its discretion has decided to provide the following discussion of the merits of this issue. The Commission agrees with the Licensing Board's analysis that the low-temperature overpressure protection function is purely a backup to operator action in terminating a low-temperature pressure transient and that the operator has in excess of 10 minutes to manually secure high-pressure injection (HPI) during a pressure transient. The Commission notes in this regard

---

[11] For instance, UCS argues that the PORV is used to keep primary system pressure within 50 psi of steam generator pressure even if the primary system is being depressurized by the steam generators. It is true that the PORV is used for this function and that this facilitates the process. However, depressurization can be successfully achieved without using the PORV to maintain this pressure differential as required by procedure.

[12] This issue of what types of equipment needed to be safety-grade was addressed by the Appeal Board in the decision below, and the Commission did not take review of that issue.

that the original licensing basis for low-temperature overpressure protection at TMI-1 did not take credit for the PORV.

With regard to the UCS argument that the operator does not have time to act when the primary system is in a solid condition, the Commission notes that operator procedures are designed to prevent a solid condition from occurring. Hence the PORV serves only as a useful device if the operators fail to act properly or act improperly, i.e., the PORV serves as a backup to proper operator action.

While not necessary for a decision on the merits, the Commission notes that in the review of USI-A-26, "Low Temperature Overpressure Events," the Commission concluded that for operating plants mitigation devices for low-temperature overpressure events, including PORVs, did not have to be safety-grade. This judgment was based on the purpose of low-temperature overpressure systems, which is only to prevent the reactor vessel from exceeding 10 C.F.R. Part 50, Appendix G stress levels.[13]

D. Conclusion

In summary, the Commission finds that the record does not provide a basis for requiring the PORV at TMI-1 to be categorized as "safety-grade." The Commission is aware, however, of on-going generic analyses by the staff outside this proceeding that may conclude, for reasons other than those litigated here, that the PORV should be safety-grade (*see, e.g.*, Board Notification 83-110). The Commission expects the staff to consider all uses of PORVs in reaching a final recommendation to the Commission on the safety classification of the PORV.

IV. WHETHER ALLOWING STAFF TO ADDRESS THE NEED FOR A SYSTEMS INTERACTION STUDY FOR TMI-1 IN THE LONG TERM IN ITS GENERIC PROGRAM IS ADEQUATE, OR WHETHER SUCH A STUDY SHOULD BE SPECIFICALLY REQUIRED FOR TMI-1

A. Background

The Licensing Board specified that "TMI-1 shall be included by the Staff in generic reviews of systems interactions . . . ." 14 NRC at

[13] Appendix G levels are set substantially below vessel failure levels, and exceeding those levels means only that the vessel will have to be examined for damage before further operation. Hence this issue does not directly involve possible failure of the vessel because of overpressurization at low temperature.

1351.[14] The Licensing Board did not require systems interaction studies prior to restart. In its "Memorandum and Order Modifying and Approving NRC Staff's Plan of Implementation," the Licensing Board noted that staff was still formulating and testing methodologies and guidance and had not yet imposed a requirement to conduct such studies. The Licensing Board stated that staff plans to include TMI-1 in the generic studies "if the presently underway initial studies of the five other plants indicate that the studies are useful and worthwhile . . . . conforms to the intent of the Board's order." LBP-82-27, 15 NRC 747, 751 (1982).

The Appeal Board agreed with the Licensing Board that a systems interaction study should be conducted at TMI-1 as a long-term objective and that such a study was not necessary prior to restart. The Appeal Board in this connection noted the numerous improvements already made in this area at TMI-1. The Appeal Board also found that the study could be done on a generic basis and that reasonable progress toward commencement of a study of systems interactions had been made. Finally, however, the Appeal Board noted its concern regarding the progress of staff's continuing activities in this area and recommended that this effort be given a high priority.

The Commission took review of this issue to resolve the possible ambiguity in the Boards' decisions regarding whether a formal systems interaction study must be performed at TMI-1 in the long term, or whether that has been left to staff's discretion.

B. Parties' Positions

UCS argues that the TMI-2 accident showed that systems presently classified as not important to safety can cause accidents and can be used to mitigate accidents in ways not considered in the plant's safety analysis.[15] UCS claims that the mere acknowledgment of the existence of an unaddressed safety problem is not sufficient, and that staff has no program under way to take the first step toward upgrading nonsafety systems for TMI-1.

---

[14] A systems interaction study is a "comprehensive analysis to demonstrate that nonsafety-grade systems will not initiate or aggravate an accident." ALAB-729, *supra*, 17 NRC at 881.

[15] The requirements that equipment must be designed to meet are dependent on whether the equipment is classified as safety-grade, important to safety or not important to safety. The Commission did not take review of the Appeal Board's analysis of these terms in ALAB-729, and recently cited that analysis in the *Shoreham* proceeding, *Long Island Lighting Co.* (Shoreham Nuclear Power Station, Unit 1), CLI-84-8, 19 NRC 1154 (1984). UCS intermixes the terms and apparently is arguing that a systems interaction study should consider all equipment not currently safety-grade, whether or not it is currently classified as not important to safety. The Commission's discussion of systems interaction studies applies regardless of the definition used.

Licensee asserts that this is a generic unresolved safety issue which, absent some special showing, should be resolved for TMI-1 on the same schedule as for all operating reactors.

The NRC staff states that a systems interaction study is not necessary to provide reasonable assurance that TMI-1 can be operated safely and, therefore, the need for such a study may properly be addressed by the staff's generic program. The staff endorses the Appeal Board's decision that existing systems can provide reasonable assurance of adequate safety while further study goes on.

C. Analysis

At the outset, the Commission notes its agreement with both Boards that a systems interaction study need not be done prior to restart because sufficient improvements in systems interactions have been made at TMI-1 to support a finding of reasonable assurance of safety. The Commission finds that the Appeal Board adequately addressed that question.

The Commission also agrees that as a theoretical matter systems interaction studies could be useful, both at TMI-1 and at other plants. However, the issue before the Commission is whether to require such a study at TMI-1 or whether to leave that question to the staff's generic program.

While significant progress has been made toward developing methodologies for formal studies, no final methodology has yet been developed, and several possible methodologies currently are being tested at Indian Point 3. That test is expected to enable the Commission to determine the generic, long-term usefulness of such studies.

Given the status of development of this methodology and the finding that such a study is not required for safe operation at TMI-1, the Commission has decided not to require that a formal long-term systems interaction study be done at TMI-1. Hence the Commission finds that the Board's decision to leave this matter to staff's generic program is reasonable.

V. WHETHER THE LICENSING BOARD ERRED IN DELEGATING TO STAFF RESPONSIBILITY FOR APPROVING LICENSEE'S SOLUTION TO THE MAIN STEAM LINE RUPTURE DETECTION SYSTEM (MSLRDS) PROBLEM

A. Background

The Licensing Board in its December 1981 decision (LBP-81-59) required that prior to restart (1) the licensee propose for staff approval a

long-term solution to MSLRDS problem for implementation after restart,[16] and (2) the staff certify to the Commission that the licensee has made reasonable progress in initiating this program for a long-term solution. 14 NRC at 1373-74.

The Licensing Board in its Memorandum and Order Modifying and Approving NRC Staff's Plan of Implementation discussed staff's plan to implement this condition. The Licensing Board indicated that it was satisfied with the timing contemplated by staff, i.e., that staff would require licensee (1) to upgrade its main steam line rupture detection system to safety-grade prior to startup following Cycle 6 refueling,[17] and (2) to propose a means to prevent feedwater isolation due to failure in rupture detection systems. The Licensing Board also reiterated the requirement that licensee demonstrate reasonable progress prior to restart, noting that if staff was satisfied that licensee's proposal itself constituted reasonable progress, it could so certify. LBP-82-27, *supra*, 15 NRC at 749-50.

The Appeal Board held that development of a solution to the steam generator bypass logic problem *might* go beyond implementation of the Licensing Board's decision and involve the resolution of disputed matters. The Appeal Board therefore directed licensee to submit its proposal to the Commission so that the Commission could evaluate licensee's proposal and determine whether the parties must be afforded an opportunity to comment on that proposal.

On June 29, 1983, licensee submitted its proposal to the Commission.[18] Licensee in its submittal noted that it had already submitted the proposal to staff on August 2, 1982 in responding to the Licensing Board's decision, and that the staff had issued a Safety Evaluation

---

[16] The Appeal Board in ALAB-729 explained the MSLRDS problem as follows:

> If there should be a main steam line break from a steam generator, the Main Steam Line Rupture Detection System (MSLRDS) automatically terminates flow to that steam generator to prevent overpressurization of the containment building. Cooling would nonetheless be maintained using the remaining steam generator. The evidence reveals, however, that a reduction in pressure below a certain level could also cause the MSLRDS to terminate feedwater although there was no actual break in the steam generator. Depressurization in both steam generators could therefore cause the automatic interruption of feedwater to both steam generators.

17 NRC at 887.

[17] Cycle 6 refueling will be the first refueling after restart.

[18] The proposed solution to the MSLRDS concern consists of the addition of cavitating venturis and the detection of the MSLRDS signal to the EFW system. Low steam generator pressure which actuates the MSLRDS can result from either a severe overcooling or a main steam line break event. The original design required operator action to bypass MSLRDS to prevent a loss of heat sink if a low-pressure condition developed in a once-through steam generator (OTSG) or a single failure then blocked the EFW system. The addition of cavitating venturis to the EFW system and removal of the MSLRDS from the EFW valves eliminate operator action to provide EFW to the intact OTSG in the event of a single failure. Since the venturis also limit EFW flow, the MSLRDS is no longer required for EFW and need not be upgraded to safety-grade since it is eliminated as a cause of failure of a safety-grade system.

Report finding that the proposed modification was acceptable. In addition, licensee has now completed implementation of its proposed long-term solution.

UCS in commenting on licensee's proposed solution identified three specific concerns: (1) a single failure could isolate main feedwater to both steam generators, unnecessarily creating a demand for emergency feedwater; (2) an overcooling event could result in depressurization of both steam generators, causing the MSLRDS to isolate main feedwater to both steam generators; and (3) a single failure resulting from a main steam line break accident could result in not isolating main feedwater to the affected steam generator, thus overpressurizing the containment if the break is inside the containment.

B. Parties' Positions

UCS asserts that licensee has not proposed an adequate solution, and that the Board, having identified the safety problem, may not leave it to the staff to negotiate a solution with licensee.

Licensee asserts that this was not a disputed matter in adjudication, and, even if it had been, that the issue was fully litigated in that the parties had an adequate opportunity to comment on licensee's proposed solution. Licensee concludes the issue is moot since the long-term action has already been implemented and the parties have addressed its merits.

The NRC staff states that the solution to the MSLRDS problem is a long-term action whose satisfactory completion was expressly left to the staff pursuant to the Commission order instituting this proceeding. Staff states there is no longer a contested matter on this issue because licensee's proposed solution has been approved by the Appeal Board after the parties had the opportunity to comment on the proposed solution.

C. Analysis

The Commission notes at the outset its concurrence with the judgment of both Boards that completion of MSLRDS modifications is not required prior to restart. With regard to the UCS challenge to the adequacy of licensee's proposed solution, UCS' first two concerns — (1) that a single failure could isolate main feedwater to both steam generators, and (2) that an overcooling event could result in depressurization of both steam generators, causing the MSLRDS to isolate main feedwater to both steam generators — both involve possible action of the MSLRDS that could cause unwarranted termination of main feedwa-

ter flow to both steam generators. The main feedwater system is a non-safety system at all plants. That is, the total loss of main feedwater is a normal operating transient, and the plant is designed to accommodate such a loss. Neither the Commission's regulations nor any historic or analytic evidence of unusual unreliability of the TMI-1 EFW system require any unique effort to reduce challenge to EFW from termination of main feedwater flow at TMI-1. Neither Board was concerned about the MSLRDS causing a loss of main feedwater at TMI-1, and the Commission sees no reason to take special action because of either of these two concerns.

The third UCS concern is that a single failure of the MSLRDS in the event of a main steam line break could cause overpressurization of the containment by allowing main feedwater flow to continue. Given the corrective measures to remove the MSLRDS inadvertent isolation of the EFW system, the remaining issues dealing with the main steam line break are outside the scope of this proceeding. Further, this issue has been raised by UCS in its January 20, 1984 show-cause petition, and should be addressed in connection with that petition and not this proceeding. Hence the Commission has determined that there are no safety concerns within the scope of this proceeding about licensee's proposed solution.

With regard to whether the Licensing Board improperly delegated approval of the long-term solution to the staff, the Commission notes that long-term solutions are not matters for adjudication in this proceeding. The hearing did not have to be kept open to adjudicate the adequacy of a long-term solution once it was finally proposed. The Licensing Board determined that a solution was needed in the long term, and no more was required for purposes of this proceeding.

Commissioner Zech did not participate in this matter due to a lack of opportunity to familiarize himself with the issues.

It is so ORDERED.

For the Commission*

SAMUEL J. CHILK
Secretary of the Commission

Dated at Washington, D.C.,
this 26th day of July 1984.

*Commissioner Zech was not present when this Order was affirmed.

Atomic Safety and Licensing Appeal Boards Issuances

ATOMIC SAFETY AND LICENSING APPEAL PANEL

Alan S. Rosenthal, Chairman
Dr. John H. Buck
Dr. W. Reed Johnson
Thomas S. Moore
Christine N. Kohl
Gary J. Edles
Dr. Reginald L. Gotchy
Howard A. Wilber

APPEAL BOARDS

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Administrative Judges:

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

In the Matter of **Docket No. 50-322-OL-4 (Low Power)**

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

July 20, 1984

Acting on a referral by the Licensing Board of its ruling denying intervenors' motion for disqualification of all three members of one of three Licensing Boards considering issues in this operating license proceeding, the Appeal Board finds the disqualification motion both legally and factually insubstantial and affirms the Licensing Board's denial of the motion.

RULES OF PRACTICE: MOTION FOR RECUSAL (OR DISQUALIFICATION)

A supporting affidavit is required to accompany a motion for disqualification of an adjudicatory board member even where the factual underpinnings of the motion are matters of public record. 10 C.F.R. 2.704(c); *Duquesne Light Co.* (Beaver Valley Power Station, Units 1 and 2), ALAB-172, 7 AEC 42, 43 n.2 (1974); *Detroit Edison Co.* (Greenwood Energy Center, Units 2 and 3), ALAB-225, 8 AEC 379, 380 (1974). *See*

also Public Service Co. of New Hampshire (Seabrook Station, Units 1 and 2), ALAB-749, 18 NRC 1195, 1197 n.1 (1983).

RULES OF PRACTICE: MOTION FOR RECUSAL (OR DISQUALIFICATION)

Motions for disqualification or recusal must be submitted as soon as practicable after a party has reasonable cause to believe that grounds for disqualification exist. *Seabrook, supra,* 18 NRC at 1198, *quoting from Marcus v. Director, Office of Workers' Compensation Programs,* 548 F.2d 1044, 1051 (D.C. Cir. 1976).

DISQUALIFICATION: STANDARDS

An administrative trier of fact (like a federal judge) is subject to disqualification if he or she has a direct, personal, substantial pecuniary interest in a result; if he or she has a personal bias against a participant; if he or she has served in a prosecutive or investigative role with regard to the same facts as are in issue; if he or she has prejudged factual — as distinguished from legal or policy — issues; or if he or she has engaged in conduct which gives the appearance of personal bias or prejudgment of factual issues. *Public Service Electric and Gas Co.* (Hope Creek Generating Station, Unit 1), ALAB-759, 19 NRC 13, 20 (1984); *Consumers Power Co.* (Midland Plant, Units 1 and 2), ALAB-101, 6 AEC 60, 65 (1973). *See also Houston Lighting and Power Co.* (South Texas Project, Units 1 and 2), CLI-82-9, 15 NRC 1363, 1365-67 (1982); *Cinderella Career and Finishing Schools, Inc. v. FTC,* 425 F.2d 583, 591 (D.C. Cir. 1970).

DISQUALIFICATION: STANDARDS (PREJUDGMENT)

In order to provide a basis for disqualification on prejudgment grounds, the asserted prejudgment (or appearance of prejudgment) must relate to factual, as distinguished from legal or policy, issues. *Southern Pacific Communications Co. v. AT&T,* 740 F.2d 980, 990-91 (D.C. Cir. 1984).

DISQUALIFICATION: STANDARDS (PREJUDGMENT)

The fact that a member of an adjudicatory tribunal may have a crystallized point of view on questions of law or policy is not a basis for his or

her disqualification. *Midland, supra*, 6 AEC at 66; *Northern Indiana Public Service Co.* (Bailly Generating Station, No. 1), ALAB-76, 5 AEC 312, 313 (1972). *See also Southern Pacific Communications Co. v. AT&T, supra.*

APPEARANCES

Martin Bradley Ashare, Hauppauge, New York, and **Herbert H. Brown** and **Lawrence Coe Lanpher,** Washington, D.C., for the intervenor Suffolk County, New York.

Fabian G. Palomino, Albany, New York, for the intervenor State of New York.

W. Taylor Reveley, III, Donald P. Irwin, Robert M. Rolfe, Lee B. Zeugin and **Jessine A. Monaghan,** Richmond, Virginia, for the applicant Long Island Lighting Company.

Robert G. Perlis for the Nuclear Regulatory Commission staff.

MEMORANDUM AND ORDER

Opinion for the Board by Messrs. Rosenthal and Wilber:

On June 21, 1984, intervenors Suffolk County and State of New York filed a motion calling upon Administrative Judges Marshall E. Miller, Glenn O. Bright and Elizabeth B. Johnson to disqualify themselves from further service as members of one of three Licensing Boards now considering issues presented in this operating license proceeding involving the Shoreham nuclear facility.[1] The gravamen of the motion was that, by

[1] Suffolk County and State of New York Motion for Disqualification of Judges Miller, Bright, and Johnson (hereafter, June 21 disqualification motion). A previous motion seeking the same relief, filed on June 18, 1984, was denied on June 19 on the ground that it was not accompanied by a supporting affidavit as required by the Commission's regulation governing disqualification motions, 10 C.F.R. 2.704(c). That denial was summarily affirmed by us in an unpublished order entered later on the same day. In rejecting the movants' claim that such an affidavit is unnecessary in circumstances where the factual underpinnings of the motion are "matters of public record contained in NRC and other documents," we called attention to our contrary holdings in *Duquesne Light Co.* (Beaver Valley Power *(Continued)*

reason of certain orders issued by that Licensing Board and the context within which those orders were entered, a disinterested observer might conclude that Judges Miller, Bright and Johnson have " 'in some measure adjudged the facts as well as the law of [this] case in advance of hearing it' " within the meaning of *Cinderella Career and Finishing Schools, Inc. v. FTC*, 425 F.2d 583, 591 (D.C. Cir. 1970), *quoting with approval from Gilligan, Will & Co. v. SEC*, 267 F.2d 461, 469 (2d Cir.), *cert. denied*, 361 U.S. 896 (1959).

In a June 25 order, the three judges individually and collectively denied the motion on the dual grounds that it was untimely and lacked merit. As mandated by 10 C.F.R. 2.704(c), the order went on to refer the matter to us.

Upon receipt of the referral, we invited the parties to submit their views either in support of or in opposition to the order. The movants, the applicant and the NRC staff accepted the invitation. For their part, the movants maintain that the motion was timely and that, in determining that disqualification was not warranted, the Licensing Board improperly had failed to apply the *Cinderella* standard.[2] In contrast, both the applicant and the staff support the Board's order in full measure.[3]

For the reasons that follow, we conclude that the motion is of doubtful timeliness but, in any event, does not provide a sufficien basis for requiring the disqualification of the members of the Licensing Board. We accordingly affirm the denial of the motion.

I. BACKGROUND

A. As earlier noted, at present three separate Licensing Boards have the responsibility of adjudicating one or more issues pending in this extended and complex proceeding. The Board here involved, chaired by Judge Miller, came into existence most recently. It was established by the Chief Administrative Judge of the Licensing Board Panel, B. Paul

---

Station, Units 1 and 2), ALAB-172, 7 AEC 42, 43 n.2 (1974), and *Detroit Edison Co.* (Greenwood Energy Center, Units 2 and 3), ALAB-225, 8 AEC 379, 380 (1974). *See also Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), ALAB-749, 18 NRC 1195, 1197 n.1 (1983).

The June 21 motion was accompanied by an affidavit.

[2] Suffolk County and State of New York Filing in Response to Appeal Board Order of June 26, 1984 (July 6, 1984) (hereafter, Suffolk and New York Response). For convenience, we shall employ the term "Licensing Board" or "Board" when referring to the three judges and their decisions and actions in this proceeding.

[3] LILCO's Brief in Support of the Order of Judges Miller, Bright and Johnson Denying the Suffolk County/New York State Motion to Disqualify Them (July 6, 1984) (hereafter, LILCO Brief); NRC Staff Response to Motion by Suffolk County and State of New York for Disqualification of Judges Miller, Bright, and Johnson (July 6, 1984) (hereafter, Staff Response). The applicant asserted grounds for the denial of the disqualification motion beyond those relied upon by the Licensing Board. As will be seen, we do not reach those additional grounds.

Cotter, on March 30, 1984 for the purpose of hearing and deciding the applicant's March 20, 1984 "Supplemental Motion for Low Power Operating License."[4] That motion raised the question whether low-power operation of Shoreham (i.e., operation at levels up to 5 percent of rated power) might be permitted under 10 C.F.R. 50.57(c)[5] in advance of the resolution of questions pertaining to the reliability of onsite emergency power sources — questions arising, in turn, as a result of failures during operational testing of the diesel generators installed to provide such emergency power. According to Judge Cotter, he took the step of creating a new Board to consider the motion because the Licensing Board then possessing "jurisdiction over non-emergency planning matters" had advised him that "two of its members are heavily committed to work on another operating license proceeding."[6]

For present purposes, we need focus only on the rulings of the Licensing Board here involved during the seven-day period between March 30 and April 6. Immediately upon its establishment on March 30, the Board advised the parties by telephone that it would hear oral argument on the applicant's March 20 supplemental low-power motion. This advice was confirmed in a written order (denominated a "notice"). In it, the Board observed that responses to the motion or statements of preliminary views had been filed by the other parties to the proceeding and that the "issues raised by the parties in their filings, as well as a schedule for their expedited consideration and determination," would be heard at the same time.[7]

The argument took place on April 4 in Bethesda, Maryland. Two days later, the Board issued a further order in which, "[b]ased upon a consideration of the [applicant's] motion and the facts alleged in its attached affidavits, the matters contained in the responsive filings of the other

---

[4] 49 Fed. Reg. 13,611 (1984).

[5] In relevant part, section 50.57(c) provides:

> An applicant may, in a case where a hearing is held in connection with a pending proceeding under this section make a motion in writing, pursuant to this paragraph (c), for an operating license authorizing low-power testing (operation at not more than 1 percent of full power for the purpose of testing the facility), and further operations short of full power operation. Action on such a motion by the presiding officer shall be taken with due regard to the rights of the parties to the proceedings, including the right of any party to be heard to the extent that his contentions are relevant to the activity to be authorized. Prior to taking any action on such a motion which any party opposes, the presiding officer shall make findings on the matters specified in paragraph (a) of this section as to which there is a controversy, in the form of an initial decision with respect to the contested activity sought to be authorized. • • •

[6] 49 Fed. Reg. 13,612 (1984). The Board to which Judge Cotter alluded, chaired by Administrative Judge Lawrence Brenner, still has before it the issue of the reliability of onsite emergency power sources. The third Licensing Board assigned to this proceeding, chaired by Administrative Judge James A. Laurenson, is concerned exclusively with as yet unresolved emergency planning issues. The disqualification motion applies to neither of those Boards.

[7] Notice of Oral Arguments (March 30, 1984) (unpublished) at 1.

parties and the arguments of counsel in depth," several conclusions were reached.[8] As the Board saw it, the applicant had made a sufficient preliminary showing to justify the holding of a limited hearing on the question of its entitlement to a low-power license pursuant to 10 C.F.R. 50.57(c).[9] The pivotal issue at the hearing would be whether reasonable assurance existed that the "activities associated with [the] request for a low-power license can be conducted without endangering the health and safety of the public, in the absence of resolution by another licensing board [i.e., the Board chaired by Judge Brenner (*see* note 6, *supra*)] of the emergency diesel generator contentions related to full-power operation."[10] In this connection, the Board stated that the provisions of section 50.57 respecting low-power operations had to be read in conjunction with the requirements of General Design Criterion (GDC) 17 with respect to emergency power needs for full-power operations.[11] The Board added:

> If the evidence shows that the protection afforded to the public at low power levels without the diesel generators required for full-power operations, is equivalent to (or greater than) the protection afforded to the public at full-power operations with approved generators, then [the applicant's] motion should be granted.[12]

Expressing the belief that an expedited hearing should be held on the issues that it had identified "to the extent that such matters are reasonably relevant to a low-power license," the Board then established, in the "exercise [of its] judgment," the following schedule:

---

[8] Memorandum and Order Scheduling Hearings on LILCO's Supplemental Motion for Low-Power Operating License (April 6, 1984) (unpublished) at 5 (footnote omitted) (hereafter, April 6 order).

[9] *Ibid.*

[10] *Id.* at 6.

[11] *Id.* at 6-7. GDC 17, found in Appendix A to 10 C.F.R. Part 50, provides in relevant part:

> An onsite electric power system and an offsite electric power system shall be provided to permit functioning of structures, systems and components important to safety. The safety function for each system (assuming the other system is not functioning) shall be to provide sufficient capacity and capability to assure that (1) specified acceptable fuel design limits and design conditions of the reactor coolant pressure boundary are not exceeded as a result of anticipated operational occurrences and (2) the core is cooled and containment integrity and other vital functions are maintained in the event of postulated accidents. * * *

As previously noted, the diesel generators installed as the backup onsite electric power system for Shoreham failed during operational testing.

[12] April 6 order, *supra*, at 7.

Date	Event
April 6-16, 1984	Discovery
April 19, 1984	NRC Staff Supplemental [Safety Evaluation Report]
April 20, 1984	All direct written testimony filed
April 24-28, 30 through May 5, 1984	Hearing[13]

The Board opined that this schedule would not "prejudice any party to this proceeding."[14]

As it turned out, both the Board's ruling on GDC 17 and its hearing schedule were short-lived. At the instance of the Governor of the State of New York and Suffolk County, on April 25 the United States District Court for the District of Columbia issued a temporary restraining order precluding, *inter alia*, any hearings before the Licensing Board on the applicant's supplemental motion for a low-power operating license.[15] Thereafter, on April 30, the Commission entered an unpublished order in which it both vacated the Licensing Board's schedule and set down for oral argument (following briefing) the matter of the applicability of GDC 17 to the applicant's proposal to operate Shoreham at low power. Subsequent to the argument, the Commission ruled that 10 C.F.R. 50.57(c) "should not be read to make General Design Criterion 17 inapplicable to low-power operation" and, accordingly, vacated the Licensing Board's April 6 order to the extent that it held otherwise.[16] Additionally, it provided a new schedule to the Licensing Board "as guidance in resuming the hearing."[17]

B. At the heart of the disqualification motion is the thesis that a disinterested observer might conclude that, apart from being unjustified,

---

[13] *Id.* at 7, 16.

[14] *Id.* at 16.

[15] *Cuomo v. NRC*, No. 84-124. The temporary restraining order was accompanied by a memorandum opinion in which the court expressed the view (at 8) that the plaintiffs had raised "a substantial legal question regarding the propriety of the hearing schedule."

[16] CLI-84-8, 19 NRC 1154, 1155 (1984). The Commission went on to note that the applicant at oral argument had indicated an intent to seek an exemption from the GDC 17 requirements. *Id.* at 1155. In this regard, 10 C.F.R. 50.12(a) provides in relevant part:

> The Commission may, upon application by any interested person or upon its own initiative, grant such exemptions from the requirements of the regulations in this part as it determines are authorized by law and will not endanger life or property or the common defense and security and are otherwise in the public interest. • • •

[17] CLI-84-8, *supra*, 19 NRC at 1156. That schedule called for the commencement of the hearing on the 55th day following the filing and service of the applicant's request for a section 50.12(a) exemption from the GDC 17 requirements.

the Licensing Board's expedited schedule and GDC 17 ruling were not the product of reasoned and independent judgments on the Board's part. This is so, the movants insist, because the schedule and ruling "paralleled and furthered" objectives of NRC Chairman Palladino that had been "formulated outside the hearing process" and communicated "within the NRC."[18] We now canvass those events prior to the Licensing Board's April 6 order that are said to support this thesis.[19]

1. The movants point first to a meeting attended by Chairman Palladino, Judge Cotter and several other NRC officials on March 16, 1984 — four days prior to the filing of the applicant's supplemental low-power motion. According to the Chairman's testimony before a congressional committee, that meeting was initiated by him in the wake of indications of increased delay in the progress (and therefore conclusion) of operating license proceedings involving nuclear facilities that are near completion.[20] Its purpose was to discuss the status of a number of such facilities "at which there were problems or potential problems."[21] Judge Cotter had been requested to attend because of his knowledge of the status of the operating license proceedings before licensing boards, the possibility that he might have suggestions respecting how unnecessary delays in those proceedings could be avoided, and his ability to provide information respecting whether delays in their progress were attributable to the need for additional staff documents before hearings could begin.[22]

Although the briefing provided the Chairman at the meeting embraced the *Shoreham* proceeding among others, and included identification of the issues pending in that proceeding, the Chairman does not recall the discussion of the merits of any of those issues and is confident that the agency lawyers in attendance would have "raised a warning flag" had any such discussion been initiated.[23] For their part, two other attendees at the meeting, the Executive Director for Operations and the Executive Legal Director, have supplied by affidavit their own recollection of that portion of the meeting devoted to *Shoreham*:

---

[18] June 21 disqualification motion at 2-3.

[19] Obviously, nothing transpiring after April 6 could have influenced the Licensing Board's action on that date. Nor do we understand the disqualification motion to rest to any extent upon post-April 6 Board rulings.

[20] Individual Statement of Nunzio J. Palladino, Chairman, U.S. Nuclear Regulatory Commission, Before the Subcomm. on Energy and the Environment, Comm. on Interior and Insular Affairs, U.S. House of Representatives (May 17, 1984) at 3-8. This statement was appended to the Chairman's June 20, 1984 Memorandum to the Parties in connection with the request (filed by Suffolk County and the State of New York on June 6, 1984) that the Chairman recuse himself from further involvement in this operating license proceeding.

[21] Individual Statement of Chairman Palladino, *supra*, at 8-9.

[22] *Id.* at 9.

[23] *Id.* at 10.

4. When the question of Shoreham came up, the discussion turned to the impact of the diesel generator issue.

5. The Chairman raised the question, which we understood to be procedural, whether the diesel generator issue had to be resolved prior to low-power operation. He was informed that the applicant could, but had not yet done so, request low-power authorization pursuant to 10 C.F.R. § 50.57(c), and that the applicant would at least have an opportunity to try to make a showing that some resolution short of that which would be required for full-power operation, would justify low-power operation. The Chairman then questioned whether such an application would have to be considered by a hearing board to which he was informed the answer was yes. He then inquired how long such a proceeding would take, whether it would be as long as a typical hearing? The General Counsel informed him that in the past the Commission has requested expedited hearings on narrow-issue proceedings. In fact, the Deputy General Counsel cited the example of a hearing that was held and completed in one day. The Chairman then asked questions as to whether an expedited hearing could be held on a request from LILCO for a low-power application (which the Staff had informed him was known to be forthcoming) and the discussion turned to a hypothetical reasonably expedited schedule. Most of the discussion was between the Chairman and the Office of the General Counsel, with occasional input from other participants. At the conclusion of the discussion, there was a consensus that it would be possible to conduct an expedited proceeding in something on the order of six to eight weeks. The Chairman requested the Office of the General Counsel to prepare a more detailed analysis of this subject.

6. The Executive Legal Director pointed out to the Chairman that if consideration were given to such an expedited proceeding, it should be kept in mind that the current Shoreham Licensing Board Chairman was also Chairman of another active case. No suggestion was made regarding what effect should be given to consideration of this factor. Specifically, the creation of a new board was not discussed, nor was the removal of Judge Brenner for tactical (or any other) reasons discussed.

7. In our judgment the discussion was entirely procedural and hypothetical, and dealt with the matter of the possible resolution of an issue in a time frame consistent with operation of the plant at or near the date requested by the applicant if the outcome of the proceeding were to favor such a result. At no time during the meeting was there any discussion of any substantive matter at issue in the *Shoreham* (or any other) proceeding. No one in the room expressed any prejudgment, nor evinced any indication of having a prejudgment, of what the actual outcome would be. The focus was simply on how quickly the issue could be decided.[24]

2. The March 16 meeting left Chairman Palladino concerned that "the fate of the Shoreham facility might be determined not by the

---

[24] Joint Affidavit of William J. Dircks and Guy H. Cunningham, III (July 3, 1984), at 2-4. This affidavit was submitted as an attachment to the NRC Staff Response to Suffolk County and State of New York Request for Recusal of Chairman Palladino (July 5, 1984). That response, with the affidavit, is appended to Staff Response, *supra*.

During the course of the March 16 meeting, Judge Cotter took a few rough notes. With respect to *Shoreham*, those notes were both brief and cryptic. We discuss their present significance later in this opinion.

merits of the case, one way or the other, but instead by the NRC's inabili.y to run its processes efficiently."[25] For this reason, he requested his personal staff to prepare "a one-page conceptual draft directive" from the Commission to Judge Cotter.[26] In addition, on March 20, the Chairman sent a memorandum entitled "Licensing Delays" to the other Commissioners. That memorandum alluded to the March 16 meeting and, with respect to Shoreham, specifically noted that he had asked the Office of the General Counsel to prepare a paper concerned with possible avenues for expediting the determination on low-power operation.

On March 22, Chairman Palladino sent a "working paper" containing the substance of a possible Commission directive to Judge Cotter.[27] It conveyed the thought that a low-power decision should be rendered by May 9 and, to that end, set out a suggested hearing schedule.[28]

Within a day or so, Judge Cotter responded with a draft order prepared by him for possible Commission issuance.[29] That order would have had the Commission direct the conduct of an expedited hearing before a newly appointed Licensing Board.[30] Judge Cotter also included in the draft a specific "recommended" schedule that called for (1) the hearing on the applicant's March 20 supplemental motion seeking a low-power operating license to commence thirty days after the filing of responses to that motion; and (2) a Board decision in another thirty days — i.e., on or about June 7.[31] In comments following the draft, Judge Cotter stated his opinion that the "[s]ixty day schedule is brutally tight. Definitely not recommended but possibly achievable."[32]

3. On April 2, the Office of the General Counsel (OGC) furnished the Commission with the memorandum that the Chairman asked it to prepare on the matter of expediting the determination on low-power operation.[33] One of the options discussed in the memorandum was a direction to the Licensing Board to conduct an expedited hearing on the applicant's March 20 supplemental motion.[34] In this regard, OGC set

---

[25] Individual Statement of Chairman Palladino, *supra*, at 11.

[26] *Id.* at 12.

[27] *Ibid.*

[28] A copy of this document was appended to an April 4 memorandum from the Chairman to his fellow Commissioners, discussed at p. 31, *infra*.

[29] A copy of this document likewise was appended to the Chairman's April 4 memorandum.

[30] Cotter draft order at 1.

[31] *Id.* at 6-7. This schedule would have allowed sixteen days for discovery and seven days thereafter for the filing of prepared testimony. The hearing would start in another five days and consume ten days.

[32] *Id.* at 8.

[33] April 2, 1984 memorandum from Herzel H.E. Plaine to Commissioners entitled "Shoreham Low Power Proceeding."

[34] *Id.* at 2. The memorandum noted that a separate Licensing Board had been created to hear and decide the motion. *Id.* at 2 n.2.

out a possible schedule, which called for a Board decision within eighty days following issuance of the Commission order. OGC noted that "[t]he demands placed on the parties by this schedule will likely be viewed by some parties as unreasonable because of the technical complexity of the issues."[35]

4. On April 4, Chairman Palladino sent a memorandum to the other Commissioners on the subject of Shoreham, with a copy to, *inter alia*, the "ASLBP" (i.e., Licensing Board Panel). Attached to the memorandum were both the "working paper" sent to Judge Cotter and the draft order prepared by him in response. The Chairman indicated that further action "on this or any other draft order" would await the comments of the Commissioners on the April 2 OGC memorandum.[36]

C. As earlier noted, the Licensing Board denied the disqualification motion on the dual grounds of untimeliness and insubstantiality. On the former score, the Board expressed the belief that the "alleged facts" were known to the movants long before the motion was filed.[37] Moreover, given the current established hearing schedule, the Board thought the June 21 filing "to be productive of unnecessary delays."[38]

With regard to the merits of the motion, the Board explicitly denied that any of its orders had been "influenced in the least by any of the Commissioners, including Chairman Palladino, or by Chief Judge Cotter, or by anyone else in or out of NRC."[39] In addition, the Board explicitly represented (1) that its members "were not acquainted with any of the actions of the Commissioners alleged in the motion"; and (2) that "the Individual Statement of Chairman Palladino before the Subcommittee on Energy and Environment dated May 17, 1984, is the only source of our information other than rumors, which we have disregarded."[40] Still further, the Board stated that the expedited schedule adopted in the April 6 issuance was "the product of [its] own judgment, and was not influenced or caused by anyone else."[41]

By way of summary, the Board had this to say:

> Each Board Member wishes to state, categorically, that there has been no outside influence or "pressure" exerted on them, individually or collectively. Every decision

---

[35] *Id.* at 3.

[36] The Chairman requested that those comments be furnished no later than April 9.

[37] Order Denying Intervenors' Motion for Disqualification of Judges Miller, Bright and Johnson (June 25, 1984) (unpublished) at 4.

[38] *Ibid.* Under that schedule, arguments on discovery motions took place on June 22, discovery ended on June 29, the prepared testimony was to be filed on July 16 and the hearing is to begin on July 30.

[39] *Id.* at 5.

[40] *Ibid.*

[41] *Id.* at 6.

or action taken by the Board was by full agreement among the three members, and we expect it to continue to be thus. We further reject any notion of bias either for or against any party in this proceeding.

The Board, neither individually nor collectively, was privy to the actions or exchanges cited at length in both the Motion and Affidavit. Since this information was not furnished to the Board, either in whole or in part, prior to the County's pleadings, it is simply not possible to have been influenced by it. The actions of this Board were dictated by no more than the simple, long-standing directive of the Commission to discharge duties in an efficient and expeditious manner. CLI-81-8, 13 NRC 452 (1981).[42]

II. TIMELINESS

Within the past year, we had occasion to stress anew that motions for disqualification or recusal must be submitted " 'as soon as practicable after a party has reasonable cause to believe that grounds for disqualification exist.' "[43] This is because "any delay in filing a motion for disqualification or recusal necessarily casts a cloud over the proceeding and increases the likelihood of delay in the ultimate completion of the case in the event recusal or disqualification is warranted and a new decisional officer must be appointed."[44]

As earlier noted, the Licensing Board concluded that the movants failed to adhere to this admonition in the present case. Although not resting our disposition of the referral on that ground alone, we agree with the conclusion.

The movants point out that their acquisition under the Freedom of Information Act of the notes taken by Judge Cotter at the March 16 meeting[45] did not take place until "late May."[46] But it scarcely follows, as they would have it,[47] that the movants were not in a position to seek the Licensing Board's recusal at an earlier point. By their own admission, the "bases" of the motion "did begin to become known in early 1984."[48] And it would appear that, by April 27, the movants thought that enough of those "bases" had surfaced to support an assertion that the Licensing Board should step aside. For, on that date, Suffolk County's counsel wrote a letter to the counsel for the other parties in *Cuomo*

---

[42] *Id.* at 7.
[43] *Seabrook, supra,* 18 NRC at 1198, *quoting from Marcus v. Director, Office of Workers' Compensation Programs,* 548 F.2d 1044, 1051 (D.C. Cir. 1976).
[44] *Ibid.*
[45] *See* note 24, *supra.*
[46] Suffolk and New York Response, *supra,* at 2.
[47] *Ibid.*
[48] *Ibid.*

v. NRC, the suit brought to enjoin the Licensing Board's hearing schedule.[49] In that letter (at 2), counsel stated, *inter alia*:

> The County will file additional requests with the Commission for disestablishment of the Licensing Board consisting of Judges Miller, Bright and Johnson (beyond the April 11 written request of the Suffolk County Executive) and also for recusal of such Judges and Chairman Palladino and Judge Cotter.

Assuming, however, that the movants nonetheless were justified in resting on their oars until they received the Cotter notes, the question remains why they then waited until June 18 before filing their first — albeit incomplete — motion to disqualify the Board.[50] On May 31, the Licensing Board issued its new hearing schedule to replace the one vacated by the Commission on April 30.[51] That schedule called for the discovery process to continue until June 29 and the hearing to commence on July 30. As such, it should have removed all possible doubt that any endeavor to disqualify the Board should be undertaken immediately. Instead, on June 6 the movants filed their request that Chairman Palladino recuse himself[52] and then waited almost another two weeks before filing the motion at bar. In this connection, it is noteworthy that (1) precisely the same events undergird both the recusal request directed to the Chairman and the disqualification motion addressed to the Licensing Board; and (2) as the movants might well have anticipated, the Licensing Board has been required to hear and act upon certain matters while the disqualification motion still awaits ultimate resolution — precisely the situation that the prompt filing requirement is intended to obviate.[53]

III. MERITS

It is well-settled that

> "[A]n administrative trier of fact is subject to disqualification if he has a direct, personal, substantial pecuniary interest in a result; if he has a 'personal bias' against a participant; if he has served in a prosecutive or investigative role with regard to

---

[49] *See* note 15, *supra*, and accompanying text. The letter is found at Attachment 5 to the LILCO Brief, *supra*.

[50] *See* note 1, *supra*.

[51] Order Establishing Schedule for Resumed Hearing (unpublished).

[52] *See* note 20, *supra*. On June 22, these movants filed a motion seeking the disqualification of Judge Cotter from any further participation in this proceeding.

[53] For example, on June 21 (the day the motion was refiled with the necessary affidavit) the Licensing Board issued an unpublished order scheduling oral argument for June 22 on various pending discovery matters. On June 27, two days after the motion was denied by it and referred to us, the Board entered an unpublished order confirming oral rulings made on June 22.

> the same facts as are an issue; if he has prejudged factual — as distinguished from legal or policy — issues, or if he has engaged in conduct which gives the appearance of personal bias or prejudgment of factual issues."[54]

In this instance, there is no claim that any of the Licensing Board members is biased against either of the movants, or that the actions of the Board created the appearance of such bias. Rather, it is plain from the content of the disqualification motion, and most particularly its reliance exclusively upon the disqualification standard set forth in the District of Columbia Circuit's decision in *Cinderella*, that the Board is charged solely with impermissible prejudgment (or at least the appearance thereof).

A.1. We have just seen that, in order to provide a basis for disqualification, the asserted prejudgment (or appearance of prejudgment) must relate to "factual — as distinguished from legal or policy — issues." Indeed, that distinction was at the root of our rejection many years ago of the attempt to disqualify a Licensing Board member in the *Midland* construction permit proceeding on the ground that a law review article he had written reflected prejudgment of issues in that proceeding. We there observed:

> Reviewing the entire law review article, including each of the passages to which the [movants] have referred, we find no evidence of prejudgment of any facts in issue. Nor do we find any appearance of prejudgment. All that we find is an individual who may have certain crystallized views — indeed, who may possess an "underlying philosophy" — on the application of NEPA to the Commission's licensing process. Previous decisions of this Board and the Commission have explicitly recognized this situation as nondisqualifying. Thus, in the *Bailly* case, we referred to Professor Davis' view, based on his analysis of the jurisprudence in this area, that "the fact that a member of an adjudicatory tribunal may have a crystallized point of view on questions of law or policy is not a basis for his disqualification."[55]

Interestingly, and appropriately, *Cinderella* was one of the cases cited in *Midland* in support of the dichotomy between factual issues on the one hand and legal and policy issues on the other. In that case, the Federal Trade Commission had charged the Cinderella Career and Finishing Schools with false and deceptive advertising. While the matter

---

[54] *Public Service Electric and Gas Co.* (Hope Creek Generating Station, Unit 1), ALAB-759, 19 NRC 13, 20 (1984), *quoting Consumers Power Co.* (Midland Plant, Units 1 and 2), ALAB-101, 6 AEC 60, 65 (1973). As observed in *Hope Creek*, these are basically the same standards that govern the disqualification of federal judges. In its decision in *Houston Lighting and Power Co.* (South Texas Project, Units 1 & 2), CLI-82-9, 15 NRC 1363, 1365-67 (1982), the Commission emphasized the applicability of federal judicial disqualification standards in this agency's adjudicatory proceedings.

[55] ALAB-101, *supra*, 6 AEC at 66 (footnotes omitted). The cited *Bailly* case is *Northern Indiana Public Service Co.* (Bailly Generating Station, No. 1), ALAB-76, 5 AEC 312, 313 (1972).

was pending before the full Commission on an appeal by the agency staff from a hearing examiner's decision in Cinderella's favor, the FTC Chairman delivered a speech in which he alluded to the facts of that administrative proceeding as an example of deceptive advertising. Thereafter, the FTC, with the participation of the Chairman in its decision, reversed the hearing examiner on a finding that Cinderella had engaged in unfair and deceptive advertising practices.

It was in this context that, in the course of remanding the case to the agency for reasons unrelated to the Chairman's public statements, the court ruled that he was disqualified from further participation. And that the District of Columbia Circuit adheres today to the principle that only the prejudgment of factual issues is disqualifying is manifest from its very recent decision in the *Southern Pacific Communications* antitrust proceeding. As the court there stated:

> It is well established that the mere fact that a judge holds views on law or policy relevant to the decision of a case does not disqualify him from hearing the case. *See, e.g., Association of National Advertisers, Inc. v. FTC*, 627 F.2d 1151, 1174 (D.C. Cir. 1979) ("Administrators, and even judges, may hold views on questions of law prior to participating in a proceeding."), *cert. denied*, 447 U.S. 921 (1980); *id.* at 1177 (Leventhal, J., concurring) ("even judges are not disqualified merely because they have previously announced their positions on legal issues"); *United States v. Haldeman*, 559 F.2d 31, 136 n.332 (D.C. Cir. 1976) (en banc) (per curiam) ("although fixed, an opinion on the law is not disqualifying"), *cert. denied*, 431 U.S. 933 (1977). Indeed, we can barely conceive of a judge coming to a case without holding at least certain preconceptions that may affect his approach to the case. "The human mind, even at infancy, is no blank piece of paper. We are born with predispositions; and the process of education formal and informal, creates attitudes in all men which affect them in judging situations, attitudes which precede reasoning in particular instances and which, therefore, by definition, are prejudices." *In re J.P. Linahan, Inc.*, 138 F.2d 650, 651 (2d Cir. 1943). If a judge approached every case completely free of preconceived views concerning the relevant law and policy, we would be inclined not to applaud his impartiality, but to question his qualification to serve as a judge.[56]

2. In light of the foregoing, it is immediately apparent that the prejudgment claim advanced by these movants must fail. For, despite the invocation of the *Cinderella* standard, in sharp contrast to the situation in that case the movants here have not identified any specific *factual* issue that a disinterested observer might conclude had been prejudged by the Licensing Board members. This is scarcely surprising. The Board did not consider, let alone decide, any factual issues in its March 30 and

---

[56] *Southern Pacific Communications Co. v. AT&T*, 740 F.2d 980, 990-91 (D.C. Cir. 1984) (footnotes omitted).

April 6 orders — i.e., those Board orders to which the movants point as evidence of the appearance of prejudgment. As we have seen, the March 30 order did no more than call for oral argument on the applicant's supplemental low-power motion and the establishment of a schedule for the "expedited consideration and determination" of the issues raised by the parties in connection with that motion. For its part, and insofar as objected to by movants, the April 6 order provided the expedited schedule and also ruled on the purely legal issue of the application of GDC 17 to low-power Shoreham operation.[57]

We need add on this score only that it makes no difference whether the Licensing Board might have been influenced in reaching its judgment on the scheduling and legal issues by what it perceived to be the thinking of Chairman Palladino on those issues.[58] There is a wide variety of possible sources to which an adjudicator might look in formulating an opinion on a particular scheduling or legal question. We know of no authority, and the movants point to none, for the proposition that an adjudicatory body's entitlement to continue to participate in a proceeding hinges upon how its legal or scheduling conclusions happened to be shaped.[59]

B. Were prejudgment of a legal or policy issue (or the appearance thereof) a basis for disqualification, the movants' claim here would rest on no better footing. According to the movants, a disinterested observer could justifiably conclude (whether such was the fact or not) that the Licensing Board was aware of the "chain of events" commencing with the March 16 meeting and that these events led to a prejudgment on the scheduling and GDC 17 questions.[60] The Licensing Board, however, has

---

[57] *See* pp. 25-27, *supra*. We do not understand the movants to claim that the March 30 and April 6 orders created the impression that the Licensing Board had prejudged the ultimate question of the applicant's entitlement to a low-power license. Be that as it may, neither order is susceptible of that interpretation. The Board's GDC 17 ruling did not, of itself, determine the low-power matter. Rather, as the Board noted, that ruling left for resolution certain factual issues. *See* p. 26, *supra*. And, whether or not unduly tight in the totality of circumstances, the Board's schedule for the hearing of those issues was not so patently unreasonable as to permit an inference that the Board had already made up its mind that low-power operation should be authorized.

[58] As shall shortly be seen, however, there is no record basis for assuming that the Board was even aware of the Chairman's thoughts respecting Shoreham.

[59] Manifestly, a Licensing Board member would not be justified in taking a cue on the ultimate merits of a controversy from the Commission's Chairman — or from any other NRC official for that matter. Indeed, such a forfeiture of the Board member's independence — and disregard of the solemn obligation not to abdicate his or her adjudicatory responsibilities — would be extremely serious misconduct. In this instance, there is neither an explicit allegation that such misconduct took place nor any concrete evidence from which it might be inferred.

One other equally obvious point likewise requires no more than passing mention. That an adjudicator is not subject to disqualification for prejudgment on a legal or scheduling issue does not mean that, if erroneous, the conclusion reached on the issue cannot be successfully attacked. As previously noted, in this instance both the expedited schedule and the GDC 17 ruling contained in the April 6 order were subsequently overturned. *See* p. 27, *supra*.

[60] June 21 disqualification motion, *supra*, at 2-4.

expressly disclaimed that it was aware of any of the events prior to the issuance of its March 30 and April 6 orders.[61] Needless to say, if that disclaimer is truthful the Board could not have been influenced by what the movants choose to characterize as the "Chairman's March 16 intervention"[62] or by the developments in the wake of the meeting on that date. Hence, in order to reach the movants' suggested conclusion, the disinterested observer would have to infer first that the Licensing Board's disclaimer was *not* truthful.

We find no possible foundation for a reasonable inference to that effect. The movants point to the fact that, upon being constituted, the Board immediately issued its March 30 order in which it referred to the "expedited consideration and determination" of the matters before it. The movants would have it that, in such a short time period, the Board could not conceivably have reached on its own the conclusion that expedition was warranted.[63] We disagree. For one thing, the Board members might well have been informed of their new assignment in advance of the issuance of the formal *Federal Register* notice[64] and promptly embarked upon a study of the papers then in the record. For another, it may confidently be assumed that the Board members were generally familiar with the fully-constructed status of the Shoreham facility[65] and the generic interest of the Commission in avoiding unnecessary delays in the adjudication of license applications for such facilities.[66] Armed with that general knowledge, and the inference arising from its assignment to the low-power phase of the proceeding,[67] the Board quite understandably would have wished the oral argument to focus upon the possibility of an expedited schedule.

The March 30 order did not, of course, contain a proposed schedule. And it was only after hearing from the parties on April 4 that the Board established the schedule of which the movants complain.[68] The movants

---

[61] *See* p. 32, *supra*.

[62] June 21 disqualification motion, *supra*, at 4.

[63] *Id.* at 5.

[64] Such advance notice would not have been improper. There is no reason why a Licensing Board Panel member should invariably be kept in the dark respecting a new assignment until such time as the announcement of the assignment is sent to the *Federal Register*.

[65] Indeed, given the extensive media attention that Shoreham has attracted over a considerable period of time, it would have been virtually impossible for the Board members not to have been aware of Shoreham's situation.

[66] *See, e.g., Statement of Policy on Conduct of Licensing Proceedings*, CLI-81-8, 13 NRC 452 (1981), cited by the Board at 14 of its April 6 order, *supra*.

[67] We agree with our concurring colleague that there was good reason for the Board to have concluded that it was created to enable a more expeditious decision on the applicant's supplemental low-power motion than would likely have been forthcoming from the Board chaired by Judge Brenner. *See* p. 40, *infra*.

[68] *See* pp. 25-26, *supra*.

would attach significance to the "striking" similarity they perceive[69] between that schedule and the one set forth by Judge Cotter in his March 23 draft order.[70] In our view, however, the two schedules are not sufficiently alike that a fair-minded disinterested person would likely jump to the conclusion that the Licensing Board misrepresented the facts when it stated in effect that it had not seen Judge Cotter's draft order. (Among other things, the latter provided sixteen days for discovery; for its part, the Licensing Board was prepared to allow only ten days for that purpose.)[71] Moreover, had the schedules been closer, an objective observer might still have been hesitant to indulge in the conjecture that the Board members were untruthful.

Insofar as the Licensing Board's GDC 17 ruling is concerned, the movants endeavor to tie it to (1) the notes that Judge Cotter took at the March 16 meeting;[72] and (2) the Cotter draft order.[73] The former referred to a discussed "alternative solution for low power" in these words: "LILCO file proposal to get around diesel issue [and] hold hearing on *operation at low power.*"[74] The latter suggested that the Commission direct the Licensing Board to hold a hearing on that proposal.[75] Even assuming that one or both of these documents could be taken as communicating a judgment on Chairman Palladino's part respecting precisely how the GDC 17 issue should be decided (a dubious assumption at best),[76] it simply does not follow that the Board must have been both aware of that judgment and influenced by it. The short of the matter is there is absolutely nothing before us that lends any support to a reasoned challenge to the Board's explicit representation that the GDC 17 ruling in the April 6 order reflected its independent thinking on the issue.

What remains for consideration is the movants' attempted reliance[77] upon the separate opinion of Commissioner Asselstine in connection with the Commission's May 16 order reversing the Licensing Board's GDC 17 ruling and providing a suggested hearing schedule.[78] In that

---

[69] June 21 disqualification motion, *supra*, at 8.

[70] *See* p. 27 & note 31, *supra*.

[71] *Ibid.*

[72] *See* note 24, *supra*.

[73] June 21 disqualification motion, *supra*, at 9-10.

[74] Cotter notes at 1 (emphasis in original).

[75] Cotter draft order, *supra*, at 4, 5-6.

[76] To us, the cryptic Cotter note quoted in the text does not suggest that the Chairman had already decided that the applicant should prevail on the GDC 17 issue. And, significantly, when the issue ultimately came before the Commission, the Chairman joined his colleagues in reversing the Licensing Board's ruling in the applicant's favor. CLI-84-8, *supra*.

[77] June 21 disqualification motion, *supra*, at 11 & n.2.

[78] CLI-84-8, *supra*, 19 NRC at 1160.

opinion, joined on the point by Commissioner Gilinsky in his own separate opinion,[79] Commissioner Asselstine expressed his belief that this Licensing Board should be replaced.[80] This was not, however, because the Commissioner thought that the Board had been guilty of prejudgment or, for some other reason, was subject to disqualification based upon its March 30 and April 6 orders. Indeed, the Commissioner did not mention either of those orders but instead referred specifically only to a subsequent Board order concerned with a quite different matter.[81] In these circumstances, there is no substance to the movants' suggestion that Commissioners Asselstine and Gilinsky have demonstrated that the *Cinderella* disqualification standard has been satisfied.[82]

For the foregoing reasons, we hold that the disqualification motion is both legally and factually insubstantial.[83] Accordingly, the Licensing Board's denial of the motion in its June 25, 1984 order is *affirmed*.

It is so ORDERED.

FOR THE APPEAL BOARD

C. Jean Shoemaker
Secretary to the
Appeal Board

Opinion of Mr. Edles, concurring in the result:

I join the Board's result but wish to outline my slightly different path to decision. Because I do not believe that there is ample information to

---

[79] *Id.* at 1159.

[80] *Id.* at 1160.

[81] *Ibid.* The disqualification motion at hand does not allude to that order.

[82] June 21 disqualification motion, *supra*, at 11-12.

[83] Because Mr. Edles concurs in this result, there is no need to dwell at length upon our differences in approach. Suffice it to say that, as indicated earlier in this opinion, we do not share his belief that the disqualification motion should be read as impliedly asserting that the Licensing Board has created the appearance of prejudgment of "the ultimate question of the applicant's entitlement to a low-power license." *See* p. 40, *infra*. For one thing, had movants' counsel intended to advance such a claim, it is reasonable to assume that they would have done so explicitly and not left it a matter of implication. (In this regard, given their sensitivity, it is especially important that *all* disqualification motions set forth their bases with particularity.) Secondly, the movants have pointed to nothing that might support a claim of apparent prejudgment of the ultimate issue by the Licensing Board. Thus, to imply such a claim would be to do the movants the disservice of suggesting that they seek to have the Licensing Board removed on wholly frivolous grounds.

lead a disinterested observer to conclude that the Miller Board has prejudged matters of substance before it, I would affirm its decision. Given my view on the merits, I do not reach the issue of timeliness.

I do not believe that the County and the State have made out an adequate case for disqualification. In so concluding, I accept the Miller Board's unchallenged representation that its members were in no way importuned by Chairman Palladino, Judge Cotter, or others. I also accept their assertion that the expedited schedule was of their own making.

That is not to say, however, that the Miller Board did not understand, or assume, that it was to move quickly on the low-power request. The Brenner Board originally handling the case, after all, had set a schedule looking toward a decision on the issue of a low-power license by the end of 1984. Thereafter, it was decided that another board should handle the pending application. At a minimum, the Miller Board must have reasoned that it was created in order to decide the low-power application on a faster schedule than the Brenner Board.

I share the majority's view, however, that neither the Board's belief that expedition of the case was in accord with the wishes of someone in the hierarchy (if that was its belief) nor its decision to expedite, standing alone, constitutes a valid basis for disqualification. Court decisions indicate that only where outside agents attempt by procedural means to influence the substantive outcome of a case through external pressure on a presiding officer might disqualification be in order.[1]

Suffolk County and the State allege more than impermissible expedition, however. As my colleagues note, the Licensing Board is charged with the appearance of prejudgment. The majority believes that the movants allege only prejudgment of discrete legal or policy issues. I disagree. As I see it, the movants also claim that there is an appearance that the Licensing Board has in some measure prejudged the ultimate question of the applicant's entitlement to a low-power license. The clear import of the motion is that a disinterested observer would infer that the Miller Board's actions were part of its involvement with the Chairman, Judge Cotter, and the NRC staff "in pursuit of aiding LILCO with an 'expedited' low power decision that 'got around' the diesel issue."[2] The March 30 decision to expedite the application, the ruling on GDC 17,

---

[1] *See PATCO v. Federal Labor Relations Authority*, 685 F.2d 547, 569 n.46 (D.C. Cir. 1982); *Nash v. Califano*, 613 F.2d 10 (2d Cir. 1980); *Gulf Oil Corp. v. FPC*, 563 F.2d 588, 610 (3d Cir. 1977); *Federal Broadcasting System v. FCC*, 225 F.2d 560, 566 (D.C. Cir.) (dictum), *cert. denied sub nom. WHEC v. Federal Broadcasting System*, 359 U.S. 923 (1955).

[2] June 21 disqualification motion at 11.

and the schedule outlined in the April 6 order are not the exclusive subjects of the motion. They are, the movants believe, also indicia of the Board's ultimate predisposition. The ultimate question on which the appearance of prejudgment is alleged — i.e., whether a license should issue — is a mixed question of fact, law and, perhaps, policy and discretion, that could justify disqualification.

Applying the *Cinderella* standard, however, I think a disinterested observer, familiar with the facts as now known, would conclude that no substantive judgment on the eventual outcome of the application, or any subsidiary factual determinations, has as yet been made. I do not suggest that the movant's theory underlying disqualification — i.e., that the Miller Board has been in some measure coopted — might not be inferred by some cynical or skeptical observers despite the Board's assertions to the contrary. Such allegation may well also demand a more searching appellate examination of any decision the Board may eventually reach on the merits. But, on the basis of present information, I think it is more reasonable to conclude simply that the Miller Board saw its role as getting the show on the road.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Administrative Judges:

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

In the Matter of **Docket Nos. 50-352**
50-353

PHILADELPHIA ELECTRIC COMPANY
(Limerick Generating Station,
Units 1 and 2) **July 23, 1984**

The Appeal Board affirms the Licensing Board's oral ruling denying the intervenor's motion for a hearing in connection with the applicant's revised request for authority under 10 C.F.R. Part 70 to ship, receive and store new fuel at the Limerick site prior to receipt of an operating license for the plant. The Appeal Board also denies the intervenor's request for a stay of any movement of new fuel from the outdoor storage area to inside the plant.

RULES OF PRACTICE: IMMEDIATELY APPEALABLE ACTIONS

A licensing board ruling that removes any possible adjudicatory impediments to the issuance of a 10 C.F.R. Part 70 license by the Director of the Office of Nuclear Material Safety and Safeguards (NMSS) is immediately appealable. *Philadelphia Electric Co.* (Limerick Generating Station, Units 1 and 2), ALAB-765, 19 NRC 645, 648 n.1 (1984).

MATERIALS LICENSE UNDER PART 70: SCOPE

A Part 70 materials license does not permit operation of a reactor at any power level, or even loading of the fuel into the reactor vessel.

RULES OF PRACTICE: PROOF OF SERVICE

Proof of service should accompany all filings with the Commission. A certificate of service should show the names and addresses of the persons served, the manner of service (e.g., deposit in the U.S. mail), the date of service, and averment of the person making service. *See* 10 C.F.R. §§ 2.712(e), 2.701(b). All filings must also be submitted to the Commission's Public Document Room or Secretary. 10 C.F.R. § 2.701(a).

RULES OF PRACTICE: RESPONSIBILITIES OF PARTIES (LAY REPRESENTATION)

Even though represented in proceedings by a non-lawyer, a party is expected to comply with the rules of practice. *See Pennsylvania Power and Light Co.* (Susquehanna Steam Electric Station, Units 1 and 2), ALAB-563, 10 NRC 449, 450 n.1 (1979).

RULES OF PRACTICE: ISSUES ON APPEAL

An adjudicatory decision is usually the product of the arguments raised by the litigants. A party cannot be heard to complain later about a decision that fails to address an issue no one sought to raise.

MATERIALS LICENSE UNDER PART 70: RESPONSIBILITIES OF NRC STAFF

Notwithstanding the absence of a hearing on an application for a materials license under 10 C.F.R. Part 70, the Commission's regulations require the staff to make a number of findings concerning the applicant and its ability to protect the public health and safety before issuance of the license. *See* 10 C.F.R. §§ 70.23, 70.31. *Cf. South Carolina Electric and Gas Co.* (Virgil C. Summer Nuclear Station, Unit 1), ALAB-642, 13 NRC 881, 895-96 (1981), *aff'd sub nom. Fairfield United Action v. NRC*, 679 F.2d 261 (D.C. Cir. 1982).

MATERIALS LICENSE UNDER PART 70: APPLICATION FOR LICENSE (AMENDMENT)

An amendment to a Part 70 application gives rise to the same rights and duties as the original application.

MATERIALS LICENSE UNDER PART 70: HEARINGS

A person whose interest may be affected by Part 70 licensing action is entitled to some form of adjudication of that interest, though it need not be a formal hearing before a licensing board. *See* section 189a(1) of the Atomic Energy Act, 42 U.S.C. § 2239a(1). The consistent agency practice, however, is for licensing boards, already presiding at operating license hearings, to act on requests to raise Part 70 issues involving the same facility. *Limerick, supra,* ALAB-765, 19 NRC at 651-52.

RULES OF PRACTICE: CONTENTION (ADMISSIBILITY)

To be admissible for litigation in a licensing proceeding, the contention and its bases must be set forth with reasonable specificity. 10 C.F.R. § 2.714(b).

TECHNICAL ISSUES DISCUSSED

Handling and Storage of New Fuel at the Reactor Site;
Fire Protection of New Fuel at the Reactor Site.

APPEARANCES

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

Troy B. Conner, Jr., Mark J. Wetterhahn, and **Nils N. Nichols,** Washington, D.C., for applicant Philadelphia Electric Company.

Joseph Rutberg for the Nuclear Regulatory Commission staff.

MEMORANDUM AND ORDER

Intervenor Friends of the Earth (FOE) appeals and seeks a stay of a June 19, 1984, ruling from the bench by the Licensing Board during a hearing on the application of Philadelphia Electric Company (PECo) for a license to operate the Limerick nuclear facility. *See* Tr. 12,057-64. Through a motion, filed with the Licensing Board on June 18, 1984, FOE sought to submit unspecified contentions based on PECo's June 7, 1984, revisions to its application, pursuant to 10 C.F.R. Part 70, for the shipment, receipt, and storage of new fuel at Limerick. FOE also sought to stay movement of the fuel from outdoors to the refueling floor inside the plant. Relying principally on earlier decisions concerning PECo's Part 70 application, the Licensing Board denied FOE's motion. *See* LBP-84-16, 19 NRC 857, *aff'd*, ALAB-765, 19 NRC 645 (1984).

As explained below, although we do not agree with all aspects of the Licensing Board's oral ruling, we find FOE's appeal to be without merit.[1]

I.

The background of the instant appeal is reflected in two previous decisions by the Licensing Board and this Appeal Board. *See* LBP-84-16, *supra*, and ALAB-765, *supra*. Briefly, PECo earlier applied under 10 C.F.R. Part 70 for authority to ship, receive, and store new fuel at Limerick, in advance of obtaining a 10 C.F.R. Part 50 license to operate the facility. FOE sought a hearing before the Licensing Board on the Part 70 application and tendered several contentions that it proposed to litigate. The Board dismissed each for lack of basis and specificity. *See* 10 C.F.R. § 2.714(b). It also concluded that FOE had failed to supply a credible scenario for either a criticality accident or the release of harmful radiation through some means not involving criticality. We affirmed the Licensing Board's decision.[2] In the absence of any litigable contentions, there was no need for a hearing on PECo's Part 70 application. Thus, the Director of NMSS was free to issue all or a portion of the Part 70 "materials license" sought by PECo's application. On April 3, 1984, the

---

[1] The Licensing Board's ruling removed any possible adjudicatory impediments to the issuance of the Part 70 license by the Director of the Office of Nuclear Material Safety and Safeguards (NMSS). Thus, the ruling is immediately appealable. *See* ALAB-765, *supra*, 19 NRC at 648 n.1. Our jurisdiction to pass on FOE's appeal and stay request is pursuant to Commission Order of March 22, 1984 (unpublished). ALAB-765, *supra*, 19 NRC at 650 n.6.

[2] The Commission declined to review ALAB-765, making it administratively final on June 8, 1984. Robert L. Anthony, FOE's *pro se* representative, has petitioned for judicial review of this action. *Anthony v. Philadelphia Electric Co.*, No. 84-3409 (3d Cir. filed June 28, 1984).

Director issued Materials License No. SNM-1926 authorizing PECo to receive, possess, and store a specified quantity of new fuel assemblies in their shipping containers in the designated *outdoor* New Fuel Storage Area at Limerick.

Prompted at least in part by a request from the NRC staff for more information about the remaining portion of its Part 70 application, on June 7, 1984, PECo provided that information and "revised" certain portions of its earlier application. It also requested the staff to issue the remainder of the license authorizing movement to the refueling floor for inspection and storage in the fuel pool. *See* Letter from B.L. Serini (NRC) to S. Payton (PECo) (April 25, 1984); Letter from Gallagher/Kemper (PECo) to R.G. Page (NRC) (June 7, 1984) and Attachments [hereafter, "June 7 Application"]. PECo's revisions to its Part 70 application and the request to move the fuel indoors are the source of FOE's present concern.[3] Although FOE's June 18, 1984, filing with the Licensing Board was styled "Contentions Based on New Matter . . ." relating to the Part 70 application, FOE in fact proposed no specific contentions, "reserv[ing] the right to submit these to the Board if and when revisions of the license in the proper form are submitted."

The Licensing Board found no need to await responses to FOE's June 18 motion and denied it summarily. The Board ruled that its previous decision, LBP-84-16, *supra*, "finding no health and safety or any other impact to the then-proposed contentions . . . under the proposed Part 70 license[,] . . . subsequently issued, . . . still appl[ies]." Tr. 12,058. The Board thus declined "to revisit the issue again," and suggested that, in any event, it did not have jurisdiction to do so. *Ibid.* The Board also stated that "[t]he fact that there may be changes under the license or conditions does not affect the very basic findings which we made in rejecting the contentions [in LBP-84-16]." Tr. 12,059. In the Board's view, "any further changes under the license" do not have "to come before and through the Board." *Ibid. See also* Tr. 12,062.

On appeal,[4] FOE argues that both the Licensing Board's earlier decision in LBP-84-16 and our affirmance of it in ALAB-765 are limited to

---

[3] FOE has also filed motions before the Licensing Board, and argues here before us as well, in opposition to PECo's May 9, 1984, motion for an expedited partial initial decision and low power license to load and test fuel in the reactor. The Licensing Board has not yet ruled on the various motions concerning any low power authorization. Thus, there is no decision in this regard that could be appealed. Accordingly, FOE's low power and related arguments, sprinkled throughout its Part 70 appeal, are not properly before us and will not be addressed. We emphasize that a Part 70 materials license does *not* permit operation of the reactor at *any* power level, or even loading of the fuel into the reactor vessel.

[4] FOE's appeal does not contain proof of service, as required by the Commission's Rules of Practice. A certificate of service should show the names and addresses of the persons served, the manner of service (e.g., deposit in the U.S. mail), the date of service, and averment of the person making service. *See* 10

(Continued)

storage of the new fuel assemblies outside the plant buildings, whereas its present concern is the movement inside, uncrating, and indoor storage of the fuel. FOE also points to the revisions of PECo's Part 70 license application as new matter not encompassed in the earlier Board decisions. FOE concedes that it did not proffer any contentions based on this new matter, but claims it reserved a right to do so. In that connection, it presents four "contentions" to us in its appeal papers. Both the NRC staff and applicant oppose FOE's appeal.

II.

FOE's argument that the two earlier Board decisions on PECo's Part 70 application concern only the outdoor storage of the new fuel assemblies is without merit. To be sure, the principal focus of both LBP-84-16 and ALAB-765 is the temporary storage of the fuel outside the plant in the New Fuel Storage Area. But those decisions necessarily focus on the outside storage because that is the primary area to which *FOE* directed its arguments. PECo's original Part 70 application[5] clearly included a request for authority to move the new fuel inside the plant for storage. *See, e.g.*, PECo Amended Application for Special Nuclear Material License for Limerick Generating Station Unit No. 1 (attached to Letter from B.H. Vogler to Licensing Board (February 21, 1984)) [hereafter, "January Application"] at 2, § 1.2.1; 3-4, § 1.2.3; 8, § 1.2.4.2; 17-18, § 2.2.4.2; 18-19, § 2.2.4.3; 20, § 2.2.5.2; 20-21, § 2.2.5.3; 23-24, § 2.3.2. Thus, FOE could have raised contentions about indoor as well as outdoor storage at the time of its earlier filing that led to the decision in LBP-84-16. In fact it did so, to a limited extent, and the Boards' decisions address those arguments accordingly. *See, e.g.*, LBP-84-16, *supra*, 19 NRC at 871, and ALAB-765, *supra*, 19 NRC at 655, concerning FOE's proposed contention on the overhead crane, which is inside the plant.

Simply stated, an adjudicatory decision is usually the product of the arguments raised by the litigants. A party cannot be heard to complain later about a decision that fails to address an issue no one sought to

---

C.F.R. §§ 2.712(e), 2.701(b). FOE's appeal also does not show that any copies were filed, as required, with the Commission's Public Document Room or Secretary. *See* 10 C.F.R. § 2.701(a). We remind FOE that even though it is represented in this proceeding by a non-lawyer, it is expected to comply with the Rules of Practice. *See Pennsylvania Power and Light Co.* (Susquehanna Steam Electric Station, Units 1 and 2), ALAB-563, 10 NRC 449, 450 n.1 (1979).

[5] We refer to PECo's Part 70 application, as amended and submitted to the staff in January 1984, as its "original" application because that was essentially the version under consideration in LBP-84-16 and ALAB-765. In fact, PECo's first Part 70 filing was in June 1983. *See* ALAB-765, *supra*, 19 NRC at 649.

raise. Thus, the fact that the Licensing Board's and our earlier decisions speak principally to outdoor storage of the new fuel is a direct reflection of FOE's concerns, as expressed to us. Further, it is too late now for FOE to raise issues in connection with PECo's original Part 70 application. *See* p. 51, *infra*.

FOE's earlier failure to propose any litigable contentions meant that no hearing was required for PECo's original Part 70 application. The Director of NMSS was therefore "authorized" to issue the entire special nuclear material license sought by the application as it was then worded. Notwithstanding the absence of a hearing, however, the Commission's regulations require the staff to make a number of findings concerning the applicant and its ability to protect the public health and safety before issuance of the license. *See* 10 C.F.R. §§ 70.23, 70.31. *Cf. South Carolina Electric and Gas Co.* (Virgil C. Summer Nuclear Station, Unit 1), ALAB-642, 13 NRC 881, 895-96 (1981), *aff'd sub nom. Fairfield United Action v. NRC*, 679 F.2d 261 (D.C. Cir. 1982). Pursuant to those responsibilities, the Director issued only that part of the license that would permit outdoor storage of the fuel and requested additional information from PECo. PECo provided that information by revising its application on June 7.

To the extent that PECo's June 7 revisions significantly amend its earlier application, neither our earlier decisions nor FOE's earlier proposed contentions could have addressed those amendments.[6] We therefore agree with FOE that this is new matter, giving rise to the same rights and duties as the original application. In ALAB-765, *supra*, 19 NRC at 651, we observed that a person whose interest may be affected by Part 70 licensing action is entitled to some form of adjudication of that interest, though it need not be a formal hearing before a licensing board.[7] We also noted, however, that "[t]he consistent agency practice . . . is for licensing boards, already presiding at operating license hearings, to act on requests to raise Part 70 issues involving the same facility." *Id.* at 652. We thus went on to uphold the Licensing Board's assertion of jurisdiction in this proceeding over PECo's Part 70 application.

In this circumstance, we think it was proper for FOE to return to the Licensing Board with its complaints about the June 7 revisions to PECo's materials license application. We therefore disagree with the Licensing Board insofar as its oral ruling here on appeal suggests that it

---

[6] The Licensing Board's oral ruling and the pleadings filed by FOE and PECo refer to a "license amendment." A *license* amendment, however, is not what is actually at issue here — rather, an amendment (i.e., PECo's June 7 revisions) to that part of the Part 70 *application* for which no license has yet been issued.

[7] This right is derived from section 189a(1) of the Atomic Energy Act, 42 U.S.C. § 2239a(1).

was without authority even to consider any contentions based on the application as recently revised.[8]

This ruling, however, constitutes harmless error, for FOE actually proposed *no* contentions to the Licensing Board based on the revised application. FOE's claim that it reserved a right to submit contentions at a later time must fail. FOE appears to base this claim on its view that the revisions to PECo's license application were not submitted to *the Board* properly. But all that the Commission's regulations seem to require with respect to Part 70 applications is submission to designated NRC *staff* offices. *See* 10 C.F.R. §§ 70.5, 70.21. *Compare* 10 C.F.R. § 2.101.[9]

We need not determine, however, what constitutes "proper submission" of Part 70 documents. Here, the important fact is that PECo sent copies of the revisions to its Part 70 application to FOE's representative, the other parties, both the Licensing and Appeal Boards, and the Commission's Docketing and Service Branch on or soon after June 7, 1984. Indeed, FOE acknowledged its "receipt" of this document from PECo in its June 18, 1984, motion before the Licensing Board.[10] Hence, there is no justification for FOE's failure to submit contentions to the Licensing Board along with its other more generalized arguments.

FOE now attempts to cure this infirmity in its case by proposing four "contentions" to us in its appellate papers.[11] We would ordinarily remand such a matter to the Licensing Board, leaving it to determine whether the contentions are too late and, if not, whether they have merit. But, as we explain below, the contentions are clearly without merit. A remand in this circumstance would result in an unproductive use of both the Commission's and the parties' resources. For this reason

---

[8] The Board's ruling is somewhat ambiguous: it could be understood to mean that the very breadth of its earlier opinion in LBP-84-16 (covering both criticality and noncriticality accidents) would necessarily dispose of *any* contentions that could arise from the Part 70 application. *See* Tr. 12,059-12,062. We would agree that the laws of physics and the physical properties of the new fuel assemblies here involved — which undergirded the Board's opinion in LBP-84-16, as well as ours in ALAB-765 — erect substantial obstacles to the formulation of a litigable contention. We are not prepared to assume, however, that they effect an absolute preclusion of such a contention. In any event, as explained above, a party is entitled to an opportunity to attempt the proposal of an admissible contention.

[9] In ALAB-765, *supra*, 19 NRC at 651 n.10, 657 n.20, we noted the absence of any clearcut notice requirement for materials licenses. *See* 10 C.F.R. § 70.21(d) (documents relating to Part 70 applications "may" be made available for public inspection). We renew our suggestion in ALAB-765 that the Commission consider establishing clearer procedures for the handling of materials license cases.

[10] Thus, the problem of PECo's failure to notify the Board and parties of its original Part 70 application — discussed in ALAB-765, *supra*, 19 NRC at 656-57 — is not present here.

[11] PECo argues that these contentions "clearly could have been proffered by FOE in its [earlier] motions" to the Licensing Board, and cites one example. Applicant's Response (July 20, 1984) at 12. As is shown at pp. 50-52, *infra*, apart from that one example, FOE's contentions concern PECo's June 7 revisions and clearly could *not* have been proffered earlier.

alone, we take the unusual step of briefly discussing FOE's proposed contentions.[12]

FOE's first contention concerns § 1.2.4.2 of PECo's application, which has been revised to provide that "[a]t least one of two water sources . . . and two fire pumps . . . will be available" for fire protection of the new fuel inside the plant. June 7 Application at 8, § 1.2.4.2. This section previously stated that "[a]ll fire protection systems . . . will be in place and operative . . . ." January Application at 8, § 1.2.4.2. FOE claims that an explosion from a nearby pipeline or railroad accident would collapse the cooling towers, damaging the nonsafety pumphouse and disabling both fire pumps. Thus, "fire protection cannot be assured 'operative' until mitigating measures against these explosion hazards have been carried out." FOE Appeal (July 3, 1984) at 2. But as in the case of the contentions dismissed in LBP-84-16, FOE again fails to provide an adequate basis and specificity for its contention. *See* 10 C.F.R. § 2.714(b). Indeed, the particular risk that is of concern to FOE is not even indicated.

Given that FOE's proposed contention is directed to the revision to § 1.2.4.2 of the application,[13] however, we assume that its basic concern is with the apparent lack of redundancy in fire protection. We further assume that FOE is fearful that a fire (of unknown origin) on the refueling floor might become uncontrollable in the absence of such protection and destroy the cladding and other shielding around the fuel, thereby facilitating the emission of harmful levels of radiation. But even if such an unlikely destruction of the fuel cladding were to occur, we explained in ALAB-765, *supra*, 19 NRC at 654, that unprotected ceramic uranium dioxide fuel pellets of the involved enrichment "would emit radiation at levels well below the dose limits set by the Commission in 10 C.F.R. Part 20." *See* Affidavit of Norman Ketzlach (March 13, 1984) at 2-3. Thus, even with our aid in fleshing out its contention, FOE has failed to posit a credible risk that warrants further consideration.

FOE's second contention is based on PECo's revision to § 2.2.5.3 of its application. In response to the staff's request, PECo specified that the minimum distance on the refueling floor between (i) a pile of shipping containers loaded with new fuel and (ii) other fuel assemblies (e.g., open containers and those at the inspection station) will be five feet. The minimum distance between a pile of loaded shipping containers and

---

[12] Other litigants should not take this as a cue, however, to bypass licensing boards in similar fashion in the future.

[13] And, as explained above at p. 48, FOE's claims at this juncture can properly be based *only* on the June 7 revisions to the application. It is too late to raise arguments about the original Part 70 application. *See also* p. 51, *infra*.

the spent fuel racks will be 23 vertical feet. *See* Letter from B.L. Serini, *supra*, Enclosure at 2; June 7 Application at 21, § 2.2.5.3. FOE's contention does not challenge the distances themselves as inadequate; rather, FOE complains that there is no mechanical means to *assure* that these distances will be maintained. FOE Appeal at 3. Presumably, FOE is concerned here about a criticality accident, though it does not so state. But FOE has failed to explain why such special assurance is necessary in this instance.

In the first place, FOE does not provide the elements of a credible scenario for a criticality accident involving these new fuel assemblies. *See* ALAB-765, *supra*, 19 NRC at 654. Further, if PECo's application is granted and a license based thereon is issued, the maintenance of the specified distances between groups of assemblies will necessarily be a condition of that license (just like many other aspects of the application). Failure to observe that required spacing would be a violation of the terms of the license, subjecting PECo to NRC enforcement action and possible civil penalties. That provides the incentive to "assure" maintenance of these distances, especially in the absence of any basis for requiring more.

FOE's third proposed contention concerns § 2.2.5.4 of the application and asserts that "[t]here is no qualification for auxiliary hoist or cherry picker . . . ." FOE Appeal at 3. Apart from the fact that FOE again fails to explain what it means,[14] § 2.2.5.4 was *not* revised by PECo's June 7 filing. *Compare* January Application at 21, § 2.2.5.4, with June 7 Application at 21-21A, § 2.2.5.4. Thus, FOE is estopped from raising any new contentions on this matter, unless it satisfies the Commission's criteria for admitting late contentions, 10 C.F.R. § 2.714(a)(1) – which FOE has made no effort to do.

Finally, FOE refers to the revision of § 2.3.2, which gives PECo the option of storing the new fuel assemblies in the spent fuel pool either underwater or dry. FOE argues that dry storage does not afford safe protection against a criticality accident and that storage in borated water is "required." FOE Appeal at 3. FOE provides no reference to such a requirement and we can find none. *See, e.g.*, NUREG-0800, NRC Standard Review Plan (SRP), § 9.1.1; American National Standard ANSI/ANS-57.3-1983. Indeed, dry storage of these new fuel assemblies logically provides *more* protection from a criticality accident because water acts as a "moderator" necessary to achieve and to sustain a critical chain

---

[14] FOE refers to "FSAR [Final Safety Analysis Report] Table 2.1 'Nonexempt heavy load handling system.'" We can find no such reference. We call FOE's attention, however, to FSAR, § 9.1.5, which discusses the qualification of the reactor enclosure crane.

reaction. *See* ALAB-765, *supra*, 19 NRC at 654.[15] Thus, this contention as well lacks any basis.

In sum, any significant amendment to a Part 70 application gives rise to the same hearing rights as the original application. Given the Licensing Board's previous assertion of jurisdiction over PECo's original Part 70 application, it was reasonable here for FOE to return to that Board with its concerns about such amendments. FOE failed to propose any contentions to that Board, however, and those it seeks to raise before us are without merit. We therefore *affirm* the Licensing Board's ultimate ruling denying FOE's June 18 motion and deny its request for a stay.

It is so ORDERED.

FOR THE APPEAL BOARD

C. Jean Shoemaker
Secretary to the
Appeal Board

---

[15] This is not to suggest that storage of new fuel in water is not safe. Rather, the overall conditions of the pool and configuration of the fuel must be such that certain Commission standards for protection against criticality are satisfied. *See* SRP, § 9.1.1, *supra*. FOE here raises no specific challenge to the criticality calculations performed for the Limerick fuel pool. *See* FSAR, § 9.1.2.3.1.

We also note that the boron in the borated water that FOE claims is "required" is already present in the boral plates in the fuel pool racks. *See* January Application at 4-5, § 1.2.3.1; 18-19, § 2.2.4.3.

Atomic Safety and Licensing Boards Issuances

ATOMIC SAFETY AND LICENSING BOARD PANEL

B. Paul Cotter, **Chairman*
Robert M. Lazo, **Vice Chairman (Executive)*
Frederick J. Shon, **Vice Chairman (Technical)*

Members

Dr. George C. Anderson
Charles Bechhoefer*
Peter B. Bloch*
Lawrence Brenner*
Glenn O. Bright*
Dr. A. Dixon Callihan
James H. Carpenter*
Hugh K. Clark
Dr. Richard F. Cole*
Dr. Frederick R. Cowan
Dr. Michael A. Duggan
Dr. George A. Ferguson
Dr. Harry Foreman
Richard F. Foster
John H Frye III*
James P. Gleason
Andrew C. Goodhope
Herbert Grossman*
Dr. Cac st H. Hand, Jr.
Jerry Harbour*
Dr. David L. Hetrick
Ernest E. Hill
Dr. Frank F. Hooper
Helen F. Hoyt*
Elizabeth B. Johnson
Dr. Walter H. Jordan
James L. Kelley*
Jerry R. Kline*
Dr. James C. Lamb III
James A. Laurenson*
Gustave A. Linenberger*
Dr. Linda W. Little
Dr. Emmeth A. Luebke*
Dr. Kennth A. McCollom
Morton B. Margulies*
Gary L. Milhollin
Marshall E. Miller*
Dr. Peter A. Morris*
Dr. Oscar H. Paris*
Dr. Hugh C. Paxton
Dr. Paul W. Purdom
Dr. David R. Schink
Ivan W. Smith*
Dr. Martin J. Steindler
Dr. Quentin J. Stober
Seymour Wenner
John F. Wolf
Sheldon J. Wolfe*

**Permanent panel members*

Cite as 20 NRC 53 (1984) **LBP-84-26**

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

Sheldon J. Wolfe, Chairman
Dr. George C. Anderson
Dr. Hugh C. Paxton

In the Matter of **Docket No. 50-482-OL**
(ASLBP No. 81-453-03-OL)

KANSAS GAS & ELECTRIC COMPANY, *et al.*
(Wolf Creek Generating Station, Unit 1)

July 2, 1984

The Licensing Board issues an Initial Decision authorizing the issuance of an operating license for the Wolf Creek Generating Station, Unit No. 1, provided two conditions have been met prior to the issuance of the operating license.

RULES OF PRACTICE: STIPULATIONS

Having accepted the benefits of a stipulation, one is estopped from challenging it. *Toledo Edison Co.* (Davis-Besse Nuclear Power Station), ALAB-300, 2 NRC 752, 767-68 (1975).

OPERATING LICENSE HEARINGS: ISSUES FOR CONSIDERATION

At the operating license stage, a Licensing Board passes only upon contested matters. While a Licensing Board has the residual power to delve into any serious matter, even if no party has put it into issue, here

the Board determines that there were no serious matters which it should raise *sua sponte*, and thus, the decision as to all other matters which need be considered prior to the issuance of this operating license is the responsibility of the NRC Staff and it alone. 10 C.F.R. §§ 2.104(c), 2.760a; 10 C.F.R. Part 2, Appendix A, VIII(b); *Consolidated Edison Co. of New York* (Indian Point, Units 1, 2 & 3), ALAB-319, 3 NRC 188 (1976).

RULES OF PRACTICE: FINDINGS OF FACT

If the Licensing Board, pursuant to 10 C.F.R. § 2.754, directs that all parties should file proposed findings of fact, conclusions of law and briefs, any party failing to file these submissions shall be deemed in default. *Florida Power & Light Co.* (St. Lucie Nuclear Power Plant, Unit 2), ALAB-280, 2 NRC 3, 4 n.2 (1975).

EMERGENCY PLANS

Emergency planning is a continuous process and a Licensing Board's findings are predictive.

EMERGENCY PLANS

Minor details, which are not set forth in the emergency plans, are a proper subject for post-hearing resolution by the NRC Staff. *Louisiana Power and Light Co.* (Waterford Steam Electric Station, Unit 3), ALAB-732, 17 NRC 1076, 1106 (1983).

TECHNICAL ISSUES DISCUSSED

Emergency Plans.

APPEARANCES

Jay E. Silberg, Esq., and **Delissa A. Ridgway, Esq.**, for the Applicants

Myron Karman, Esq., for the United States Nuclear Regulatory Commission

Brian Cassidy, Esq., for the Federal Emergency Management Agency

John M. Simpson, Esq., for the Intervenors

TABLE OF CONTENTS

	Page
OPINION	56
I. INTRODUCTION	56
A. Background	56
B. Content of Opinion and Findings	58
II. EMERGENCY PLANNING REGULATIONS	60
III. THE CONTENTIONS	61
1. Initial Notification and Official Communications	61
2. Coffey County Courthouse and EOC Communications	62
3. Sheriff's Communications Equipment	63
6. Emergency Response Command and Control	64
8. Evacuation Time Estimates	64
9. Evacuation Routes	65
11. Public Alert and Notification System	65
12. Public Emergency Planning and Information	68
13. Evacuation of Pregnant Women and Small Children	69
14. Evacuation of Schools	69
15. Evacuation of Health Care Facilities and Residents Needing Special Transportation Assistance	70
16. Evacuation of Persons Without Private Transportation	72
18. Traffic Control, Access Control and EPZ Security	74
19. Radiation Monitoring and Decontamination	75
20. Shelter Facilities and Services	79
25. County EOC Evacuation	81
28. Dose Control for Emergency Workers	82
29. Training	83
31. Resource Availability and Allocation	86
IV. CONCLUSION	87
FINDINGS OF FACT	87
1. Initial Notification and Official Communications	87
2. Coffey County Courthouse and EOC Communications	89
3. Sheriff's Communications Equipment	90

Page

FINDINGS OF FACT *(Continued)*

6. Emergency Response Command and Control 90
8. Evacuation Time Estimates 91
9. Evacuation Routes 91
11. Public Alert and Notification System 93
12. Public Emergency Planning and Information 96
13. Evacuation of Pregnant Women and Small Children 97
14. Evacuation of Schools 97
15. Evacuation of Health Care Facilities and Residents Needing Special Transportation Assistance 99
16. Evacuation of Persons Without Private Transportation 102
18. Traffic Control, Access Control and EPZ Security 104
19. Radiation Monitoring and Decontamination 106
20. Shelter Facilities and Services 111
25. County EOC Evacuation 113
28. Dose Control for Emergency Workers 114
29. Training 115
31. Resource Availability and Allocation 121

CONCLUSIONS OF LAW 122

ORDER 122

INITIAL DECISION
(Operating License)

Opinion

I. INTRODUCTION

A. Background

On May 17, 1977, the Nuclear Regulatory Commission ("NRC") issued a construction permit to the Wolf Creek Generating Station, Unit No. 1 ("Wolf Creek"). Wolf Creek is located in Coffey County, Kansas, approximately 53 miles south of Topeka, 75 miles southwest of Kansas City, and 100 miles east-northeast of Wichita. On August 5, 1980, Kansas Gas and Electric Company ("KG&E"), Kansas City Power &

Light Company, and Kansas Electric Power Cooperative, Inc. (collectively "Applicants") filed an operating license application for Wolf Creek.

Wanda Christy and Mary Ellen Salava ("Intervenors") sought a hearing and were admitted as Intervenors based on a contention challenging the workability of the emergency evacuation plan. Kansans for Sensible Energy ("KASE") was admitted as an Intervenor together with its contention on Applicants' financial qualifications.[1]

Following the completion of initial and supplemental discovery, the parties negotiated, and the Atomic Safety and Licensing Board ("Licensing Board") ultimately adopted over 300 extremely detailed contentions on the workability of emergency evacuation, which were grouped under thirty-two headings. (Unpublished Order of July 28, 1983). Some of these were subsequently withdrawn, leaving 216 contentions admitted as issues in controversy.

Evidentiary hearings took place on January 17-21, 23-26 and February 14-16, 1984 in Burlington and Emporia, Kansas. Limited appearance statements were also taken. During the course of the hearings, the Federal Emergency Management Agency (FEMA) tendered a document entitled "Interim Findings on the Adequacy of Radiological Emergency Response Planning by State and Local Governments at the Wolf Creek Generating Station, Burlington, Kansas (December 13, 1983, revised January 5, 1984)." This document was admitted into evidence as FEMA Exhibit 3. Also, the Coffey County Contingency Plan for Incidents Involving Commercial Nuclear Power, Revision September 1983, and the State of Kansas Plan, Annex A, Nuclear Facilities Incidents Response Plan, to Assistance R, Nuclear Emergencies of the State Disaster Emergency Plan, September 1983, were admitted respectively as Applicants' Exhibits 1 and 2.

---

[1] In an unpublished Order of June 9, 1982, the Board dismissed KASE as a party and its contention because, effective March 31, 1982, the Commission had amended its regulations to remove financial qualifications issues from, among other things, proceedings involving operating license applications by electric utilities. Upon appeal by KASE, the Appeal Board held the appeal in abeyance pending a decision in a federal court upon a petition for review of the amended financial qualifications rule. On February 7, 1984, in *New England Coalition on Nuclear Pollution v. NRC*, 727 F.2d 1127 (1984), the Court of Appeals for the District of Columbia granted the petition, and remanded the rule to the Commission for further proceedings consistent with its opinion. KASE moved for reinstatement, and, on April 30, 1984, the Appeal Board extended the time for the filing of responses to 4 days following the issuance of the Commission's new policy statement, which, it understood would be issued within a few days. The Financial Qualifications Statement of Policy, dated June 7, 1984, 49 Fed. Reg. 24,111 (1984), stated that the Commission's March 31, 1982 rule (eliminating case-by-case financial qualification review requirements for electric utilities) will continue in effect until finalization of the Commission's response to the Court's remand, and directed the licensing and appeal boards to proceed accordingly.

In addition, we would note that we are aware of the decision in *Union of Concerned Scientists v. NRC*, 735 F.2d 1437 (D.C. Cir. 1984). We understand that the Court's mandate will not issue for 45 days.

The Applicants filed their proposed findings of fact, conclusions of law and brief in the form of a proposed initial decision on March 20, 1984. The Intervenors filed a similarly captioned submission on March 30, 1984, and on April 9, 1984, the NRC Staff and the Federal Emergency Management Agency filed a joint submission. Applicants filed a reply on April 19, 1984.

B. Content of Opinion and Findings

The first part of this Initial Decision begins with the Licensing Board's Opinion, which encompasses an Introduction, the text of an opinion by the Appeal Board addressing Emergency Planning Regulations, an analysis of the Contentions, and a Conclusion.[2] The second part of the Initial Decision consists of the Board's Findings of Fact, Conclusions of Law, and Order.

It should be noted that all of the proposed findings of fact and conclusions of law submitted by the parties that are not incorporated directly or inferentially in this Initial Decision are rejected as unsupported in law or fact or as unnecessary to the rendering of this Initial Decision. Further, it should be noted that, at this, the operating license stage of this proceeding, we pass only on contested matters. While we have the residual power to delve into any serious matter, even if no party has put it into issue, we have determined that there were no serious matters which we should raise *sua sponte*, and thus, the decision as to all other matters which need be considered prior to the issuance of this operating license is the responsibility of the NRC Staff and it alone. 10 C.F.R. §§ 2.104(c), 2.760a; 10 C.F.R. Part 2, Appendix A, VIII(b); *Consolidated Edison Co. of New York* (Indian Point, Units 1, 2 & 3), ALAB-319, 3 NRC 188 (1976).

---

[2] We relegate to a footnote a matter raised by Intervenors in their brief under the heading "Issues in Controversy." In a Memorandum and Order of January 5, 1984 (LBP-84-1, 19 NRC 29), the Board had admitted a late-filed contention which alleged that the Town of Waverly and certain of its schools should be included in the plume exposure pathway emergency planning zone. Via a stipulation executed by all the parties, it was agreed, among other things, that Intervenors withdrew the contention, that the expansion of the EPZ to include Waverly and its schools would be shown in the Coffey County Plan, that various procedures or items would be provided for in the County Plan, and that other items would be furnished to Waverly schools and households. The Board accepted this stipulation on February 24, 1984 and it was admitted into evidence as All Parties' Exhibit 1. The Intervenors now urge in their brief that the operating license should not be issued until all the conditions specified in the stipulation are set forth in the County Plan and until the Applicants and Coffey County have demonstrated that they have met all the conditions in the stipulation. Intervenors cannot be heard to advance such an argument. The Waverly Contention has been withdrawn as an issue in controversy, and the Intervenors did not reserve in the stipulation any right to raise these restrictions. Moreover, in having accepted the benefits of the stipulation, the Intervenors are estopped from making such an argument. *Toledo Edison Co.* (Davis-Besse Nuclear Power Station), ALAB-300, 2 NRC 752, 767-68 (1975).

Finally, it should be noted that, pursuant to the decision in *Virginia Electric and Power Co.* (North Anna Nuclear Power Station, Units 1 and 2), ALAB-491, 8 NRC 245 (1978), the NRC Staff stated in the Safety Evaluation Report of April 1982 (Staff Exhibit 2), that it would therein evaluate thirteen applicable unresolved generic safety issues. With respect to twelve of these uncontested issues, the Staff explained why operation could proceed even though an overall solution had not been found — as to each of these the Staff concluded that Wolf Creek could be operated before ultimate resolution without undue risk to the health and safety of the public. We conclude that the Staff has taken these issues into account and we are satisfied that the Staff has dealt appropriately with these generic safety issues. However, with respect to A-46 Seismic Qualification of Equipment in Operating Plants, the Staff stated that it had not completed the seismic review of equipment in the Wolf Creek plant and would report on its review in a supplement to the SER. Since Supplements 1-4 did not address this matter, in a letter of June 5, 1984, the Board requested that the Staff provide, in affidavit form, a full and detailed explanation as to why it is acceptable to permit Wolf Creek to operate in the face of this safety issue under study, and, although this was an uncontested issue, invited comments by the other parties. The Staff attached to its covering letter of June 14, 1984, the affidavits and professional qualifications of two Staff members. The Applicants timely submitted their comments; however, FEMA and the Intervenors did not submit comments. On June 27, 1984, the Board reopened the record solely to admit (a) the Board's letter of June 5, 1984, as Board Exhibit 1, (b) the Staff's submission of June 14, 1984, as Staff Exhibit 3, and (c) Applicants' letter of comments dated June 21, 1984, as Applicants' Exhibit 7.

One Staff member, the Task Manager in the Generic Issues Branch of the Division of Safety Technology, whom we deem competent to attest to the matters in his affidavit, stated that unresolved safety issue A-46 had been incorrectly included in the Wolf Creek SER because § 3.10 of NUREG-0800 requires that plants like Wolf Creek whose construction permit applications were docketed after October 27, 1972, should be designed to meet the current seismic design criteria. After reading NUREG-0800, we agree. Apparently, in order to present a complete picture to the Board, another cognizant Staff member, a mechanical engineer in the Equipment Qualification Branch, proceeded to state in substance that the seismic qualification review team's site audit in December 1983 showed that the seismic and dynamic qualification program of equipment as installed at Wolf Creek met the requirements of specified current licensing criteria, and that the Staff anticipated by the fuel load

date of Wolf Creek in October 1984 that all open items related to the site audit will have been resolved. He also opined that that USI A-46 had been incorrectly included in the Wolf Creek SER since it applied only to the seismic qualification of equipment in operating plants. We agree — A-46 reflects that its objective "is to establish an explicit set of guidelines that could be used to judge the adequacy of the seismic qualifications of mechanical and electrical equipment *at all operating plants* in lieu of attempting to backfit current design criteria for new plants." (Emphasis added).

Thus, we conclude USI A-46 is inapplicable as an unresolved generic safety issue in the instant case.

II. EMERGENCY PLANNING REGULATIONS

In *Louisiana Power and Light Co.* (Waterford Steam Electric Station, Unit 3), ALAB-732, 17 NRC 1076, 1093-94 (1983), the Appeal Board stated as follows:

> In the wake of the March 1979 accident at Unit 2 of the Three Mile Island facility, the Commission undertook "a formal reconsideration of the role of emergency planning in ensuring the continued protection of the public health and safety in areas around nuclear power facilities." 45 Fed. Reg. 55,402 (Aug. 19, 1980). Accordingly, the Commission promulgated regulations requiring, prior to the issuance of an operating license, a finding of "reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency." 10 C.F.R. § 50.47(a)(1). Adequate protective measures for offsite, as well as onsite, are required. The Emergency Planning Zone (EPZ) concept, adopted as an added conservatism to the Commission's "defense-in-depth" philosophy, provides the means of implementing offsite emergency preparedness. 45 Fed. Reg. at 55,406. The regulations set forth 16 emergency planning standards and define the areas of responsibility of the licensee and state and local organizations concerned with emergency responses. (10 C.F.R. § 50.47(b). *See also* 10 C.F.R. Part 50, Appendix E.) In addition, NUREG-0654/FEMA-REP-1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," Rev. 1 (November 1980), prepared jointly by the NRC and FEMA, provides guidance for developing and reviewing emergency plans.

In the instant case, the Board took official notice of NUREG-0654, Rev. 1 (November 1980) at transcript page 457.

III. THE CONTENTIONS[3]

1. Initial Notification and Official Communications (Fdgs. 1-5)

Contention 1(e) alleges that the County Plan does not make adequate provision as to how the Sheriff will notify the U.S. Corps of Engineers, U.S. Fish and Wildlife Service and the Kansas Fish and Game Commission once the decision to evacuate has been made, and thus that the time estimated for evacuation will be longer.

Changing and/or limiting the thrust of this contention, Intervenors argue that the Coffey County Contingency Plan for Incidents Involving Commercial Nuclear Power (the County Plan) is deficient because the above-identified three agencies located at the John Redmond Reservoir are not manned 24 hours a day to receive emergency telephone calls, and because, as of the date of the hearing, tone alert radios had not been installed in the agencies' headquarters.

However, the record reflects that while, with one exception, the telephones at the headquarters of these three agencies are not manned around-the-clock, the Sheriff's office has the home phone numbers for at least one individual and an alternate employed in each agency. We conclude that this is an adequate arrangement. Moreover, while tone alert radios, which are required by the County Plan, will not be delivered until the spring and will not be installed until the early summer of 1984, this does not mean the emergency plans are defective. Emergency planning is a continuous process and our findings are predictive. We are satisfied that, pursuant to 10 C.F.R. § 50.47(a), the emergency plans are sufficiently detailed and concrete to provide us with reasonable assurance that they can and will be implemented in the event of an emergency. In addition, the plans must be completed and there must be a full-scale exercise before the NRC Staff can authorize full-power operation per 10

---

[3] As the Introduction reflects, *supra*, 216 contentions were admitted as issues in controversy. Only the Applicants and FEMA presented direct testimony with respect thereto – the Intervenors and the NRC Staff cross-examined. At the beginning of the hearing and upon the closing of the record, pursuant to 10 C.F.R. § 2.754, the Board directed that all parties should file proposed findings of fact, conclusions of law and briefs and warned that, if this was not done by any party, such a party would be deemed in default. (Tr. 150, 2369-70). Notwithstanding these orders, the Intervenors failed to file proposed findings of fact, conclusions of law and a brief with respect to approximately 161 of these contentions and are deemed to be in default. *Florida Power & Light Co.* (St. Lucie Nuclear Power Plant, Unit 2), ALAB-280, 2 NRC 3, 4 n.2 (1975). Indeed, the Intervenors oftimes only addressed limited aspects of the remaining 55 contentions or changed the thrusts thereof – we deem that the Intervenors have abandoned other aspects or thrusts and thus we consider and decide only these contested narrowed aspects or changed thrusts.

C.F.R. Part 50, Appendix E, § IV.F.1.b, and 10 C.F.R. § 50.47.[4] *Louisiana Power and Light Co.* (Waterford Steam Electric Station, Unit 3), LBP-82-100, 16 NRC 1550, 1563 (1982), *aff'd*, ALAB-732, 17 NRC 1076 (1983).

Contention 1(i) alleges that the County Plan is deficient because it fails to specify whom the Fire Leader should notify when a Fire Chief at a particular fire department is unavailable. Such a specific identification is unnecessary and the contention is thus without merit. The standard "fire" notification procedure will be followed in the event of an emergency at Wolf Creek; i.e., the Fire Leader will dial the "fire number" for each fire department which will automatically ring the fire phones of the Fire Chiefs and their alternates (as well as other firemen) in the various towns. This procedure will be set forth in the County Plan Implementing Procedures.

The Staff is requested to confirm that the tone alert radios have been installed and that the standard "fire" notification procedure has been set forth in the County Plan Implementing Procedures.

2. Coffey County Courthouse and EOC Communications (Fdgs. 6-9)

Contention 2(b) alleges that ten or twelve people will be required to man the telephones at the County Emergency Operations Center, but that none are available.

Intervenors argue that the County Plan is deficient in failing to identify those individuals at the Emergency Operations Center (EOC) who will answer telephone calls. They also argue that key personnel will be diverted from performing their emergency duties if required to answer the phones. There is no merit to these arguments. In addition to the eighteen or more key emergency response personnel at the EOC, there are the public information officer, some secretaries and other personnel to handle phone calls. Moreover, it is not anticipated that many phone calls will be made by the public because broadcasts at 30-minute intervals will update information and will advise that the EOC should not be contacted. Further, most of the EOC telephone numbers will be unlisted and thus unavailable to the public. Finally, even though State and County

---

[4] In many contentions discussed *infra*, it is similarly contended that the emergency plans are defective because, as of the time of the hearing, certain items had not been installed, certain lists and training materials had not been completed, certain personnel had not yet been selected or trained, and that certain items had not been prepositioned. We will not reiterate our discussion, *supra*. Instead, we will merely conclude, in substance, that, while the emergency plans were not finalized at the time of the hearing, they were sufficiently developed to permit us to make the "reasonable assurance" finding pursuant to 10 C.F.R. § 50.47(a).

emergency personnel will have the unlisted numbers, most of their communications will be made via two-way radios.

Contention 2(c) alleges that the telephone system of the County Courthouse and of the EOC is inadequate -- i.e., more lines are needed in the event of an emergency.

Intervenors, narrowing the thrust of this contention, argue that the operating license should not be granted until a second telephone line is installed in the County Engineer's Office to accommodate telephone calls from those individuals needing emergency transportation. This argument is without merit. In the first place, it is the County Shop that will receive such calls for assistance. Second, in addition to an existing line, the County has already planned to install a second telephone line for this purpose. Third, individuals seeking this assistance will be assured of contacting the County Shop because, upon dialing the emergency number, the two phones will ring. We are reasonably assured that this protective measure can and will be taken in the event of a radiological emergency. (*See* note 4, *supra*). The Staff is requested to confirm that this second telephone line has been installed.

3. Sheriff's Communications Equipment (Fdgs. 10-11)

Contention 3(a) asserts that the Sheriff needs radio equipment that will enable him to talk to the Wolf Creek plant and to all of Coffey County.

Altering and/or narrowing the thrust of this contention, Intervenors urge that, although new radio equipment is to be installed, this capability did not exist at the time of the hearing, and thus that the operating license should not be granted until this new equipment has been both installed and tested. The argument is without merit. The short of the matter is that this new equipment will be installed in the Spring of 1984, enabling the Sheriff to communicate directly with the Wolf Creek plant and to reach all of Coffey County. Further, emergency preparedness exercises to test this equipment are part of the operational inspection process and are not required for any initial licensing decision. (10 C.F.R. § 50.47(a)(2)). Thus, while the Plan was not finalized at the time of the hearing, it was sufficiently developed to permit us to make the "reasonable assurance" finding pursuant to 10 C.F.R. § 50.47(a). (*See* note 4, *supra*). The Staff is requested to confirm that the radio equipment for the Sheriff has been installed.

6. Emergency Response Command and Control (Fdgs. 12-14)

Contention 6(g) contends that staffing will be inadequate during an emergency evacuation because the Sheriff, who is responsible for directing and controlling evacuation from the Emergency Operations Center, will not be relieved by the Under Sheriff since he will be in the field taking care of various traffic control and security matters. Intervenors suggest that the County Plan be revised to provide that the Under Sheriff will assist the Sheriff during emergency evacuation and that the former should be assigned no conflicting duties.

This contention lacks merit. Since the maximum time for evacuating the plume exposure pathway Emergency Planning Zone (plume EPZ) is estimated at 2½ hours, it is clear that a Sheriff would not need the relief as proposed by the Intervenors. There is nothing in the record suggesting either that the incumbent (or his successor) would need assistance in carrying out these duties or that a problem might arise if the Under Sheriff (or his successor), in the absence of the Sheriff, had to be called upon to be the Acting Sheriff.

8. Evacuation Time Estimates (Fdgs. 15-16)

Contention 8(c) alleges that the County Plan does not contain an estimated evacuation time for individuals who do not have their own automobiles for transportation.

Narrowing the thrust of this contention, Intervenors argue that the operating license should not be issued until the County Plan is amended to reflect that the estimated evacuation of 2.5 hours encompasses all classes of the special population that need transportation. The current County Plan, revised in September 1983, in stating that the estimated time for evacuation of a nursing home and a hospital was 2.5 hours, did not specify that this estimate included the time for evacuating individuals needing transportation. Applicants agree that the Plan should be corrected to reflect that this estimate includes the evacuation time for all classes of the special population needing transportation. Since the Plan requires that the Emergency Preparedness Coordinator review it on at least an annual basis and requires that a certification that it is current be submitted to the County Commissioners, we see no justification from the standpoint of health and safety and have been given none for delaying the issuance of the operating license until September 1984. We are satisfied that the Plan will be so corrected.

9. Evacuation Routes (Fdgs. 17-22)

Contention 9(c) alleges that the County Plan is deficient because the evacuation routes send evacuees downwind. It also alleges that the Plan needs to give adequate consideration to wind directions and to possible changes in wind direction during an evacuation.

Changing the thrust of this contention, Intervenors argue either that the County Plan is deficient because it does not predesignate alternate evacuation routes that might have to be used depending upon the wind condition at the time of the emergency or that it is deficient in failing to require that, in advance of an emergency, Emergency Broadcasting System (EBS) announcements be drafted designating alternate routes which might be necessitated by the wind direction at the time of the actual emergency. This contention, as revised, is without merit. We conclude that the Plan is adequate because it designates evacuation routes which were predetermined upon the basis of predominant wind directions at the Wolf Creek site. An emergency planning document should be as clear and as simple as possible — it should not be burdened down with "what if" details, especially when, as here, the predominant wind directions have been taken into account. Moreover, our conclusion that the Plan is adequate in this regard is predicated on FEMA's witnesses' testimony that none of the plans that they had worked upon previously had predesignated evacuation routes based upon differing wind conditions that might exist at the time of the evacuation. Finally, we conclude, as does FEMA, that it would be too cumbersome to draft EBS announcements predesignating the numerous alternate routes which might be necessitated by the wind direction at the time of the evacuation and that it would be too time-consuming to make a selection from these numerous announcements at the time an emergency arises.

Contention 9(e) similarly contends that the County Plan is deficient in failing to predesignate alternate routes in the event the designated routes are closed because of weather conditions. This contention lacks merit. The fact of the matter is that, with few exceptions, all of the County roads are travelable year round. Further, because of the extensive road system in the County, it would be too difficult to predesignate alternate routes. Finally, such predesignation would be unnecessary because EBS announcements would inform the public to take an alternate route.

11. Public Alert and Notification System (Fdgs. 23-32)

Contention 11(a) alleges that the County Plan is deficient because under the Plan it is not possible to notify 100% of the population within

5 miles of the site within 15 minutes and because it is not possible to assure 100% coverage within 45 minutes for those who did not receive the initial notification and who are within the 10-mile emergency planning zone.

Altering and/or narrowing the thrust of this contention, Intervenors first assert that, while three fixed sirens have adequate range to alert the three agencies having jurisdiction over the John Redmond Reservoir, (1) a small portion of land under the jurisdiction of one of the agencies, the U.S. Fish and Wildlife Service (F&WS), is not within that range, (2) the County Plan does not specify how visitors in that small area will be warned, (3) such visitors could not be warned within 45 minutes, and (4) that to date tone alerts had not been installed in the F&WS Office. After reading the County Plan, we are satisfied that, in following the procedures set forth therein, the F&WS will be able to notify visitors in all areas under its jurisdiction (including the small area not within range of a siren) that they should evacuate. Further, in light of FEMA's conclusion that F&WS will be able to notify visitors in its jurisdictional area within 45 minutes, we have reasonable assurance that these protective measures can and will be taken within that time span in the event of radiological emergency. Finally, in our analysis of Contention 1(e), *supra*, we have already dealt with the argument that the County Plan is deficient because tone alert radios had not been installed as of the date of the hearing. In passing, we note that the County Plan provided for the installation of one siren to serve this area, but that Applicants have committed to install two additional ones. The Staff is requested to confirm that these additional sirens have been installed.

Second, Intervenors allege that a boater in the middle of the reservoir would be unable to hear the sirens and that such a person in a motorboat most certainly would not hear the sirens because of the engine noise. The record reflects that the ranges of the sirens do encompass the middle of the reservoir and the sirens can be heard, but that boaters do not venture into this area because of the shallow bottom. In any event, if a person in a motorboat did venture into this area, it is reasonable to assume that, because of the shallow bottom, he would soon move on to areas where the sound levels from the sirens are greater and could be heard over the noise of the engine.

Third, Intervenors allege that farmers working in their fields may not receive direct notification through sirens or tone alert radios. However, the County has arranged for the Emergency Broadcasting System announcements to remind people to go out into the fields to notify family members or friends who are farming and might not hear the sirens or the tone alert radios.

Fourth, Intervenors allege that the County Plan is inadequate with respect to giving special warnings to the hearing-impaired who can be identified in advance. However, the Plan does contain provisions for individual alerting of persons who, because of deafness or other reasons, could not hear the sirens or tone alerts. Based on a County Survey, it is estimated that approximately fifty households may require such special notification, and, as stated in the County Plan and in testimony, the Fire Leader's personnel will individually alert forty and the County Engineer's personnel will so alert ten households. The County Engineer testified that the ten households would be alerted within 45 minutes, and, by virtue of the numerous fire department personnel available to alert the remaining forty households and because there is no evidence to the contrary, we conclude that the Fire Leader's personnel can likewise complete their mission within 45 minutes. Moreover, in implementation of the County Plan, a list identifying these hearing-impaired persons will be prepared from the County Survey, and will be updated by the County Health Nurse, by family members, and by the return of the attachment to the public information brochure which is mailed annually to the public. While the County Plan was not finalized at the time of the hearing, it was sufficiently developed to permit us to make the "reasonable assurance" finding pursuant to 10 C.F.R. § 50.47(a). (*See* note 4, *supra*).

Finally, it is of no moment that, at the time of the hearing, the County Plan did not contain letters of agreement committing the County's fire departments to make these special notifications. The Plan indicates that these letters will be inserted.

In light of the above analysis, we conclude Intervenors' allegations are without merit.

Contention 11(e) is concerned that the County Plan fails to provide for backup warning procedures and personnel in the event a siren should fail to operate. However, the record reflects that the sirens will be frequently used, tested and maintained and thus the likelihood of siren failure in an emergency is reduced. The contention in any event is without merit. NUREG-0654 does not require that backup procedures of this nature be set forth in emergency plans. We note that, should a siren fail to operate in an emergency, patrol cars and fire department vehicles would be sent to alert the affected public.

Contention 11(j) alleges that the County Plan does not provide for the testing and maintenance of the tone alerts. The contention clearly is in error. The County Plan specifically states that tone alert radios are to be tested weekly by the Emergency Broadcast System; thus this provision exceeds a FEMA guideline which states that tests are desirable on

at least a monthly basis. Moreover, brochures accompanying the tone alert radios notify the recipients that the tone alerts will be tested weekly and that replacements will be available from the County's Emergency Preparedness Coordinator.

12. Public Emergency Planning and Information (Fdgs. 33-36)

Contention 12(e) contends that there is no detail about how the educational information would be provided to transients. Instead of adverting to the alleged absence of detail in the County Plan with respect to methods or procedures whereby educational information would be provided to transients, the Intervenors now argue that the operating license should not be granted until the County Plan is amended to specify the exact location of informational signs at the John Redmond Reservoir and until the information on them has been developed and approved by FEMA. However, 10 C.F.R. § 50.47(b)(7) and NUREG-0654, Criterion G.2, merely require that signs should be utilized to disseminate information to transients; § 5.4 of the County Plan meets this requirement in stating that large public information billboards will be used to provide information for transients at the Redmond Reservoir. Thus, these arguments are without merit because the exact locations of the billboards and the wording which will appear on the billboards are not required by the regulations to be set forth in emergency plans. The record does reflect that these billboards will be placed on access roads into the Reservoir and will instruct that, upon the activation of the sirens or other notification of an emergency, visitors should turn to identified EBS stations on their automobile radios. In addition, flyers will be left on the windshields of unattended cars at the Reservoir, which will include the basic information on the billboards plus a map showing the evacuation routes. While the County Plan does not specify the number of signs to be used or their exact locations on the access roads, these minor details are a proper subject for post-hearing resolution by the NRC Staff. *Louisiana Power and Light Co.* (Waterford Steam Electric Station, Unit 3), ALAB-732, 17 NRC 1076, 1106 (1983).

Contention 12(s) alleges that the County Plan is deficient because, although the Public Information Officer will advise parents where their children have been evacuated to, this information should be furnished at an earlier time. The contention is in error. The County Plan does identify the host counties' registration centers for the schools being evacuated. Moreover, the public information brochure will advise parents which host county facility their children will be evacuated to in an emergency, and this same information will be repeated to parents at the

time of an emergency via EBS announcements, which announcements are included in the County Plan.

13. Evacuation of Pregnant Women and Small Children (Fdgs. 37-38)

Contention 13(b) asserts that the County Plan is deficient because it fails to provide transportation for pregnant women (without their own automobiles) and young children if it becomes necessary to evacuate them earlier than other persons. While the County Plan does not expressly provide for transportation in the early protective evacuation of pregnant women and small children, it is believed that there will be very few pregnant women or families with small children who will not have their own vehicles. With respect to those very few, they can secure transportation from the County Shop by phoning the numbers listed in the annually circulated public information brochure and announced in the emergency broadcasts. Further, if additional transportation is needed for protective evacuation during school hours, buses from one of the outlying school districts (outside the EPZ) would be utilized. We conclude that these protective evacuation procedures are adequate and need not be detailed in the County Plan.

14. Evacuation of Schools (Fdgs. 39-46)

Contention 14(a) alleges that sufficient training will not be provided to teachers, school administrators and children on "how to handle the evacuation." NUREG-0654, Criterion O.1, states that "[e]ach organization shall assure the training of appropriate individuals." FEMA has interpreted this guidance such that whether an individual is "appropriate" to receive training is dependent upon the function the individual assumes in an emergency.

Intervenors concede that school administrators will receive training but assert that the Plan does not provide for training teachers and children. As a part of their annual orientation, teachers will receive instruction pertaining to their roles in assisting the evacuation of children. At that time they will be given copies of the Wolf Creek emergency public information brochure. This will provide teachers with the same information provided to parents, including educational information on radiation. Although the FEMA witness was in support of more extensive training for teachers, the Board relies upon the testimony of Applicants' witness, Dr. Dennis Mileti, a sociologist specializing in areas dealing with complex organizations, hazards, policy and methods. Dr. Mileti testified that because the functions of teachers during an evacuation do

not entail any decisionmaking responsibilities or specialized knowledge, no extensive training is required for them. The responses by the FEMA witness, during cross-examination, in support of her opinion that teachers required more intensive training were not persuasive to the Board.

Students have no response role, but will merely be evacuated upon boarding the school buses or teachers' vehicles. Thus, they do not require any training. The FEMA witness knew of no nuclear emergency plan that includes provisions for evacuation training for schoolchildren. The Board is satisfied that school personnel will receive adequate training or instruction requisite to the performance of their emergency roles in assisting the evacuation of schoolchildren and that special training for students is unnecessary to protect the children's health and safety during an evacuation.

Contention 14(b) alleges that there are not enough school buses available to evacuate schoolchildren. Intervenors have narrowed their concerns to the adequacy of bus capacity to evacuate the Burlington School District. They assert that sufficient transportation should be available to evacuate all of the Burlington students at the same time and that the County Plan should reflect the proposed procedures. The record indicates that public schools requiring evacuation could be evacuated in a single lift with the use of school buses and teachers' cars. If sufficient teacher cars were unavailable, Burlington school evacuation would be completed using the first buses arriving from surrounding schools. Intervenors have not indicated any infirmity in the Plan for the use of teacher cars or for the use of surrounding area buses if teacher cars were not available. Contrary to Intervenors' implication, FEMA does not require that letters of agreement commit the usage of teachers' cars. The Board finds reasonable assurance that the transportation procedures to evacuate the Burlington School District are adequate and that the County Plan need not be burdened with the details of the arrangements.

15. Evacuation of Health Care Facilities and Residents Needing Special Transportation Assistance (Fdgs. 47-56)

Contention 15(a) alleges that the County Plan does not detail what type of health services will be provided for persons who are in institutions or under care on an outpatient basis prior to the accident, that it does not specify which hospital they will be taken to, and that it does not consider the number of patients to be cared for.

Intervenors have altered the thrust of the original contention as stated above. Rather than challenging the availability and adequacy of health services to be provided, Intervenors limit their concerns to the lack of

signed agreements with hospitals about accepting patients from the Coffey County Hospital and the Golden Age Lodge Nursing Home and urge that the operating license not be issued until signed agreements are made a part of the Plan and approved by FEMA.

Although signed agreements with health care institutions to accept patients from the Coffey County Hospital and the nursing home do not exist, there are verbal arrangements with institutions in surrounding counties which have always been honored in past emergencies. The record contains no affirmation that signed agreements will eventually be obtained. We note in this regard that NUREG-0654, Criterion A.3, states that "[e]ach plan shall include written agreements referring to the concept of operation developed between Federal, State, and local agencies and other support organizations having an emergency response role within the Emergency Planning Zones." Also, FEMA has stated a requirement for signed letters of agreement with the hospitals identified to receive patients evacuated from Coffey County. Accordingly, the Board directs that such letters of agreement be obtained and included within the County Plan. (*See* Order, *infra*).

Contention 15(c) alleges that Coffey County does not have sufficient transportation (ambulances, buses, etc.) to evacuate people from nursing homes and the Coffey County Hospital.

Similar to Contention 15(a), *supra*, Intervenors have altered the thrust of Contention 15(c) to the lack of signed agreements with the suppliers of transportation for nonambulatory patients rather than on the sufficiency of vehicles to evacuate people from nursing homes and the Coffey County Hospital. Specifically, the Intervenors argue that there is no assurance that the ambulances and funeral directors' vehicles will be available unless that is detailed in a signed agreement. They further state that the operating license should not be issued until the signed agreements are included in the County Plan and that FEMA has verified the adequacy of the vehicles.

As we discussed in Contention 15(a), NUREG-0654, Criterion A.3, provides a requirement for written agreements with support organizations having an emergency response role within the Emergency Planning Zones. The Board finds in this instance that although sufficient (nonmilitary) vehicles have been identified to evacuate nonambulatory patients from the plume EPZ, the arrangements described for these services are not in the form of specific written agreements. The Board directs therefore that written agreements be obtained for ambulances and funeral directors' vehicles and be included within the County Plan. (*See* Order, *infra*). Finally, we find no merit to Intervenors' request that

FEMA verify the adequacy of the vehicles since the available ambulances are more than adequate to transport nonambulatory patients and funeral directors' vehicles provide additional capacity. Guidelines for the use of funeral directors' vehicles for such emergency purposes have been developed by FEMA.

Contentions 15(n) and 15(o) allege that the County Health Nurse has not compiled a list of County residents who are shut-ins or who may need special evacuation assistance and that the County Plan does not make adequate provision for preparing a list of County residents who are shut in or who may need special evacuation assistance, and does not make adequate provision for updating the list as changes occur.

Intervenors' arguments have expanded the contention to include a requirement that the operating license should not be issued until the following conditions have been met: (1) the Plan is revised to show how the list will be prepared; (2) the list is prepared; (3) the hearing-impaired are identified on the list; and (4) FEMA has verified that the list is up-to-date, and the Emergency Preparedness Coordinator has certified that the list is correct. We find no merit to the arguments.

Those persons requiring special emergency transportation or other special evacuation assistance are identified by the County Survey and by family members, in conjunction with the list of "home help" patients normally maintained by the County Health Nurse. The hearing-impaired will be identified. The emergency public information brochure will also include a request for updated information on such individuals, and new residents of the plume EPZ will be contacted to determine whether they would need special evacuation assistance. The list of individuals needing special assistance will be updated at least monthly, with an up-to-date list maintained both with the County Engineer and in the EOC.

Although all facets of the Plan for preparing, maintaining, and updating the list of persons requiring special evacuation assistance have not been completed, they were sufficiently developed at the time of the hearing to permit us to make the "reasonable assurance" finding. (*See* note 4, *supra*).

16. Evacuation of Persons Without Private Transportation (Fdgs. 57-63)

Contention 16(a) alleges that the County Plan does not detail how many individuals will need transportation assistance that the County Engineer is to provide for an evacuation and that there is inadequate detail about how the Engineer will know whom to evacuate.

Intervenors argue that the County Plan does not provide procedures for estimating and updating individuals requiring special transportation and that provisions are not adequate for people without transportation to call in and request assistance. Contrary to these allegations, the County Survey has indicated that approximately 120 individuals may require transportation assistance in an evacuation. A list of those needing transportation assistance is being developed, and will be maintained and updated in the same manner and on the same basis as the list on individuals needing special evacuation assistance. Those individuals needing transportation assistance may call the County Shop.

Thus, while the Plan was not finalized at the time of hearing, it was sufficiently developed to permit us to make the "reasonable assurance" finding pursuant to 10 C.F.R. § 50.47(a). (*See* note 4, *supra*).

Contention 16(l) alleges that there are not enough vehicles available to provide transportation for those who do not have their own means of transportation.

Revising the thrust of their contention, Intervenors assert that if the individuals needing special transportation are to be evacuated in school buses within 2.5 hours, more vehicles will have to be assigned because the assigned number will not be available within the estimated time of 1.5 hours to begin the evacuation. The record reflects that an estimated 329 persons within the plume EPZ (other than public school students and other than those individuals whose vehicles, for example, are being repaired) will require school bus transportation, that school buses from the towns of Gridley, Lebo and Waverly, which are outside the EPZ, have a total capacity of 726, and that these buses could discharge their students at their homes and could be available within 1.5 hours to commence the evacuation from the EPZ of the 329 individuals. The Intervenors have not cited any probative evidence to the contrary, and accordingly we conclude that this contention is without merit.

Contention 16(m) alleges that the County Engineer has not arranged for school buses.

Intervenors assert that letters of agreement to utilize school buses are not in the County Plan, that there is no signed agreement with the Burlington School District, and that some of the agreements may not include the private companies which own some of the buses.

Contrary to the allegations, arrangements for school buses have been made, including letters of agreement which have been or will be signed with school districts. We find no merit in Intervenors' complaint that one of the letters is still to be signed and that the letters are not as yet in the County Plan. Furthermore, no evidence has been adduced which

would cause us to doubt the validity of the agreements with the school districts that contract with private companies.

Contention 16(n) alleges that the County Plan is deficient because school buses will be required for evacuation of schoolchildren and will not be available to provide the emergency transportation. Contrary to this contention, school buses will be available for emergency use after transporting their children out of the plume EPZ or to their homes. Intervenors further allege that people waiting for buses to return to the EPZ for evacuation could be exposed to radiation. However, testimony has shown that if an evacuation could not be accomplished prior to the release of radiation, sheltering would be the selected protective action. Furthermore, we find no substance to the complaint that not all individuals are evacuated simultaneously. Rather, we rely on the testimony which has shown that evacuation can be accomplished within the evacuation time estimate of 2½ hours regardless of the order in which groups are evacuated.

18. Traffic Control, Access Control, and EPZ Security (Fdgs. 64-70)

Contention 18(a) alleges that the County Plan does not provide for enough traffic control, and that there is too little traffic control provision within the 10-mile EPZ.

Intervenors challenge the adequacy of provisions for traffic control in an evacuation, alleging particularly a need for traffic control in Burlington and in the vicinity of Redmond Reservoir. However, the Sheriff's uncontradicted testimony indicates that traffic control for Burlington and the vicinity of John Redmond is unnecessary. Intervenors also contend that additional traffic control is needed to keep drivers on evacuation routes. Area residents, however, can be expected to be familiar with the local road network, and therefore can be expected to select the most direct route out of the EPZ. With respect to Reservoir visitors who may be unfamiliar with the County roads, the key determinant of the route they use to exit the EPZ will be the information provided in the EBS announcements. FEMA will review the EBS announcements to ensure that they provide sufficient clear information for Redmond Reservoir visitors. The Board is satisfied that adequate traffic control is provided for the sparsely populated EPZ during an emergency evacuation.

Contention 18(r) alleges that the County Plan is deficient because it does not provide that the entire evacuated area will be blocked. It only contemplates that it will be blocked as resources become available.

Intervenors concede that all roads into the EPZ will be barricaded. However, they argue that the operating license be withheld until the Plan is amended to reflect the fact that the National Guard or other workers will man the secondary roadblocks. Given the County Emergency Preparedness Coordinator's responsibility to evaluate annually the Plan and certify its accuracy to the County Commissioners (*see* Opinion, *supra*, re Contention 8(c)), we conclude that it can be reasonably expected that the County Plan will be amended to reflect the National Guard's manning of secondary roadblocks.

Contention 18(aa) alleges that the Sheriff does not have enough personnel to secure the evacuated area on a 24-hour-per-day basis.

Intervenors present no arguments that challenge the sufficiency of staffing to secure the presently configured 10-mile-radius plume EPZ. They do, however, argue that the access points may have to be moved back if contamination reaches a high enough level, resulting in an expansion of the plume EPZ and requirement for additional security personnel. Not only does their argument go beyond the scope of the contention but it also represents a challenge to the Commission's emergency planning regulations, which require only that a license applicant demonstrate the ability to implement protective actions for an EPZ of approximately 10 miles in radius.[3] (*See* 10 C.F.R. § 50.47(c)(2); 10 C.F.R. Part 50, Appendix E, n.2).

We conclude that there is reasonable assurance that emergency planning provides for adequate traffic control during an evacuation, sufficient access control to the evacuated area, and that the area will be adequately secured after it has been evacuated. We find no merit in Intervenors' arguments to the contrary.

19. Radiation Monitoring and Decontamination (Fdgs. 71-84)

a. Staffing

Contention 19(e) alleges that there is no person designated or trained to act for the Radiological Defense Officer (RDO) if he is not available or is to be relieved during an accident.

An alternate Radiological Defense Officer has been selected and will receive the standard FEMA training course. Intervenors' assertion that

---

[3] In developing the regulations on the size of the plume EPZ, "[t]he NRC/EPA Task Force concluded that it would be unlikely that any protective actions for the plume exposure pathway would be required beyond the [about 10-mile-radius] plume exposure EPZ." The Task Force further recognized that, in any event, "detailed planning within 10 miles would provide a substantial base for expansion of response efforts in the event that this proved necessary." (NUREG-0654, at 12).

the County Plan does not designate by title the alternate RDO and that the alternate is not properly trained is without merit. Although the alternate RDO had not received his training at the time of hearing, the plan to train him was sufficiently developed to permit us to make the "reasonable assurance" finding. (*See* note 4, *supra*).

Contentions 19(h) and 19(i) allege that the County Radiation Monitoring Team has not been selected and that the County Plan is deficient because it does not state how many members of the Radiation Monitoring Team will be required, and does not contemplate enough people to handle the duties of the Radiation Monitoring Team.

Intervenors assert that the operating license should not issue until the County Plan is revised to list the members of the County Radiation Monitoring Team by name and assignment. However, testimony shows that Coffey County currently has about forty-eight people who have had the FEMA Radiological Monitoring Training Course and 8 hours of classroom training in the use of radiation monitoring instruments. The County plans to train an additional twenty-five people. Of this group, twenty-one will be selected for additional training, to qualify as members of the Joint Radiation Monitoring Teams. Identification and assignment of this group will be made prior to the full-scale exercise. Contrary to Intervenors' representation, FEMA did not testify that the roster of Team members, with assignments, need be included in the Plan. Rather, FEMA testified that such a roster could be included in the Implementing Procedures. Although the members of the Joint Radiation Monitoring Team have not as yet been selected or fully trained, we have "reasonable assurance" that this will be done prior to the full-scale exercise. (*See* note 4, *supra*).

Contention 19(k) alleges (1) that Coffey County will not be able to perform decontamination and radiation checks within the County and at evacuation centers, because it is not adequately staffed, and (2) that there is no provision in the County Plan for an adequate number of personnel to supplement the County Radiation Monitoring Team in order to check evacuees and vehicles at shelters for contamination.

Intervenors assert that plant operation should not be authorized until it is shown that enough monitors (including relief monitors) will be available in the host counties to provide the monitoring for the evacuees and their vehicles, that the Plan should provide that there will be additional monitors for rechecking evacuees after decontamination and for checking vehicles for contamination and after decontamination, and that women should be checked for contamination by women monitors. In calculating the number of monitors needed (forty-nine), Intervenors have used a theoretical maximum for the number of evacuees to be monitored

in the host counties. The Board finds that the expected number of evacuees (as utilized by FEMA) rather than the theoretical maximum is appropriate for determination of the number of monitors needed and that twenty-six host county radiation monitoring personnel will be sufficient

Intervenors provide no evidentiary support for their position that provision should be made for additional monitors for rechecking evacuees after decontamination and for checking vehicles. Also, NUREG-0654 does not specify any period of time within which vehicles must be monitored and decontaminated. This can be accomplished after monitoring and decontamination of evacuees has been completed and therefore does not require any additional monitors.

Intervenors further urge that the Board require the training of additional monitors to "provide relief for the monitors that start the process." However, Intervenors failed to elicit any evidence to support their assumption that the monitoring and decontamination process will continue so long that "relief" monitors will be necessary. Moreover, the figure of twenty-six host county monitors is itself conservative since it is unlikely that all persons in all directions within a 10-mile radius of the plant would be potentially exposed, and thus require monitoring. In addition, if necessary, additional monitoring personnel are available from the Kansas Department of Transportation, or the RDO could dispatch reserve Coffey County radiation monitoring personnel to relieve host county personnel.

Finally, Intervenors urge the Board to require that provisions be made for women evacuees to be checked for contamination by women monitors. However, there is no regulatory basis for such a requirement, and we conclude that the subject need not be addressed in either the Plan or procedures.

Contention 19(l) alieges that the Fire Leader does not have enough personnel to conduct the decontamination activities.

Intervenors have altered the thrust of this contention whereby they assert that the operating license should not be issued until the agreements with the fire departments are modified to guarantee that workers will be made available at access control points and until the modified agreements are made part of the Plan. The apparent source of Intervenors' concern is the language of the letters of agreement indicating that the fire departments will provide equipment and workers that can be "mustered." There is no evidence in this proceeding to support Intervenors' suggestion that insufficient numbers of fire personnel might "muster." The five fire departments have 110 personnel and about 24 vehicles to man up to six access control positions. There is obviously more than enough personnel and equipment to respond to the six access

control positions. Thus, based on the above, we conclude that there is no need to modify the letters of agreement as Intervenors suggest. There is also no need to order that letters of agreement be included in the County Plan since the Plan indicates on its face that they will be included.

b. Availability of Equipment

Contention 19(r) alleges that the Coffey County Radiation Monitoring Team does not have proper radiation monitoring equipment to monitor radiation in the event of an evacuation. Intervenors narrowed their concern to air sampling equipment. They maintain that the operating license should not issue until air sampling equipment is available and the Plan has been revised to describe the equipment. It is undisputed that seven air samplers will be provided by KG&E and are now on order. The State Plan will describe this new equipment when it becomes available prior to the full-scale exercise. While the emergency plans were not finalized at the time of the hearing, they were sufficiently developed to permit us to make the "reasonable assurance" finding pursuant to 10 C.F.R. § 50.47(a). (*See* note 4, *supra*).

Contention 19(aa) alleges that the Coffey County Radiation Monitoring Team does not have the communications equipment it needs to keep in touch with the County Emergency Operations Center and others. Intervenors have limited their concerns on this issue to an assertion that the Joint Radiation Monitoring Teams should be in direct radio contact via portable radios with the County EOC. They further assert that the operating license should not be issued until the Plan is revised to show this change and until the radios are available. Intervenors have adduced no affirmative evidence to indicate why direct contact should be with the County EOC. To the contrary, the EOF serves as the base of operations for the Joint Radiation Monitoring Teams. Pertinent information is supplied to the EOC by the EOF via radio and/or telephone. There is no requirement that there be direct communication between the EOC and the teams. The contention is without merit.

c. Monitoring/Decontamination Procedures

Contention 19(hh) alleges that although the State Plan does not assume all evacuees will be checked for contamination, the Coffey County Plan does so and is deficient because it does not require that all evacuees go to the designated shelter area outside the evacuation zone for a contamination check. Intervenors assert that the emergency public information brochure and the EBS announcements must indicate that all

evacuees are to go to registration centers to be checked for contamination. The EBS announcements will instruct all evacuees to proceed to registration centers and will, in addition, be expanded to explain the nature of the hazard occasioned by radiation and the availability and efficacy of contamination checks. This additional information will provide assurance that the public will avail itself of radiation monitoring services at registration centers. Similar information will be incorporated into the public information brochure. Thus, the contention, as modified, is without merit.

Contention 19(kk) alleges that the County Plan is deficient because it does not provide for disposal of contaminated equipment, vehicles, decontaminated water, or any other materials that might be contaminated.

Intervenors assert that the operating license should not be issued until provisions are made for the disposal of radioactive wastes at other sites, and that letters of agreement with those sites must be incorporated into the Plan. In addition, Intervenors assert that the County should obtain letters of agreement with the host counties indicating that they will permit the disposal of contaminated water through their waste systems.

The record evidences that, if KG&E could not process the contaminated materials itself, it could either contact another utility and process the material at that location, or it could contract with a local vendor specializing in decontamination services, and arrange for the use of a portable decontamination unit. There was no direct or cross-examination to establish, and thus there is no evidence in the record, that the plant site would be inaccessible for the decontamination of these materials. Letters of agreement with commercial enterprises are unnecessary.

Intervenors failed to elicit on the record any foundation in fact for their apparent assumption that letters of agreement with the host counties are necessary for the disposal of contaminated water, nor is there any indication that the host counties would object to the disposal of such water. The State does not believe that the water would present a public health and safety problem but to provide assurance to the host counties, the State plans to monitor the disposal of this water in the host counties. Thus, the record here is devoid of support for the letters of agreement Intervenors would require.

20. Shelter Facilities and Services (Fdgs. 85-93)

Contention 20(d) alleges that no people are available to provide management at the evacuation centers, and that 180 people are required for this purpose.

The record reflects that an estimated ninety-seven school personnel or service club members will be required to handle registration in the host counties. While the Intervenors do not dispute this number directly, they contend that it has not been confirmed by FEMA, and that the workers are not available because they have not been named and there are no letters of agreement with the organizations providing them. Although FEMA has not confirmed the number of registration workers required, there is no evidence that the stated number is insufficient. If more registration help should be desired, the record shows that assistance could be provided by evacuees themselves.

With respect to the Intervenors' argument that letters of agreement must be executed, the Coffey County Shelter Systems Officer believes that school personnel can be relied upon in the absence of written agreement, and a FEMA witness confirms that letters of agreement with schools are unnecessary for registration workers. Further, the Crisis Relocation Plan for three of the four host counties already provides for the use of school personnel for registration services. Lyon County, which relies upon service club members for registration, has verbal agreements with the service clubs, which have been honored in the past. In light of the above, we are reasonably assured that the requisite number of registration workers will be available and we conclude that it is of no moment that the school personnel and service club members have not been named.

Intervenors, further, propose a finding that there are no written agreements with agencies and organizations that are to provide workers to assist in the management of the shelters in host counties. This is admissible under the contention only if there is a very liberal interpretation of "evacuation centers," i.e., to imply more than "registration centers." Nevertheless, we consider it as follows. A FEMA witness expressed the opinion that guidelines of NUREG-0654, Criterion A.3, apply to support organizations but do not apply to either service organizations or to volunteers who would man shelter facilities. We concur.

In their brief, Intervenors go beyond any of their proposed findings in arguing that there is no evidence showing that there are adequate numbers of workers who have been recruited and trained to provide sheltering and feeding in the host counties, in arguing that there is no evidence showing that registration workers have been trained, and in contending that written agreements should be executed with those agencies providing food services. We do not consider these unsupported arguments.

Accordingly, we find reasonable assurance that registration centers will be staffed adequately in the event of evacuation.

Contentions 20(k) and 20(m) allege that the County Plan does not provide details showing that the shelter centers have adequate facilities to provide for the sleeping, feeding, medical, sanitation, communication, and religious needs of evacuees, and that there is no provision to pay shelter owners for their sites or services. Changing the thrust of these contentions, the Intervenors now claim that there should be signed agreements for the use of registration centers, shelters and food services, and that these agreements are required by NUREG-0654.

The need for written agreements to provide for facilities and services is not supported by FEMA experience and local experience. We were particularly impressed by Applicants' expert witness, Dr. Mileti, who testified that he was unaware of any case where shelter and food had been denied during emergencies because written agreements had been lacking.

There are verbal agreements for the use of identified shelter facilities that are not licensed federally. The Coffey County Shelter Systems Officer believes that these agreements are binding. Similarly, the Emergency Preparedness Coordinators for the four host counties are confident that they have binding verbal agreements with potential food suppliers. FEMA agrees that written agreements are unnecessary. We do not discuss Intervenors' claim with respect to registration centers which improperly ranges beyond the scope of these contentions.

Contrary to these contentions as revised, we conclude that written agreements for the use of shelters and food services are unnecessary.

25. County EOC Evacuation (Fdgs. 94-96)

Contention 25(a) alleges that the County Plan is deficient because it does not provide for relocation of the EOC if evacuation should become necessary because of unacceptable radiation levels. The Intervenors enlarge the thrust of this contention in alleging that the County Plan is deficient because it does not contain a written agreement reflecting that Lyon County has agreed to permit the use of its EOC as an alternate, and in alleging that there is no provision for evacuation of the Coffey County EOC and of the Sheriff's office which might be necessitated in the event of a fire.

The contention, as expanded, is without merit. Neither NUREG-0654 nor any other regulation requires that an emergency plan provide for a backup EOC, and thus there is no legal basis to support the argument that the relocation agreement with Lyon County should be in written form. Moreover, we see no necessity for such a provision. The present County EOC has, and the new one will have, an adequate "protection

factor." If radiation levels were to exceed that "protection level," there would be no need for the EOC to continue operating since the public in the plume exposure pathway EPZ would have been evacuated by that time. In the event relocation became necessary (for example, in the event of a fire rendering the EOC and the Sheriff's office inoperable), Coffey County's EOC personnel could perform their duties from radio-equipped vehicles, or could utilize the Lyon County EOC which Coffey County considers as having adequate facilities, or could use the State of Kansas' EOC.

28. Dose Control for Emergency Workers (Fdgs. 97-102)

Contentions 28(a), (b), (d), and (e) assert (1) that the County Plan does not specify that dosimeters will be issued to County emergency workers, and does not specify how many dosimeters will be needed and the kind that will be used, (2) that the number of dosimeters to be furnished to workers is inadequate, and (3) the County Radiological Defense Officer has not developed a system for controlling radiological exposure of emergency workers.

While now agreeing that each of the 225 Coffey County emergency workers will be issued a self-reading dosimeter and a thermoluminescent dosimeter and thus not challenging either the availability or the adequacy of the numbers of dosimeters to be furnished, the Intervenors urge that the County Plan should be amended to reflect a breakdown, by class and by number, of the County workers who will be furnished with dosimeters. FEMA concurs that either the County Plan or its Implementing Procedures should be so amended. Rather than further enlarge the Plan, which NUREG-0654 at page 29 states should be as concise as possible, we request that the Staff confirm that the Implementing Procedures have been so amended to reflect this information.

The Intervenors also urge that the Coffey County Plan be amended to specify where the dosimeters will be prepositioned or where the County workers in each class will be able to pick up their dosimeters. FEMA concurs to the extent that it states that the Implementing Procedures, rather than the Plan itself, should be amended to specify the prepositioned locations, and the number and type of dosimeters to be furnished to the workers. The Staff is requested to confirm that the Implementing Procedures have been amended to specify where the dosimeters will be prepositioned or where the County workers in each class will be able to secure their dosimeters, and the number and types of such dosimeters.

There is no support in the record for the Intervenors' concern that the twenty-six individuals, who will carry out radiation monitoring and

decontamination for the four host counties at the registration centers, will not have dosimeters. In the aggregate, the host counties have 1056 self-reading dosimeters. However, while the record reflects that Kansas Fish and Game Commission personnel will have prepositioned dosimetry furnished by the State of Kansas and that the Applicants have committed to furnish dosimetry to personnel of the U.S. Fish and Wildlife Service for prepositioning, there is nothing in the record indicating that the U.S. Army Corps of Engineers will have dosimetry. Since the Corps of Engineers is obviously a federal military agency, we have no concern that it does not know how many dosimeters it will require or that it will not make its own arrangements for prepositioning; however, the Staff is requested to confirm either that the Corps will provide its own dosimeters or that KG&E will provide them. We see no reason to overburden either the County Plan or its Implementing Procedures to provide for the matters encompassed in this paragraph. Each of these jurisdictions has the responsibility to establish procedures for their workers to follow in measuring and recording radiation levels.

Finally, while the record reflects that, after furnishing Coffey County with 250 thermoluminescent dosimeters, KG&E will have a reserve of 5750 TLDs at the plant site, the Intervenors argue that any replacements needed thereafter by the County might not be accessible if the radiation levels at the plant precluded access and thus that the County Plan should specify a different storage site. However, in the event of a high level of radiation at the site, there would be adequate time to secure replacements from neighboring nuclear plants or from commercial sources, or the Applicants could devise some method to transport the replacements away from the site.

29. Training (Fdgs. 103-123)

Contention 29(c) states that training programs needed to implement the County Plan and to familiarize County personnel with their emergency responsibilities have not been developed by the Coffey County Emergency Preparedness Coordinator.

In their proposed findings, Intervenors limit this contention to a complaint that the course content of the Joint Training Program is not fully developed at this time. They further allege that the initial training of emergency response workers cannot be done until the training program is completed and that the operating license should not be issued until the details of the program have been completed and adopted by the County.

The record shows that initial training under the Joint Training Program will be completed prior to the full-scale exercise, which satisfies FEMA requirements. Consequently, while the Joint Training Program was not fully developed at the time of the hearing, it was sufficiently developed to permit us to make the "reasonable assurance" finding pursuant to 10 C.F.R. § 50.47(a). (*See* note 4, *supra*).

Contention 29(g) alleges that the County Plan should specify in detail the type and amount of training that individuals listed on a Table in the Plan should receive.

The Intervenors have altered the thrust of this contention. They argue that the operating license should not be issued until the revisions on the type and amount of training to be provided, as described during the hearing, appear within the County Plan, that workers at John Redmond Reservoir be listed within the training matrix, and that the Plan be revised to include certain host county officials.

FEMA is satisfied with the revisions to the County Plan describing the Joint Training Program as recommended by the Emergency Preparedness Coordinator and the Manager, Radiological Environmental Assessment, KG&E. Given the County Emergency Preparedness Coordinator's responsibility to evaluate annually the Plan and certify its accuracy to the County Commissioners (*see* Opinion, *supra*, re Contention 8(c)), we have reasonable assurance that these revisions will appear in the emergency plans for Wolf Creek. The Staff is requested to confirm that the County Plan and Implementing Procedures appropriately reflect these revisions.

With respect to Intervenors' second argument, although training of John Redmond Reservoir workers does not appear within the training matrix of the County Plan (they are not County workers), the training modules that they will receive have been specified on the record.

Finally, Intervenors assert that the County Plan must make provision for training for County Commissioners, sheriffs, and emergency preparedness coordinators of the host counties. We note that neither this nor any other of Intervenors' contentions questions the training of these host county officials and that these officials are not listed in Table 5-1 of the County Plan. Intervenors have exceeded the scope of Contention 29(g) and we therefore do not consider these arguments.

Contention 29(h) states that County personnel in a lengthy list lack sufficient training to perform emergency functions.

Intervenors have narrowed the scope of this contention. Rather than questioning the sufficiency of training including certain specific areas which the contention alleges should be included within the training program for County emergency response personnel, Intervenors now assert

merely that these workers have not yet been trained. Additionally, they complain that the Joint Radiation Monitoring Team has not been selected and together with other radiation monitors have not yet received training.

Contrary to Intervenors' objection that training is not yet complete, including special training of Joint Radiation Monitoring Team members, FEMA is satisfied with the Plan to complete all initial training that is appropriate before the full-scale exercise. The special training for Joint Radiation Monitoring Teams has been described.

While training of County emergency workers was not completed at the time of the hearing, training plans were developed sufficiently to permit us to make the "reasonable assurance" finding pursuant to 10 C.F.R. § 50.47(a). (*See* note 4, *supra*).

Contention 29(k) alleges that the training program does not adequately address changes in emergency personnel.

The Intervenors argue that the details of the retraining program are not developed and do not appear in the County Plan, that materials for training new people are not in the Plan and that replacement workers need comparable training to those they replace. Again, there is neither a requirement that detail of this sort appear in the County Plan nor that training plans (including retraining) be complete at this time. The general plans for retraining and training new personnel have been described to the satisfaction of FEMA. Training of replacement workers will be comparable to that of the workers replaced.

Thus, while the plans for retraining and training of new personnel were not finalized at the time of hearing, they were sufficiently developed to permit us to make the "reasonable assurance" finding pursuant to 10 C.F.R. § 50.47(a). (*See* note 4, *supra*).

Contention 29(q) alleges that the State plans for training its personnel with emergency responsibilities are inadequate, particularly with respect to radiological emergency response training.

The scope of this contention has been narrowed to the subject of proposed revisions to Table O-1 of the State Plan. This Table shows the training matrix for emergency response workers. Intervenors argue that the operating license should not be issued until the revisions indicated by Applicants' witness have been made to the Table. Similar to the County, the State also reviews and updates its Plan annually. The Board, therefore, is reasonably assured that the proposed changes will be incorporated in Table O-1 of the State Plan.

Contention 29(s) alleges that listed State personnel lack sufficient training to perform emergency functions.

Intervenors argue that State workers have not yet been trained in all of the appropriate categories listed under Table O-1 of the State Plan. Again, they wish to go beyond FEMA requirements in claiming that training of State emergency workers should be completed before the operating license is issued. They fail to recognize the significance of the commitment to complete initial training under the Joint Training Program prior to the full-scale exercise. Based on this commitment, we find that the plans for training State personnel were sufficiently developed at the time of hearing to permit us to make the "reasonable assurance" finding pursuant to 10 C.F.R. § 50.47(a). (*See* note 4, *supra*).

Contention 29(u) states that federal personnel at the John Redmond Reservoir lack sufficient training to perform their emergency functions.

The Intervenors claim that personnel of the U.S. Army Corps of Engineers and U.S. Fish and Wildlife Service who are assigned to the John Redmond Reservoir have not received training under the Joint Training Program and therefore the operating license should not be issued until those personnel have received the training prescribed for them in Table 5-1 of the County Plan. The record shows that their training will be completed before the full-scale exercise. Consistent with Intervenors' further desire, these personnel will receive the same training as Kansas Fish and Game personnel with the exception of training in radiation survey techniques.

Although training of federal personnel at the John Redmond Reservoir was not completed at the time of the hearing, plans for such training are sufficiently developed to permit us to make the "reasonable assurance" finding pursuant to 10 C.F.R. § 50.47(a). (*See* note 4, *supra*).

31. Resource Availability and Allocation (Fdgs. 124-128)

Contentions 31(c) and 31(d) allege that Coffey County fire departments and vehicles of the Road Department do not have adequate radio equipment for communication with the Sheriff's Office.

The Intervenors do not dispute that a new radio system on order will provide the fire departments and Road Department with adequate communication to the Sheriff in his office or in the EOC, but claim that the equipment should be installed before the operating license is issued. The argument is without merit. Items for the new communication system are on order with delivery scheduled for Spring 1984, which is before the full-scale exercise.

Thus, the plans for installing adequate radio communication equipment were sufficiently developed to permit us to make the "reasonable assurance" finding pursuant to 10 C.F.R. § 50.47(a). (*See* note 4,

supra). The Staff is requested to confirm that the radio equipment has been installed.

Contention 31(f) alleges that "protection gear against radiation" is needed by all workers involved in the evacuation plan.

Intervenors restrict their arguments to the need for protective clothing for the field radiation monitoring teams. They claim that the operating license should not be issued until the Plan is revised to show the availability of protective clothing to the field monitoring teams, that the clothing will be stored other than at the plant site, and that the clothing will be prepositioned and available for use.

The contention is without merit. It has been clearly demonstrated that KG&E has 100 sets of protective clothing available for emergency workers and an additional 1900 sets if the need arises. Since NUREG-0654 requires only that protective clothing and provisions for its use be available on site, Intervenors' arguments for prepositioning clothing at offsite locations are rejected. Finally, Intervenors assert that protective clothing stored at the plant site may not be available due to "the nature of the accident at the plant," and therefore should be stored off site. However, there was no direct or cross-examination to establish, and thus there is no evidence in the record to establish, that an accident at the plant might preclude securing the protective clothing. We conclude that the plans for supplying protective clothing to field monitoring teams in case of a radiological emergency at Wolf Creek are sufficiently well developed to permit us to make the "reasonable assurance" finding pursuant to 10 C.F.R. § 50.47(a). (*See* note 4, *supra*).

IV. CONCLUSION

The Board concludes that the emergency plans subject to the conditions set forth in the Order, *infra*, comply with 10 C.F.R. § 50.47, with Appendix E to 10 C.F.R. Part 50, and with the criteria in NUREG-0654.

Findings of Fact[6]

1. Initial Notification and Official Communications

Contention 1(e). The County Plan does not make adequate provision for how the Sheriff will notify the U.S. Army Corps of Engineers, U.S. Fish and Wildlife

---

[6] The factual background of the case is set forth in the Introduction to our Opinion, *supra*. Further, as stated in note 3 above, since the Intervenors have narrowed various aspects or changed the thrusts of many of these contentions, the Board's findings are addressed only to the contentions as so revised.

Service, and the Kansas Fish and Game Commission when the warning function is activated. The evacuation time will therefore be longer than estimated.

1. Section 50.47(b)(6) of 10 C.F.R. requires that offsite emergency plans provide for prompt communication among principal response organizations to emergency personnel. Criterion F.1.a of NUREG-0654 states that such plans should provide for backup means of communication by these organizations and should provide for 24-hour-per-day manning of communications links by the emergency personnel.

2. The Coffey County Contingency Plan for Incidents Involving Commercial Nuclear Power specifies by title those individuals and organizations that the Sheriff's Office is responsible for notifying. Amongst these organizations are the three agencies named in this contention. (Appls.' Ex. 1, Table 3-1; Appls.' Test., fol. Tr. 194, at 2). The County Plan Implementing Procedures include call lists which provide for both primary and alternate contacts. (Appls.' Ex. 5). FEMA will review the call lists prior to the full-scale exercise to ensure that the names of the individuals to be called and their phone numbers have been inserted. (Tr. 1738-40, 1752-53, 1760). Moreover, while only the Corps of Engineers has someone manning its telephones 24 hours a day during the summer months, the Sheriff's Office has also the home phone numbers for at least one individual and an alternate employed in each of these agencies. (Tr. 940, 1150).

3. During business hours, the Sheriff's dispatcher will communicate with these three agencies by telephone, and, if unsuccessful in contacting them, will resort to backup radio communication. These agencies already have two-way Sheriff's frequency radios, and, pursuant to the County Plan, will be provided also with commercial grade tone alert radios. (Appls.' Ex. 1, § 3.2; Tr. 939, 1149). While the tone alert radios had not yet been installed at the time of the hearing, they were scheduled for delivery in the Spring and for installation in the early Summer of 1984. (Tr. 938-40, 942, 1149-50). FEMA concludes that this is adequate, reliable primary and backup communication. (FEMA Test., fol. Tr. 1731, at 6; Tr. 1741-42).

Contention 1(i). The County Plan does not specify whom the Fire Leader is to notify if a Fire Chief is not available.

4. Criterion E.2 of NUREG-0654 provides that each response organization should establish procedures for alerting and notifying emergency response personnel.

8. Criterion J.10.g of NUREG-0654 states that plans to implement protective measures for the plume exposure pathway should include means of relocation.

9. Currently, there is one telephone line in the County Shop for normal, everyday calls. A second line is to be added to receive calls from persons needing emergency transportation. In the event of an emergency, individuals needing emergency transportation can secure the emergency phone number from the public information brochure, which is circulated yearly, and from emergency broadcasts; when that emergency number is called, the two phones, manned by two Shop personnel, will ring. (Tr. 733, 759; Appls.' Test., fol. Tr. 194, at 83; Tr. 1145-46; Tr. 1286).

3. Sheriff's Communications Equipment

Contention 3(a). The Sheriff needs radio equipment that will permit him to talk to the Wolf Creek plant and all of Coffey County.

10. Criterion F.1.d of NUREG-0654 states that communication plans shall provide for communications between the nuclear facility and the local emergency operations center.

11. New radio equipment will be installed in the Spring of 1984 which will enable the Sheriff to talk directly to the Wolf Creek plant and to reach all of Coffey County. The County Plan provides for such direct radio coverage. (Appls.' Test., fol. Tr. 194, at 13; Tr. 644-46, 678-81; FEMA Test., fol. Tr. 1731, at 15; Tr. 1773; Appls.' Ex. 1, § 4.2.3).

6. Emergency Response Command and Control

Contention 6(g). Due to insufficient staffing, Coffey County cannot adequately direct the evacuation. Although two personnel are required to perform this function, only the Sheriff is presently available.

12. *See* Finding 6, *supra*.

13. The County Plan assigns responsibility to the Sheriff to direct and control evacuation. (Appls.' Ex. 1, p. 1-16). The Sheriff testified that he, acting alone, can direct the evacuation and that, in the event of his absence for some reason, his Under Sheriff would be available to take over his duties in the Emergency Operations Center. While the Sheriff is present and carrying out his duties in the EOC, the Under Sheriff would be in the field taking care of traffic and security matters and would not be utilized to relieve the Sheriff. (Appls.' Test., fol. Tr. 194, at 20; Tr. 647-50).

14. The County Plan estimates that the plume exposure pathway Emergency Planning Zone (plume EPZ) can be evacuated within 2½ hours. (Appls.' Ex. 1, p. 3-5).

8. Evacuation Time Estimates

Contention 8(c). The County Plan does not provide an estimated evacuation time for individuals who do not have their own private automobiles for transportation. There is no estimate of evacuation time for them.

15. The current version of the County Plan, revised in September 1983, reflects that "[f]or the nonambulatory occupants of the Golden Age Lodge and the Coffey County Hospital, an evacuation time of 2.5 hours is estimated using area resources. . . ." (Appls.' Ex. 1, at K-19). This estimate of 2.5 hours included the time for evacuating those individuals who lack transportation. The County Plan should be corrected to reflect that this estimate includes the evacuation time for all classes of the special population needing transportation. (Appls.' Test., fol. Tr. 194, at 34; Tr. 1675-77, 1703, 1706-07).

16. The County Plan requires that, at least once a year, the Emergency Preparedness Coordinator review the Plan and certify to the County Commissioners that it is current. (Appls.' Ex. 1, § 5.3).

9. Evacuation Routes

Contention 9(c). The County Plan is deficient because the evacuation routes send the evacuees downwind and create greater risk to them in many instances. The Plan needs to give adequate consideration to wind directions and possible changes in wind direction during an evacuation.

17. Criterion J.10.k provides that plans to implement protective measures for the plume exposure pathway should include identification of and means for dealing with potential impediments to the use of evacuation routes.

18. A table and a figure in the County Plan identify recommended evacuation routes for subzones within the 10-mile plume EPZ, and an appendix contains the route descriptions which will be read over the Emergency Broadcast System in the event of an emergency. (Appls.' Ex. 1, Fig. 3-2, Table 3-4, App. L; Appls.' Test., fol. Tr. 194, at 35; FEMA Test., fol. Tr. 1731, at 39). County emergency planning officials, with some assistance from KG&E, taking into consideration the predominant wind directions for the Wolf Creek site, selected those specific

routes. (Tr. 1686-88). The County Plan is designed so that if evacuation is necessary, people will be moved out before any significant release of radioactivity occurs; however, if there is a likelihood that a substantial release will occur prior to or during an evacuation, sheltering in the downwind sectors would be the appropriate protective action to take. (Appls.' Test., fol. Tr. 194, at 36).

19. The County Plan's pre-emergency designation of evacuation routes serves to facilitate public response during an accident in that the public understands specifically which routes to take in the event of an emergency. (Appls.' Test., fol. Tr. 194, at 36; Tr. 1690-91, 1693). The two FEMA witnesses testified that, based upon their experience, none of the plans which they had reviewed designated alternate evacuation routes based upon differing wind directions at the time of the evacuation. (Tr. 1842-43).

20. In the event it becomes necessary to direct the use of different evacuation routes at the time of the emergency, alternate routes could be readily selected and would be conveyed to the public over the Emergency Broadcast System. (Appls.' Test., fol. Tr. 194, at 58; Tr. 954-56, 1714; FEMA Test., fol. Tr. 1731, at 40). It would be too cumbersome to draft EBS announcements in advance of an emergency situation designating the numerous alternative routes which might be necessitated by the wind direction at that time, and it would be too time-consuming to make a selection from numerous announcements during the emergency. (Tr. 1843-46).

Contention 9(e). The County Plan does not provide for alternate evacuation routes that will be necessary if there is heavy snow, rain, flooding, or fog.

21. Most of the County is laid out in square-mile sections in a grid-like manner, with roads running along these section lines every mile. (Tr. 961, 1693). Because of this extensive road system, the County Emergency Preparedness Coordinator testified that it would be difficult to predesignate alternative evacuation routes. He also testified that such predesignation would be unnecessary — i.e., if a particular designated road was blocked or flooded, via the Emergency Broadcasting System, the public would be notified to take an alternate route. (Appls.' Test., fol. Tr. 194, at 37; Tr. 965-66).

22. With rare exceptions, all of the roads in the County are travelable year round. (Tr. 961-62).

11. Public Alert and Notification System

Contention 11(a). The County Plan is deficient because it is not possible under the Plan to notify 100% of the population within 5 miles of the site within a 15-minute period, and it is not possible to assure 100% coverage within 45 minutes for those persons who do not receive the initial notification and are within the 10-mile EPZ. The evacuation time will therefore be longer than estimated.

23. NUREG-0654, Appendix 3, provides that (a) the notification system have the capability for providing within 15 minutes an alert signal and an informational or instructional message throughout the 10-mile EPZ, (b) the initial notification system will assure direct coverage of essentially 100% of the population within 5 miles of the site, and that (c) special arrangements will be made to assure 100% coverage within 45 minutes of the population who may not have received the initial notification within the entire plume exposure EPZ. Said Appendix also states that this design objective does not, however, constitute a guarantee that early notification can be provided for everyone with 100% assurance.

24. The three agencies having jurisdiction over the John Redmond Reservoir are the U.S. Fish and Wildlife Service, the Kansas Fish and Game Commission, and the U.S. Army Corps of Engineers. (Appls.' Test., fol. 194, at 92). Initially, one fixed acoustical siren was planned to serve this recreational area. However, as stated at the beginning of the hearing, the determination was made and Applicants have committed to add two more sirens. (Appls.' Ex. 3A; Appls.' Test., fol. Tr. 194, at 43; Tr. 203, 209). All areas of the Redmond Reservoir within the plume EPZ under the jurisdiction of these three agencies will be covered by these sirens, except for a small portion of land to the extreme west of the recreation area, under the jurisdiction of the U.S. Fish and Wildlife Service. (Appls.' Ex. 3B; Tr. 2138-40). The Fish and Wildlife Service will use its siren-equipped vehicles to cover its jurisdictional area, will personally contact individuals where possible, and will put preprinted warning flyers on unattended, parked cars. (Tr. 1151-53, 1252-54). The notification and evacuation procedures for Fish and Wildlife Service are set forth in the County Plan. (Appls.' Ex. 1, App. I). Since the Coffey County Plan Implementing Procedures provide that the Sheriff's use of the telephone will be the primary means of notification to the three agencies, with tone alert radios as backup, the Fish and Wildlife Service's estimate of 45 minutes within which it would be able to notify the public is acceptable to FEMA. (Tr. 374-77).

25. People do not venture out into the middle of the Redmond Reservoir, known as the Mud Flats, because their boats would become

stuck in the shallow, silted bottom. (Tr. 1296-97, 1300, 1381, 2162). Even if a person in a boat ventured into the middle of the reservoir, he would be able to hear sirens but it is quite possible he would not hear the siren signal if his motor was running. (Tr. 2144-45). The sirens will be activated for a period of 3-5 minutes. (Appls.' Ex. 1, § 3.2). The Emergency Response Organization of the Fish and Wildlife Service will continue to monitor the area until it has confirmed that the evacuation is complete. (Appls.' Ex. 1, App. I).

26. The siren system is designed to cover areas of moderate-to-high population density. All 750 residences outside the range of the fixed sirens and within the plume EPZ will be furnished by the Applicants with tone alert radios, and twenty commercial-grade tone alert radios will be furnished to similarly sited recreational, educational, and institutional facilities. (Tr. 212; Appls.' Test., fol. 194, at 42-43, 49, 50; Tr. 201, 220, 274-75, 277, 383). FEMA approves of this arrangement. (FEMA Test., fol. Tr. 286, at 9).

27. The County has made provision for Emergency Broadcasting System announcements to remind people to go out into the fields to notify family members or friends who are farming and may not hear the sirens or the tone alert radios. (Tr. 1254-55, 1275).

28. The County Plan contains provisions for individual alerting of persons who, due to deafness or other reasons, cannot hear the sirens or tone alerts. (Appls.' Ex. 1, at H-8, § 1.2.3(4), § 1.2.5(1 and 6), § 1.2.6(1), § 3.2, § 5.4). Based on a County survey, it is estimated that approximately fifty households may require special notification. As the County Plan states, personnel under the direction of the Fire Leader will carry out these notifications in Burlington and LeRoy. (There are approximately forty such households). The Plan also states that personnel under the direction of the County Engineer will carry out these notifications in other areas of the plume exposure pathway EPZ. (There are approximately ten such households). (Appls.' Test., fol. 194, at 48, 53; FEMA Test., fol. Tr. 286, at 8, 11; Tr. 1908). The County Engineer has assigned four people to make these notifications and concludes they could complete their assignment within 45 minutes. (Tr. 2318). The Fire Leader will be able to call upon fifty-seven members of the Burlington and LeRoy fire departments to make these notifications. (Appls.' Test., fol. 194, at 48).

29. In implementation of the County Plan a list identifying hearing-impaired persons in the plume EPZ has been prepared from the County survey, and will be updated by the County Health Nurse, by family members and by the return of the attachment to the emergency public

information brochure which is mailed annually to the public. (Appls.' Ex. 1, § 3.2; Appls.' Test., fol. Tr. 194, at 53).

30. Letters of agreement have been signed by the County's fire departments of Lebo, Waverly, LeRoy, Gridley and Burlington wherein they commit themselves to provide personnel for notification, as well as for decontamination functions. (Tr. 2359). The County Plan indicates that such letters of agreement will be inserted therein. (Appls.' Ex. 1, App. D).

Contention 11(e). There is no provision about how to make the warning if one or more sirens fail to operate. The evacuation time will therefore be longer than estimated.

31. The County's program for frequent testing, and its frequent usage of the sirens makes it unlikely that the sirens will fail to operate in an emergency. The two Burlington sirens and the LeRoy siren will be used for fires and will be activated daily for morning and noon whistles. All sirens will be used for tornado alerts. All will be routinely maintained and tested in accordance with regulatory guidance. (Appls.' Test., fol. Tr. 194, at 47; Tr. 329-31, 1251). If a siren should fail to operate during an emergency, the Sheriff's patrol cars and fire department vehicles on an *ad hoc* basis would be sent to notify the residents in that area; however, NUREG-0654 does not require that such a redundant means of notification be set forth in the County Plan. (Tr. 968-69; Appls.' Test., fol. Tr. 194, at 226; Tr. 345-46).

Contention 11(j). There is no provision for testing or maintenance of the tone alerts. The evacuation time will therefore be longer than estimated.

32. While FEMA's Standard Guide for the Evaluation of Alert and Notification Systems states that at least monthly testing is desirable, the County Plan specifies that tone alert radios are to be tested by the Emergency Broadcast System on a weekly basis. (FEMA Ex. 1, at E-11; Appls.' Ex. 1, at H-8). A brochure, accompanying each of the tone alert radios to be furnished by the Applicants, informs the recipient that the radio will be tested once a week, and instructs that, if there is a malfunction, the recipient should obtain a replacement from the Emergency Preparedness Coordinator. That County official's department will have approximately 300 spare replacements. (Appls.' Test., fol. Tr. 194, at 52; Tr. 261-62, 264, 976-77).

12. Public Emergency Planning and Information

Contention 12(e). There is no detail about how the education information will be provided to transients.

33. Section 50.47(b)(7) of 10 C.F.R. states that emergency response plans must establish procedures for the coordinated dissemination of information to the public. NUREG-0654, Criterion G.2, provides that signs shall also be used to disseminate appropriate information to any transient population within the plume exposure pathway EPZ.

34. Large public information billboards will be placed on the access roads to the Redmond Reservoir to provide emergency information to transients, but the number and exact locations of the billboards have not been finalized. The billboards will instruct the visitors that upon the activation of the sirens or other notification of an emergency, they should turn to identified EBS stations on their automobile radios. The EBS announcements will identify the evacuation routes and the registration centers for the transients at the Reservoir. (Appls.' Test., fol. Tr. 194, at 57; FEMA Test., fol Tr. 1731, at 49; Tr. 1333, 1376-77, 1652, 1918-19; Appls.' Ex. 1, § 5.4). Further, flyers will be left on the windshields of unattended vehicles at the reservoir, which include the basic information on the billboards plus a map of the evacuation routes. (Tr. 1326).

35. A supply of emergency public information brochures will be provided to area motels for their guests. (Appls.' Test., fol. Tr. 194, at 57). Area telephone books will contain information summarized from the public information brochures. (Tr. 1316). The EBS announcements will advise transients that emergency information is contained in telephone directories. (Tr. 1344).

Contention 12(s). The County Plan is deficient because in § 3.3.1 the Public Information Officer will advise the parents where children have been evacuated to. This information should have been supplied to the parents at an earlier time. The Plan does not make provision for providing such information.

36. The County Plan identifies the host counties' registration centers for schools being evacuated. (Appls.' Ex. 1, Table 3-6). The emergency public information brochure (annually distributed to area residents) will tell parents which host county facility their children will be evacuated to in an emergency. This same information would be repeated to parents at the time of an emergency via the EBS announcements, which announcements are included in the County Plan. (Appls.' Test., fol. Tr. 194, at 66; Tr. 1373-74; Appls.' Ex. 1, App. L-13). The

County Plan also identifies the host counties' registration centers for schools being evacuated. (Appls.' Ex. 1, Table 3-6).

13. Evacuation of Pregnant Women and Small Children

Contention 13(b). The County Plan does not provide for transportation for the evacuation of pregnant women and small children if they are evacuated before others. If buses or other means of transportation are used for them, then that transportation might not be available to others when there would be a full evacuation.

37. The County Plan reflects that following a nuclear incident involving a release to the atmosphere, while evacuation for the general population may not be recommended, monitoring of the whole body and thyroid dose may prompt the early initiation of protective evacuation of pregnant women and small children. (Appls.' Ex. 1, § 3.3 and App. E, at E-9). While it is believed that there will be very few pregnant women or families with small children who will not have their own vehicles, if emergency transportation is needed, as reflected in Finding 9, *supra*, they may call the County Shop for assistance. (Appls.' Test., fol. Tr. 194, at 69; Tr. 1138; FEMA Test., fol. Tr. 1731, at 60; Tr. 1921-22).

38. If additional transportation is needed for the protective evacuation of pregnant women and their pre-school children during school hours, buses from one of the outlying school districts (outside the EPZ) would be utilized. Neither Burlington nor LeRoy buses would be utilized for this purpose. They would be held in standby because, if an evacuation of the general population was subsequently mandated, they would be needed to evacuate the Burlington schools. (Tr. 1140, 1285).

14. Evacuation of Schools

Contention 14(a). The teachers, school administrators, and children have not been trained about how to handle the evacuation, and there are no plans in the County Plan to specify how they will be instructed to deal with an emergency evacuation.

39. NUREG-0654, Criterion O.1, states: "Each organization shall assure the training of appropriate individuals."

40. The determination of "appropriate" is dependent upon the function the individual assumes in an emergency. (FEMA Test., fol. Tr. 1731, at 61). Individuals with specific emergency response roles to fill in an evacuation should be informed of their roles prior to an emergency. (Tr. 417, 435, 439, 486, 488-89, 510). In addition, those who are

charged with making the decision to evacuate need to be informed about the nature of the risk attendant to radiation. (Tr. 510-11).

41. School administrators will receive training under the Joint Training Program. Specifically, superintendents and principals will be trained in an overview of the State, County and KG&E emergency plans, their position role in the emergency plans, and basic radiation effects and protection. (Tr. 1259).

42. Teachers will receive the instruction needed to perform their role in an evacuation. In particular, teachers' roles in an evacuation (e.g., boarding students on buses and possibly accompanying them, or driving them in cars to a registration center) will be discussed with them as part of teacher orientation, conducted by school administrators at the beginning of each academic year. In addition, at the orientations, all teachers will receive copies of the Wolf Creek emergency public information brochure, which will include educational information on radiation. (Tr. 417, 434-35, 438-39, 486-89, 510, 1257-58). Because teachers' roles in an evacuation generally parallel their normal activities, and because they are not charged with making the decision to evacuate the schools, teachers need not receive other special training. (Tr. 417, 434-35, 438-39, 486-89, 510, 1257-58).

43. Schoolchildren have no special response role in an evacuation. They carry out those actions required in an emergency on a routine daily basis: e.g., how to stand in line and how to board buses. (Tr. 416-17, 1284-85). Pre-emergency instruction about matters such as destination will not enhance their safety in an emergency. (Tr. 440-42). Similarly, their health and safety in an evacuation will not be affected by their knowledge of the nature of radiation, because the decision to evacuate is made by others — whether they are at home or at school at the time of the emergency. Therefore, no special training is necessary to protect the children's health and safety in an evacuation. (Tr. 416-17, 439-40, 488-89, 510-11, 1284-85). The FEMA witness did not know of any nuclear emergency plan that includes provisions for evacuation training for children. (Tr. 1924).

Contention 14(b). There are not enough school buses available to evacuate schoolchildren.

44. NUREG-0654, Criterion J.10.g, calls for the Plan to implement protective measures for the plume EPZ, including means of relocation.

45. The Burlington school district has a current enrollment of approximately 750 and has ten buses and three smaller vehicles. At maximum bus capacity, 659 Burlington students could be evacuated by bus

in a single lift. About thirty teachers' cars would be used to transport the remaining Burlington students. (Appls.' Test., fol. Tr. 194, at 27, as corrected at Tr. 694-96; Tr. 724-25, 784-85, 798-99, 1928). With sufficient teachers' cars available, FEMA approves of these plans for the evacuation of the public schools. (FEMA Test., fol. Tr. 1731, at 62; Tr. 1926-27). While the County Engineer could not personally attest to the availability of teachers' cars for evacuation, the record indicates that the Superintendent of the Burlington schools has made the decision to use teachers' cars to transport students who could not be accommodated on buses. (Tr. 785). A FEMA witness testified that teachers could be informed at the beginning of the school year or when they are hired that their cars may be used during an evacuation and that letters of agreement are unnecessary. (Tr. 1926-27).

46. If, for any reason, sufficient teachers' cars were not available, the Burlington school evacuation would be completed using the first buses arriving from surrounding school districts. (Tr. 798-99). These buses would be available to provide transportation for evacuating students and other special populations as soon as their own students were taken home (sooner if school were not in session). (Appls.' Test., fol. Tr. 194, at 27, as corrected at Tr. 694-96; Tr. 722, 1928). Letters of agreement for school buses have been signed with the school districts for Lebo, Waverly, LeRoy and Gridley. The agreement for the Burlington district was to be signed shortly after the close of the hearing. (Tr. 2358-59).

15. Evacuation of Health Care Facilities and Residents Needing Special Transportation Assistance

Contention 15(a). The County Plan does not detail what type of health services will be provided for persons who are in institutions or under care on an outpatient basis prior to the accident. It does not specify which hospital they will be taken to. The Plan does not consider the number of patients to be cared for.

47. NUREG-0654, Criterion J.10.d, prescribes planning to protect persons "whose mobility may be impaired due to such factors as institutional or other confinement."

48. There are existing unwritten arrangements between Coffey County Hospital and hospitals with available beds in surrounding counties. These arrangements provide for the transfer of patients from Coffey County in emergency situations and have always been honored. (Appls.' Test., fol. Tr. 194, at 73; FEMA Test., fol. Tr. 1731, at 67; Tr.

812-16, 841, 851). FEMA requires signed agreements with hospitals that will receive patients. (Tr. 1941).

49. The hospitals and numbers of beds available to Coffey County patients in an emergency are as follows: Newman Hospital, Emporia — 100 beds (Tr. 813, 815, 847-48); St. Mary's Hospital, Emporia — 40 to 45 beds (Tr. 815-16); Anderson County Hospital, Garnett — 25 beds; Allen County Hospital, Iola — 10 beds (Tr. 816); Ransom Memorial Hospital, Ottawa — 42 beds; Greenwood County Hospital, Eureka — 20 beds (Tr. 850-51). In addition, in an emergency, Ransom would make available another fifteen to twenty beds that are normally reserved for medical students or staff who are "sleeping over." (Tr. 850).

50. The Golden Age Lodge Nursing Home has a capacity of 102 and, at the time of the hearing, had a census of 91 residents. (Appls.' Test., fol. Tr. 194, at 74, as corrected at Tr. 809, 813, 819). There are unsigned agreements with the hospitals in the surrounding counties to receive the nursing home residents during an evacuation. (Tr. 851). Flint Hills Manor nursing home in Emporia with an average available capacity of thirty-five beds has also agreed to accept nursing home patients from Coffey County. (Tr. 851).

Contention 15(c). Coffey County does not have sufficient transportation (ambulances, buses, etc.) to evacuate people from nursing homes and the Coffey County Hospital.

51. The Coffey County Hospital has two critical care beds. However, it has been conservatively assumed that four hospital patients would require evacuation by ambulance or other stretcher-carrying vehicle. (FEMA Test., fol. Tr. 1731, at 68; Tr. 854; Appls.' Ex. 1, at K-6). The nursing home estimates that about 25% of the residents (approximately twenty-five patients) would need to be transported by ambulance or other similar vehicle. (Appls.' Test., fol. Tr. 194, at 74; Tr. 824).

52. Coffey County has two ambulances with a total capacity of eight. Under existing arrangements with surrounding counties, Coffey County can, and regularly does, call on their ambulance resources. These ambulances are in Anderson County (two), Lyon County (three), Woodson County (two), Humboldt (one), Moran (one), Iola (two), Franklin County (three), and Osage County (two). Also, St. Mary's Hospital in Emporia has two ambulances. The combined capacity is about fifty patients. (Appls.' Test., fol. Tr. 194, at 74, as corrected at Tr. 809, 828, 846). The County Plan includes signed Mutual Aid Agreements with Allen, Lyon, Anderson, and Franklin Counties which, among other provisions and upon request, will send assistance in the

form of equipment as it can muster during an emergency. (Appls.' Ex. 1, at D-3-D-10).

53. Funeral directors' vehicles and ambulance helicopters would also be available to assist in an evacuation. The head of the Kansas Funeral Directors Association (KFDA) and another representative from the State of Kansas attended a FEMA course in 1983, in which FEMA presented guidelines on the use of funeral directors' vehicles (station wagons, hearses, etc.) in an emergency. Through the KFDA, funeral home directors in the Wolf Creek area have agreed to provide vehicles with a combined capacity of forty-six stretchers, to assist with evacuation in an emergency. (Appls.' Test., fol. Tr. 194, at 74; Tr. 821-22, 852-53). The Military Assistance to Safety and Traffic program based at Fort Riley, Kansas (approximately 70 air miles from Coffey County) has six ambulance helicopters with a combined capacity of eighteen litters. (Appls.' Test., fol. Tr. 194, at 74-75).

Contention 15(n). The County Health Nurse has not compiled a list of County residents who are shut-ins or who may need special evacuation assistance.

Contention 15(o). The County Plan does not make adequate provision for preparing a list of County residents who are shut in or who may need special evacuation assistance, and does not make adequate provision for updating the list as changes occur.

54. NUREG-0654, Criterion J.10.d, indicates that State and local governments should provide means for protecting those persons whose mobility may be impaired due to such factors as institutional or other confinement.

55. Persons requiring special emergency transportation or other special evacuation assistance are identified by the County Survey and by family members, in conjunction with the list of "home help" patients normally maintained by the County Health Nurse. This responsibility of the County Health Nurse is stated in the County Plan. (Appls.' Test., fol. Tr. 194, at 82; Appls.' Ex. 1, at 1-9; Tr. 1939-40).

56. A list of those who may need special notification, including the hearing-impaired, is being compiled. (*See* Finding 28, *supra*). The list of persons who may need transportation assistance in an evacuation is being developed, and will be maintained and updated in the same manner and on the same basis as the list of individuals needing special notification. (Appls.' Test., fol. Tr. 194, at 83). Using information obtained monthly from the County Treasurer, the County Appraiser, and from the utilities, new residents of the plume EPZ will be contacted to determine special needs if any. The annual mailing of the emergency

public information brochure will include a request for updated information on individuals requiring special assistance. At least once a month, the list will be updated based on all available information. (Appls.' Test., fol. Tr. 194, at 82; Tr. 1143-45). The procedure for updating the list meets with FEMA's approval. (Tr. 1953). The provisions for maintaining the list are specified in the County Plan. (Appls.' Ex. 1, at 1-5, 7, 8, 9).

16. Evacuation of Persons Without Private Transportation

Contention 16(a). The County Plan does not detail how many individuals will need transportation assistance that the County Engineer is to provide for an evacuation. There is inadequate detail about how the Engineer will know who to evacuate.

57. It is estimated from the County Survey that approximately 120 individuals may require transportation assistance in an evacuation. (Appls.' Test., fol. Tr. 194, at 83, 85; Tr. 1147, 1979). A list of those individuals is being developed, and will be maintained and updated, in the same manner and on the same basis as the list of individuals needing special notification. The County Engineer will have this list and its updates. (Appls.' Test., fol. Tr. 194, at 83; Tr. 732).

58. At the time of an evacuation, some people who normally have private transportation might need transportation assistance (e.g., their cars are being repaired, etc.) (FEMA Test., fol. Tr. 1731, at 83; Tr. 730). They may call the County Shop to secure emergency transportation. (*See* Finding 9, *supra*). The County is unable to estimate with reasonable accuracy the number of persons who might need to call in to request transportation at the time of an emergency. (Tr. 1147, 1983). FEMA is satisfied that the County has met this concern with the availability of excess bus capacity. (Tr. 1981, 1983-84).

Contention 16(l). There are not enough vehicles available to provide transportation for those who do not have their own means of transportation.

59. It has been estimated that 329 persons within the plume EPZ, other than public school students and other than those individuals whose vehicles, for example, are being repaired, will need school bus transportation. This estimate includes children in private schools and day care centers, ambulatory hospital patients and nursing home residents, and members of the general public who do not have access to private transportation. Not including Burlington and LeRoy, the towns

of Gridley, Lebo and Waverly have in aggregate eighteen school buses and two vans with a nominal capacity of 726 to evacuate these individuals. (Tr. 2017-19). As confirmed by the County Survey, evacuation for those without their own means of transportation will in most cases be by relatives, neighbors and friends. Thus, the available bus capacity has been identified and exceeds the estimated needs. (Tr. 1678-81, 1983-84). Excess bus capacity will meet the demands of those individuals who normally would have their own transportation but for various reasons may be without it during an emergency. (*See* Finding 58, *supra*). FEMA is satisfied that there are enough vehicles available to provide transportation for those who need special transportation or do not have their own means of transportation. (Tr. 1979-81).

60. The Coffey County Engineer testified that, while it might take 2 hours (or a little longer if there were delays at the registration center or delays due to traffic conditions) for the Burlington school buses to evacuate their students to Emporia and return to the plume EPZ, buses from schools outside the plume EPZ (Gridley, Lebo, and Waverly) could take their students home and be available within 1½ hours to commence the evacuation from the plume EPZ of these persons needing special transportation. (Tr. 705-07, 777-79). The Coffey County Plan estimates that it would take a maximum of 2.5 hours to evacuate this special population, which includes the 1.5 hours discussed above. (Appls.' Ex. 1, at 3-5; Tr. 1948-49).

61. There is no probative evidence that the Gridley, Lebo, and Waverly buses could not load their students, unload them and be available within 1.5 hours to begin the evacuation of those needing special transportation and obviously these buses coming into the plume EPZ would not be delayed in order to be decontaminated. Reduced speeds for school buses and the effect of adverse weather conditions have been considered in the County Plan's evacuation time estimate. (Appls.' Ex. 1, § 3.3, and Table K-7; Appls.' Test., fol. Tr. 194, at 32; Tr. 1664-65, 1700-01, 1997). Even if a half-hour was needed for loading, these buses would be able to effect the evacuation within the estimated 2.5 hours. (Tr. 1996).

Contention 16(m). The Engineer has not made arrangements to obtain school buses.

62. Coffey County has signed letters of agreement with Unified School Districts 243 (Lebo/Waverly) and 245 (LeRoy/Gridley) which provide for the availability of school buses for emergency transportation needs. A corresponding letter of agreement with School District 24

(Burlington) was scheduled to be signed shortly after the close of the evidentiary hearings. The School Board attorney assured the County Emergency Preparedness Coordinator that there were no substantive impediments to its approval. (Tr. 721-22, 795-96, 2358-59; Appls.' Test., fol. Tr. 194, at 90). School Districts 243 and 245 contract with private companies for their buses, while all buses in School District 244 are owned by the District. (Tr. 776-77).

Contention 16(n). The County Plan is deficient because the school buses listed in Table 3-8 will be required for evacuation of schoolchildren and will not be available to provide other emergency transportation.

63. If school is in session, the school buses from School Districts 243, 244 and 245 will be available for emergency transportation after they have taken their school populations out of the plume EPZ or home. If school is not in session, the buses would be available sooner. (Appls.' Test., fol. Tr. 194, at 91, as corrected at Tr. 696-97; FEMA Test., fol. Tr. 1731, at 87; Tr. 704-05, 707, 722). Individuals, other than schoolchildren, dependent upon the buses for emergency transportation, are ambulatory patients from the hospital and nursing home, children at private schools and day care centers and other people who do not have transportation. (*See* Finding 59, *supra*).

18. Traffic Control, Access Control and EPZ Security

Contention 18(a). The County Plan does not provide for enough traffic control. There is too little traffic control provision within the 10-mile EPZ.

64. Because of the large number of roads and the relatively low population in the plume EPZ, little, if any, traffic control will be necessary. (Appls.' Test., fol. Tr. 194, at 99). The Evacuation Time Estimate Study indicates an average vehicle speed and an average intervehicular distance sufficient to allow traffic to merge from the sparsely populated rural areas into the outgoing traffic pattern without the assistance of extensive traffic control. (Appls.' Test., fol. Tr. 194, at 99-100; Appls.' Ex. 1, at 3-9). The Federal Highway Administration concurs in the route capacities used. (FEMA Test., fol. Tr. 1731, at 90).

65. Five traffic control positions are contemplated. (Appls.' Test., fol. Tr. 194, at 99, 101; FEMA Test., fol. Tr. 1731 at 90; Tr. 655-56). Three positions are outside the plume EPZ at locations suitable for turnaround of tractors/trailers and are not required for control of auto traffic.

(Appls.' Test., fol. Tr. 194, at 99; Tr. 652, 2036). Traffic control in Burlington and in the vicinity of John Redmond Reservoir is unnecessary. (Tr. 681-82, 685). The identified traffic control positions are adequate. (Tr. 2037).

66. Area residents are familiar with the local road network and may select other suitable routes out of the plume EPZ. (Tr. 656-57). The key determinant of the route used to exit the plume EPZ by Redmond Reservoir visitors will be the information provided in the EBS announcements. (Tr. 468). FEMA will review the EBS announcements to ensure clarity of information to Reservoir visitors. (Tr. 1337-38, 1376-77).

Contention 18(r). The County Plan is deficient because it does not provide that the entire evacuated area will be blocked. It only contemplates that it will be blocked as resources become available.

67. All roads can be barricaded within 4 hours. (Appls.' Ex. 1, at 3-8, 3-9; Appls.' Test., fol. Tr. 194, at 109). Four of the six priority roadblocks will be manned 24 hours per day for the duration of the emergency by County Engineer personnel. The other two will be manned for a short period (about 1 hour) by County Sheriff's deputies, and will be permanently relieved by Kansas Highway Patrol (KHP) officers. (Appls.' Test., fol. Tr. 194, at 103). National Guard personnel as they become available will man all secondary roadblocks. This meets with FEMA's approval. (Appls.' Test., fol. Tr. 194, at 109; FEMA Test., fol. Tr. 1731, at 99; Tr. 2030).

68. *See* Finding 16, *supra*.

Contention 18(aa). The Sheriff does not have enough personnel to secure the evacuated area on a 24-hour-per-day basis.

69. The County Sheriff has primary responsibility for providing 24-hour-per-day security for the evacuated areas. (Appls.' Test., fol. Tr. 194, at 115; FEMA Test., fol. Tr. 1731, at 106; Tr. 668; Appls.' Ex. 1, at 1-4). Additional security for the evacuated area would be provided by manned roadblocks and roving patrols. (Appls.' Test., fol. Tr. 194, at 116, Tr. 668-71).

70. Priority roadblocks will be maintained by the KHP (two roadblocks) and County Engineer personnel (four roadblocks). All secondary roadblocks will be manned by the National Guard. (Appls.' Test., fol. Tr. 194, at 116; FEMA Test., fol. Tr. 1731, at 106). In addition, Sheriff's deputies would patrol around the evacuated area. (Appls.' Test., fol. Tr. 194, at 115, 116; Tr. 669). KHP will station three officers with vehicles

at the State Forward Staging Area in New Strawn. The KHP officers will be available to assist the Sheriff's deputies in controlling unauthorized entry into the plume EPZ. (Appls.' Test., fol. Tr. 194, at 115, 116). FEMA is satisfied with the provisions for 24-hour-per-day plume EPZ security. (Tr. 2031-32).

19. Radiation Monitoring and Decontamination

a. Staffing

Contention 19(e). There is no person designated or trained to act for the Radiological Defense Officer if he is not available or is to be relieved during an accident.

71. An alternate Radiological Defense Officer has been selected. The County Plan provides for the alternate to carry out the Radiological Defense Officer's (RDO) functions if the RDO is unavailable or must be relieved during an accident. (FEMA Test., fol. Tr. 1731, at 109; Appls.' Test., fol. Tr. 194, at 118; Tr. 1410-11; Appls.' Ex. 1, at 1-11). The alternate RDO will receive the standard FEMA training course. (Tr. 1411, 1566-67).

Contention 19(h). The County Radiation Monitoring Team has not been selected.

Contention 19(i). The County Plan is deficient because it does not state how many members of the Radiation Monitoring Team will be required, and does not contemplate enough people to handle the duties of the Radiation Monitoring Team.

72. Coffey County currently has about forty-eight people who have had the FEMA Radiological Monitoring Training Course and 8 hours of classroom training in the use of radiation monitoring instruments. The County plans to train an additional twenty-five people. From the total group, twenty-one will be selected for additional training to qualify them for offsite monitoring and sample collection, as members of the Joint Radiation Monitoring Teams. (Appls.' Test., fol. Tr. 194, at 121, as corrected at Tr. 1395-96, 1409, 1413-15, 1537-39, 1561-63, 1565-66, 2050-51).

73. Fourteen persons from the County are required to meet the County's radiation monitoring duties for the Joint Radiation Monitoring Team. Twenty-one will be available. (Appls.' Test., fol. Tr. 194, at 122, as corrected at Tr. 1395-96; *see* Finding 72, above). Their assignments will be made prior to the full-scale exercise. (Tr. 2051). The roster of

team members may be included within the Implementing Procedures. (Tr. 2031, 2050-52).

74. Six monitors per shift (12-hour shifts) will be needed for the access control positions. These would be chosen from the trained monitors not involved in the Joint Radiation Monitoring Teams. (Appls.' Test., fol. Tr. 194, at 122). FEMA has determined that the Plan satisfies the provisions of NUREG-0654. (FEMA Test., fol. Tr. 1731, at 113, as corrected at Tr. 2053).

> Contention 19(k). Coffey County will not be able to perform decontamination and radiation checks within the County and at evacuation centers, because it is not adequately staffed. There is no provision in the County Plan for an adequate number of personnel to supplement the County Radiation Monitoring Team in order to check evacuees and vehicles at shelters for contamination. The Coffey County Plan shows 104 people will be needed at the evacuation centers for contamination checks (at 3-8). None of these are available. At least 150 will be needed for this. The Plan does not specify how they will be recruited. Also, there are no people available at the evacuation centers to handle decontamination. It is possible that as many as 100 people will be required for decontamination.

75. NUREG-0654, Criterion J.12, specifies that radiation monitoring personnel at registration centers "should be capable of monitoring within about a 12-hour period all residents and transients" from the plume EPZ. This 12-hour period is neither a precise upper limit, nor a guarantee that all monitoring will be conducted within 12 hours. Rather, it is guidance as to the expected capability of the monitoring organization. (Tr. 2053). Decontamination need not be performed within any specified time period. (Tr. 2073-74).

76. Radiological monitors from the four host counties are responsible for the monitoring and decontamination of evacuees and vehicles at registration centers. Based upon the expected number of evacuees and a 2½-minute time to monitor each evacuee, the following number of monitors will be needed in each host county: Franklin County – 4 (1000 evacuees); Lyon County – 12 (3700 evacuees); Allen County – 4 (1200 evacuees); Anderson County – 6 (1600 evacuees).[7] The monitors will be selected and trained before full-power operation at Wolf Creek. (Appls.' Test., fol. Tr. 194, at 123, as corrected at Tr. 1396; FEMA Test., fol. Tr. 1731, at 115-16; Appls.' Ex. 1, at 3-13; Tr. 1417-26, 1567-68, 1574, 2070). FEMA has determined that twenty-six

[7] The Coffey County Shelter Systems Officer has estimated the maximum number of individuals (worst case) that could evacuate to each host county: Franklin County (1770), Lyon County (6863), Allen County (1247), Anderson County (3873). To be conservative, each number was inflated by 20%. (Tr. 524-25).

host county radiation monitoring personnel will be sufficient. (Tr. 2070-73). A 2½-minute time to monitor each evacuee is very conservative. (Tr. 1418-19). There is no regulatory basis that requires women evacuees to be checked for contamination by women monitors and the subject need not be described in the Plan. (Tr. 2076-77).[8] If necessary, additional radiation monitoring personnel are available from the Kansas Department of Transportation, or the Radiological Defense Officer could dispatch reserve Coffey County radiation monitoring personnel to registration centers to assist host county personnel. (Appls.' Test., fol. Tr. 194, at 123; Tr. 1568).

77. Should evacuees need decontamination, the host county radiation monitoring personnel would explain the process to each, and the evacuees would decontaminate themselves. Assistance would be available for small children and those physically unable to decontaminate themselves. After decontamination, the evacuees would again be monitored. This procedure is satisfactory to FEMA. (Tr. 1424-26, 1431-33, 2101-02).

78. NUREG-0654 does not specify any period of time within which vehicles must be monitored and decontaminated. This could be accomplished after monitoring and decontamination of evacuees have been completed. (Tr. 1543-44, 2075).

Contention 19(I). The Fire Leader does not have enough personnel to conduct the decontamination activities.

79. Letters of agreement for decontamination services at access control positions have been signed with all fire departments in Coffey County — Lebo, Waverly, LeRoy, Gridley and Burlington. (Tr. 2359). The County Plan indicates that such letters of agreement will be inserted therein. (Appls.' Ex. 1, App. D). The County has agreed to make the letters of agreement available to FEMA for review at any time. (Tr. 2361). The five fire departments have adequate personnel (approximately 110 members) and equipment (about 24 vehicles) to conduct decontamination activities while carrying out any other activities. (Appls.' Test., fol. Tr. 194, at 124; FEMA Test., fol. Tr. 1731, at 117-18; Appls.' Ex. 1, at 3-10, 3-11; Tr. 1160-62). FEMA is satisfied that sufficient fire department personnel and equipment will be made available for decontamination at access control positions. (Tr. 2055, 2079, 2103).

---

[8] The State Plan's discussion of privacy for individuals being screened for contamination indicates that emergency workers would be sensitive to the personal needs and concerns of evacuees. (*See* Appls.' Ex. 2, at K-7, K-8).

Furthermore, historical experience shows that County fire department personnel are dedicated to the fulfillment of their community obligation and that they would respond in an emergency. (Tr. 1287).

b. Availability of Equipment

Contention 19(r). The Coffey County Radiation Monitoring Team does not have proper radiation monitoring equipment to monitor radiation in the event of an evacuation.

80. Seven air samplers, to be provided by KG&E, are on order and will be available before the full-scale exercise. The State Plan will describe this new equipment. (Appls.' Test., fol. Tr. 194, at 126; Tr. 866-67, 1574-75).

Contention 19(aa). The Coffey County Radiation Monitoring Team does not have the communications equipment it needs to keep in touch with the County Emergency Operations Center and others. The Coffey County Plan is deficient where it provides that the Radiation Monitoring Team will communicate with the County EOC by telephone. In all likelihood, there will not be enough telephone lines available so that prompt communication can be accomplished.

81. Each Joint Radiation Monitoring Team will be in direct radio communication with the KG&E's Emergency Operations Facility (EOF) via portable radio. The EOF serves as the base of operation for the Joint Radiation Monitoring Teams. Information on team progress, summary data, dose projections, and plume direction will be supplied to the Radiological Defense Officer at the EOC via the radio and/or telephone links between the EOF and the EOC. County radiation monitoring personnel assigned to access control positions will have radio communication to the EOC or State Forward Staging Area through the County Engineer personnel or law enforcement personnel stationed at each access control position. No additional communications equipment is needed for County radiation monitoring personnel. (Appls.' Test., fol. Tr. 194, at 132-33; Appls.' Ex. 1, at 3-13; FEMA Test., fol. Tr. 1731, at 131-32; Tr. 1435-37, 1569-70). There is no requirement that there be direct communication between the EOC and the monitoring teams.[9]

---

[9] Criterion F.1.d of NUREG-0654, cited by Intervenors' Opinion at 42, does not require direct communications, but only that communications be provided between the plant, the EOF, and EOC and Radiation Monitoring Teams. FEMA does not require direct communications between the EOC and the teams. (FEMA Test., fol. Tr. 1731, at 131).

c. Monitoring/Decontamination Procedures

Contention 19(hh). The State Plan does not assume all evacuees will be checked for contamination. The Coffey County Plan does so. The County Plan is deficient because it does not require that all evacuees go to the designated shelter area outside the evacuation zone for a contamination check. Once the evacuees are out of the area, it will not be possible to adequately notify them to go for a contamination check. It must be clear in the plans that all evacuees will be checked for contamination.

82. EBS announcements will direct all evacuees to proceed to registration centers. The announcements will be expanded to explain the nature of the hazard posed by radiation and the availability and efficacy of contamination checks. These revisions will provide assurance that the public will avail itself of radiation monitoring services at registration centers. (Appls.' Test., fol. Tr. 194, at 137; Tr. 461, 513-14, 570-71). Similar information will be incorporated into the public information brochure. (Tr. 1373-74).

Contention 19(kk). The County Plan is deficient because it does not provide for disposal of contaminated equipment, vehicles, decontamination water, or any other materials that might be contaminated.

83. The Radiological Defense Officer, with the assistance of KG&E, will retrieve any contaminated material from the registration centers for subsequent disposal. Clothing can be washed and returned, or disposed of, if necessary. KG&E could process contaminated materials at the plant site, could contact another regional utility and process material at that location, or could contract with a local vendor specializing in decontamination services, and arrange for the use of a portable decontamination unit. (Appls.' Test., fol. Tr. 194, at 140; FEMA Test., fol. Tr. 1731, at 138; Appls.' Ex. 1, at 3-13; Appls.' Ex. 2, at K-8-K-12; Tr. 1570-71, 2069-70, 2091-92, 2096-97). There, however, is no evidence in the record that the plant site would be inaccessible to provide the necessary decontamination services.[10] Letters of agreement with commercial enterprises are unnecessary.[11]

---

[10] Contrary to Intervenors' representations, Mr. Leon Mannell did not testify that the plant might not be available for decontamination services or waste disposal, due to contamination on site. Rather, Intervenors' counsel inquired, "[w]hat if we had an accident that • • • made it not possible to use Wolf Creek; what would happen?" Mr. Mannell responded, "I do not have that information." (*Compare* IPF 41 with Tr. 1445).

[11] Intervenors cite the testimony of Mr. Raymond Lewis, for the proposition that there are no letters of agreement with commercial services. However, they ignore his testimony that such letters of agreement are unnecessary (due to the commerical nature of the service). (*Compare* IPF 41 with Tr. 1571).

84. Vehicles can be decontaminated by washing. Water would be released but is not likely to be a public health or safety problem — personal health and safety of evacuees would be the initial concern. (Appls.' Test., fol. Tr. 194, at 140; Appls.' Ex. 2, at K-12; Tr. 1441, 1449-50, 1570). The State would, however, monitor the disposal of decontamination water in the host counties. (Tr. 1443, 1450).

20. Shelter Facilities and Services

Contention 20(d). There are no people available to provide management at the evacuation centers. Up to 9,000 people would be evacuated. One person for each fifty people evacuated will be needed. Therefore, 180 people are required.

85. Section 50.47(b)(1) of 10 C.F.R. reflects that principal response organizations shall have the staff to respond to emergencies. NUREG-0654, Criterion A.3, provides that "[e]ach plan shall include written agreements referring to the concept of operations developed between Federal, State, and local agencies and other support organizations having an emergency response role within the Emergency Planning Zones."

86. The estimated numbers of people required to handle registration in the host counties are eleven school personnel for Franklin County, forty-eight service club members for Lyon County, twenty-eight school personnel for Anderson County, and ten school personnel for Allen County. (Tr. 583-84, 594-95, 599-600). If sufficient numbers of host county personnel were unavailable to handle registration, the evacuees themselves could provide assistance. (Tr. 568-69, 635).

87. The Crisis Relocation Plan (developed in the event of a nuclear war) already calls for manning registration centers in Franklin, Anderson, and Allen Counties with school personnel. (Appls.' Test., fol. Tr. 194, at 153; Tr. 599-600, 603-06). The Coffey County Shelter Systems Officer testified that, in the absence of written agreement, there is nothing to indicate reluctance of school teachers to assist in emergencies, under the direction of the School Board and the Superintendent. (Tr. 634). A FEMA witness believes that letters of agreement with school personnel and teachers are unnecessary for the provision of registration services. (Tr. 2108).

88. While there is no written agreement with the Lyon County service organizations that would assist with registration, there are verbal agreements that have been honored in the past, and are expected to be honored in the future. (Tr. 604-05).

89. The Coffey County Shelter Systems Officer, whose testimony was based on local emergency response experience, and Dr. Mileti (a sociologist with expertise in the study of public emergency response), whose testimony was based on studies of disasters, agree that the absence of written agreements has never resulted in the lack of sufficient personnel to staff registration or public shelter facilities. (Tr. 566-68).

90. Shelter facilities in the host counties will be staffed by volunteers from service organizations. Those organizations have assured the host county Emergency Preparedness Coordinators that they have sufficient personnel to discharge their responsibilities under their verbal agreements. (Tr. 558-60). The Kansas Department of Social and Rehabilitation Service (SRS) is also available to assist with registration and sheltering in an emergency. (Appls.' Ex. 2, at B 17). Because SRS is a State agency, no letter of agreement is necessary. (FEMA Test., fol. Tr. 1731, at 145). A FEMA witness expressed the opinion that letters of agreement are not required of service organizations who will provide volunteers; these volunteers, like teachers, are outside the scope of NUREG-0654, Criterion A.3. (Tr. 2108-15).

> Contention 20(k). There are not enough facilities for 9,000 evacuees at the shelter center. This will require sleeping, food preparation, medical, sanitation, and other facilities if the shelter needs are met. The County Plan does not provide details about the extent of the resources required for food, sleeping, safety, health and sanitation, communications, recreation and religious affairs.
>
> Contention 20(m). There has been no provision made about paying shelter owners for use of their site or services.

91. *See* Finding 85, *supra,* for wording of NUREG-0654, Criterion A.3.

92. The shelters to be used are public/community facilities such as armories, schools, churches and a university. (Appls.' Test., fol. Tr. 194, at 151; FEMA Test., fol. Tr. 1731, at 152). It has been FEMA's experience that such facilities have willingly been made available for shelter during emergencies, even in the absence of prior arrangements and FEMA agrees that letters of agreement are not required. (Tr. 2097-98). This has been confirmed by local experience. (Tr. 566). The federal government has entered into agreements to secure the use of some shelters identified in Crisis Relocation Plans; for the others there are verbal agreements that, according to the Coffey County Shelter Systems Officer, have always been honored. (Tr. 531).

93. The Emergency Preparedness Coordinators for the four host counties have contacted food suppliers, who have agreed to provide

food on request and arrange for payment afterward. All of the four coordinators are confident that they have binding verbal agreements with their suppliers and that written agreements are unnecessary. (Tr. 537-38, 540-41, 552, 556). FEMA agrees that such letters of agreement are not required since food suppliers are not support organizations in the sense of NUREG-0654, Criterion A.3 (Tr. 2114-15). Further, Applicants' expert witness testified that, based upon his experience and studies, he was unaware of any case where shelter or food has been denied because there were no written agreements to provide them (Tr. 567), and his opinion was confirmed by local experience (Tr. 566).

25. County EOC Evacuation

> Contention 25(a). The County Plan is deficient because it does not provide for relocation of the Coffey County Emergency Operations Center in the event that it becomes necessary to evacuate it. It is unlikely that people will want to remain in the Emergency Operations Center when other offices in the Courthouse have radiation levels that are unacceptable.

94. NUREG-0654, Criterion H.3, states "[e]ach organization shall establish an emergency operations center for use in directing and controlling response functions."

95. The present County EOC is located in the basement of the County Courthouse, is totally below grade, and has a "protection factor" of 100. (FEMA Test., fol. Tr. 1731, at 167; Appls.' Ex. 1, § 4.1; Tr. 1174, 1287-90). (A protection factor of 100 means that an individual is 100 times as safe in the EOC as he would be if he was out of doors (Tr. 1289)). The new EOC (to be built adjacent to the present EOC) will have the same protection factor. (Tr. 678, 1289). This is an adequate "protection factor." (Tr. 1289, 2128). If radiation levels exceeded this "protection factor" and necessitated evacuation of the Coffey County EOC, everyone else in the plume exposure pathway EPZ would have been evacuated by that time, and thus there would be no further need for the EOC to continue operating. (Appls.' Test., fol. Tr. 194, at 164; Tr. 1172, 1174).

96. There is no requirement for a backup EOC either in NUREG-0654, or elsewhere. (FEMA Test., fol. Tr. 1731, at 167-68; Appls.' Test., fol. Tr. 194, at 163; Tr. 2125-26, 2177-78). However, Coffey County and Lyon County, at the invitation of the latter, have orally agreed that Coffey County could use the EOC in Emporia if it became necessary to evacuate the Coffey County EOC. Since the State of Kansas has designated the Lyon County EOC as the alternate to its

own EOC, Coffey County considers the Lyon County EOC adequate in the event it had to utilize it. (Tr. 1172). Moreover, if necessary, Coffey County could use the State's EOC in Topeka or its personnel could go mobile and operate from radio-equipped vehicles. (Appls.' Test., fol. Tr. 194, at 163; Tr. 1172, 1175).

28. Dose Control for Emergency Workers

Contention 28(a). The County Plan does not specifically detail how many dosimeters will be needed and what kind will be used.

Contention 28(b). There are not enough dosimeters for emergency personnel.

Contention 28(d). There is no plan specified for issuing dosimeters to County emergency workers.

Contention 28(e). The Radiological Defense Officer has not developed a system for controlling radiological exposure of emergency workers.

97. Coffey County currently has 314 self-reading dosimeters and will be provided with 250 thermoluminescent dosimeters (TLDs) by KG&E. Each of the approximately 225 Coffey County emergency workers (identified during the hearing by categories or classes and enumerated in each category) will be provided with dosimeters.[12] (Appls.' Test., fol. Tr. 194, at 176, as corrected at Tr. 1396-97; Tr. 1454-55). FEMA believes the County Plan or the County Plan Implementing Procedures should categorize the emergency workers and set forth the numbers of workers in each category. (FEMA Test., fol. Tr. 1731, at 173, as modified at Tr. 2193).

98. Currently the County Plan Implementing Procedures state that the County Radiation Defense Officer will issue self-reading dosimeters, TLDs and monitoring equipment to members of the Radiation Monitoring Team upon their arrival, and that the Shop Foreman should issue self-reading dosimeters and TLDs to emergency workers (the road and bridge crew) dispatched from his Shop. (FEMA Test., fol. Tr. 1731, at 176; Appls.' Ex. 6; Tr. 1500). However, the County Plan does not provide for the prepositioning of enumerated dosimeters for all the categories or classes set forth in note 12, *supra*, and it is uncertain whether this

---

[12] These classes or categories of emergency workers and the number of personnel in each are: the Sheriff's Department (7); the Engineering Department (49); the EOC (11); the County Commissioners (5); the Shelter Systems Officer (1); the County Attorney (1); Public Information Office (1); the Health and Medical Team (4); the Coffey County Hospital (17); the Golden Age Lodge (21); the Joint Radiation Monitoring Team (13); ambulance drivers (16); funeral coach drivers (32); Fire Leaders and firemen (18); school bus drivers (29). (Tr. 1455).

information will be set forth in the Implementing Procedures. (Tr. 1500-03, 1507-10). FEMA will be satisfied if the Implementing Procedures, rather than the Plan itself, specified the prepositioning location, and the quantities and types of dosimeters. (Tr. 2198A-99A).

99. The twenty-six individuals, who are needed to conduct radiation monitoring and decontamination for the host counties at the registration centers, should be provided with dosimeters. (Appls.' Test., fol. Tr. 194, at 123 and corrected at Tr. 1396; Appls.' Ex. 1, § 3.10; Tr. 1416-26, 2070-71, 2195-96). The four host counties have 1056 self-reading dosimeters. (Tr. 1571).

100. As reflected in Finding 24, *supra*, three agencies have jurisdiction over the John Redmond Reservoir. Kansas Fish and Game Commission personnel will have prepositioned dosimetry furnished by the State of Kansas, and KG&E will provide dosimetry to personnel of the U.S. Fish and Wildlife Service for prepositioning. (Tr. 1560, 1571-72). The record does not reflect either that the U.S. Army Corps of Engineers will provide its own dosimeters or that KG&E will provide them.

101. It is not known if the host counties and the three agencies in the Redmond Reservoir have established procedures for their workers to measure and record radiation levels. The Coffey County Radiological Defense Officer stated that these jurisdictions had this responsibility. (Tr. 1536-37). Upon issuance, self-reading dosimeters are accompanied by a record card and instructions for recording exposure. (Tr. 1514).

102. KG&E has TLDs stored at the plant site and, after supplying the County with 250 of them, will have a replacement reserve of 5750 TLDs. In the event of a high level of radiation at the site, there would be adequate time to secure replacements from neighboring nuclear plants or from commercial sources, or the Applicants could devise some method to transport the replacements aw y from the site. (Tr. 1522-24).

29. Training

Contention 29(c). The Coffey County Emergency Preparedness Coordinator has not developed the training programs needed to implement the County Plan, and has not made adequate plans to familiarize Coffey County personnel with the Plan and their responsibilities.

103. NUREG-0654, Criterion O.1, advises "[e]ach organization shall assure the training of appropriate individuals.

104. NUREG-0654, Criterion O.4, provides that "[e]ach organization shall establish a training program for instructing and qualifying personnel who will implement radiological emergency response plans.

105. Both State and County Plans provide for a Joint Training Program for emergency personnel, to be carried out by KG&E, the County and State. (FEMA Test., fol. Tr. 1731, at 181, 184-85; Appls.' Test., fol. Tr. 194, at 180). The course content is being developed and will be reviewed by the County, State, and KG&E. (Appls.' Test., fol. Tr. 194, at 182).

106. The County Plan contains a training matrix that identifies topics for each class of emergency worker. (Appls.' Ex. 1, Table 5-1 as modified at Tr. 1276-79). Two modules of the Joint Training Program will familiarize County personnel with the County Plan and their responsibilities under it. (Appls.' Test., fol. Tr. 194, at 182). Initial training under the Joint Training Program, including these two modules, will be completed prior to the full-scale exercise. (Appls.' Test., fol. Tr. 194, at 189). FEMA finds that the County Plan meets the requirements specified in NUREG-0654 for development of training plans. (FEMA Test., fol. Tr. 1731, at 184-85; Tr. 2243-44).

Contention 29(g). The County Plan should specify in detail the type and amount of training that individuals will receive. The training to be provided to the positions listed in Table 5-1 should be specified in detail.

107. *See* Findings 103 and 104, *supra*.

108. Table 5-1 in the County Plan presents a matrix describing the Joint Training Program. (Appls.' Ex. 1, Table 5-1). The Coffey County Emergency Preparedness Coordinator and the Manager, Radiological Environmental Assessment, KG&E have recommended certain revisions to the matrix involving type and amount of training for emergency workers. (Tr. 1276-79, 1629-35). FEMA is satisfied with these revisions to the County Plan. (Tr. 2243-44).

109. *See* Finding 16, *supra*.

110. The U.S. Corps of Engineers and U.S. Fish and Wildlife Service employees at the John Redmond Reservoir will receive training in basic radiation effects and protection, overview of the State, County, and KG&E emergency plans, self-protection radiation monitoring, and the position role in the emergency plan. Kansas Fish and Game employees at the reservoir will receive the same training plus training in radiation survey techniques. (Tr. 1635-36).

Contention 29(h). The following local personnel lack sufficient training to perform their assigned functions and should be trained in the identified areas:

(1) The Coffey County Emergency Preparedness Coordinator. Advice to Sheriff about protective action to take; locating, storing, and distribution of emergency

equipment; training personnel about evacuation duties and emergency equipment; have knowledge about radiation monitoring, decontamination processes, and use of protective gear; understanding duties of each person involved in the Plan; conducting evacuation drills; training public about how to respond to an emergency; evacuation of people who lack transportation; implementing the guidelines to be used to determine when emergency workers should conduct activities that will result in exposures in excess of 25 rem.

(2) Coffey County Commissioners.

(3) Coffey County Clerk.

(4) Coffey County Sheriff. Coordination of evacuation process; knowledge of Plan to advise people about duties and how to implement their duties; training of personnel to conduct evacuations; conduct of evacuation plan drills; notification of radiological emergency; management of roadblocks and traffic control; security of evacuated area; evacuation of persons without transportation.

(5) Coffey County Sheriff's Department personnel.

(6) Coffey County Engineer. Cleaning and maintaining of roads in bad weather; operation of roadblocks and traffic control.

(7) Coffey County Engineer's staff. Rescue functions.

(8) Personnel of the Coffey County Road Department. Management and assistance at roadblocks.

(9) The Burlington City Police Department and other police departments within Coffey County. Giving of initial warnings; security of area after evacuation; traffic control, and management of roadblocks.

(10) Personnel of the City of Burlington Fire Department and the personnel of other fire departments within Coffey County. Decontamination process at roadblocks and checkpoints; use of protective gear during the evacuation process.

(11) Traffic control personnel.

(12) Coffey County Health Officer.

(13) Volunteer teams to provide medical care and first aid (to be trained by the County Health Officer).

(14) Coffey County Health Nurse.

(15) Nursing home administrators and staff.

(16) Coffey County Hospital staff. Evacuation of patients at hospital.

(17) Coffey County Ambulance Service. Evacuation of patients at hospital and coordination of that duty with treatment of individuals injured in an emergency.

(18) Radiological Defense Officer.

(19) Coffey County Radiation Monitoring Team. Taking an evaluation of radiation levels; operation of radiological monitoring equipment; knowledge about allowable radiation dosages; use of protective gear.

(20) Personnel assisting the Radiation Monitoring Team with radiation monitoring checks.

(21) Shelter Leader.

(22) Temporary Shelter Managers.

(23) Shelter Managers.

(24) Bus drivers. To assure that they will respond.

(25) Personnel to perform confirmation of evacuation.

(26) Volunteers and other personnel yet to be recruited who will have responsibilities under the Plan.

111. *See* Finding 104, *supra*.

112. Training identified in the County Plan is under development and will be completed prior to the full-scale exercise. The following individuals will be trained in accordance with NUREG-0654 requirements. (Appls.' Test., fol. Tr. 194, at 189-90; Appls.' Ex. 1, Table 5-1, as modified at Tr. 1276-79). (The following numbering system is similar to that utilized in the contention).

(1) Emergency Preparedness Coordinator (FEMA Test., fol. Tr. 1731, at 192-93).
(2) County Commissioners. (*Id.* at 194-95).
(3) County Clerk. (*Id.* at 196-97).
(4) Sheriff. (*Id.* at 198-99).
(5) Sheriff's Department. (*Id.* at 200-01).
(6) County Engineer. (*Id.* at 202-03).
(7) County Engineer's Staff. (*Id.* at 204-05).
(8) The Coffey County Road Department. These individuals are part of the County Engineer's staff. (*Id.* at 206-08).
(10) Fire Department personnel. (*Id.* at 211-12; Tr. 2219).
(11) Traffic control personnel. (FEMA Test., fol. Tr. 1731, at 213; Tr. 2220, 2225-26).
(12) The County Health Officer. (FEMA Test., fol. Tr. 1731, at 214; Tr. 1276).
(13) Volunteer teams for medical care and first aid. (FEMA Test., fol. Tr. 1731, at 215-16; Tr. 2227).
(14) County Health Nurse. (FEMA Test., fol. Tr. 1731, at 217).
(15) Nursing home personnel. (*Id.* at 218-19; Tr. 2227-28).
(16) Hospital Staff. (*Ibid.*; FEMA Test., fol. Tr. 1731, at 220-21).
(17) County Ambulance Service. (FEMA Test., fol. Tr. 1731, at 222-23).
(18) Radiological Defense Officer. (*Id.* at 224).
(19) Radiation Monitoring personnel. (*Id.* at 225-26).
(20) Personnel assisting the Radiation Monitoring Teams. (*Id.* at 227-28).
(21) Shelter Systems Officer. (*Id.* at 229-30).
(23) Host County Reception and Care Coordinators and staff. (*Id.* at 232).
(24) School bus drivers. (*Id.* at 233; Tr. 1630, 2228).
(25) County Engineer and staff performing evacuation confirmation. (FEMA Test., fol. Tr. 1731, at 234-35; *see* Nos. 6 and 7, *supra*).
(26) Volunteers and other personnel who will have responsibilities under the Plan but have not yet been recruited. (FEMA Test., fol. Tr. 1731, at 236-37).

113. The following individuals will not receive training:

(9) Police Departments within Coffey County. These individuals have no responsibilities in the County Plan. (*Id.* at 209-10; Tr. 661, 2218-19).
(22) Temporary Shelter Managers. The County Plan does not mention such individuals nor is it required to do so. (FEMA Test., fol. Tr. 1731, at 231).

114. Members of the Joint Radiation Monitoring Team and other radiation monitors will be selected and trained, including additional training for the Joint Radiation Monitoring Team to qualify them for offsite

monitoring and sample collection, prior to the full-scale exercise. (*See* Finding 72, *supra*).

Contention 29(k). The training program does not adequately consider how to deal with changes in personnel and in volunteers who are trained. There will be a very substantial turnover that must be dealt with.

115. *See* Findings 103 and 104, *supra*.

116. Both the County and State Plans provide for training of new emergency response personnel. (Appls.' Ex. 1, at 5-1; Appls.' Ex. 2, at O-2). They will be trained using videotapes of appropriate portions of the Joint Training Program, and self-study materials, and will also be retrained periodically in the Joint Training Program, drills and exercises. (Appls.' Test., fol. Tr. 194, at 193; Tr. 891-92, 1182, 1640). Replacement personnel will receive substantially the same training as those trained originally. (Tr. 892, 1184, 1641). FEMA has found that these plans are consistent with the requirements of NUREG-0654. (FEMA Test., fol. Tr. 1731, at 240).

Contention 29(q). The State does not have adequate plans to train State personnel having emergency responsibilities. The Bureau of Radiation Control is responsible for supporting and developing conduct of radiological emergency response training but has not established plans or courses for providing such training.

117. *See* Findings 103 and 104, *supra*.

118. NUREG-0654, Criterion O.5, states "[e]ach organization shall provide for the initial and annual retraining of personnel with emergency response responsibilities."

119. Applicants' witness testified that several changes will be made which will require additional training of State workers as listed in Table O-1 of the State Plan. (Tr. 887-88, 918-19, 2266). The State reviews and updates its Plan annually, including procedures. (Appls.' Ex. 2, at P-1). FEMA finds that State training plans are consistent with the criteria of NUREG-0654. (FEMA Test., fol. Tr. 1731, at 249-50).

Contention 29(s). The following State personnel lack sufficient training to perform their assigned functions and should be trained in the identified areas:

(1) State Department of Emergency Preparedness personnel. Training of people involved in the Plan and the conduct of emergency planning drills.

(2) Kansas Department of Health and Environment personnel. Familiarity with State and Coffey County Plans, so can meet its primary and support responsibilities as specified in the State Plan.

(3) Kansas Bureau of Radiation Control personnel. Determining existence of offsite contamination.
(4) Kansas National Guard Unit in Burlington, Kansas. Management of roadblocks and traffic control; evacuation of nursing homes and others; use of protective gear.
(5) Kansas Highway Patrol personnel. Responsibilities specified in the State Plan.
(6) Kansas Department of Transportation personnel. Responsibilities specified in the State Plan.
(7) Kansas Department of Social and Rehabilitation Services.
(8) Kansas Fish and Game Commission personnel.

120. *See* Findings 103, 104 and 118, *supra*.

121. The State Bureau of Radiation Control personnel have been trained and certified in the skills required for determining the existence of offsite contamination. (Appls.' Test., fol. Tr. 194, at 201-02). Otherwise, all initial training of State emergency workers, as specified in the Joint Training Program, will be completed prior to the full-scale exercise. (Appls.' Ex. 2, Table O-1; Tr. 1623). As under Contention 29(q), the State training plans are consistent with the criteria of NUREG-0654. (*See* Finding 119, *supra*; FEMA Test., fol. Tr. 1731, at 253-67; Tr. 887-88, 1636, 2231-36).

Contention 29(u). The following federal personnel lack sufficient training to perform their assigned functions:
(1) U.S. Army Corps of Engineers personnel.
(2) U.S. Fish and Wildlife Service personnel.

122. *See* Findings 103 and 104, *supra*.

123. The U.S. Army Corps of Engineers and U.S. Fish and Wildlife Service emergency workers will receive training as part of the Joint Training Program. (Appls.' Test., fol. Tr. 194, at 204). Training will include basic radiation effects and protection, overview of the State, County and KG&E emergency plans, self-protection radiation monitoring, and position role in the emergency plan. (Tr. 1635). This provision removes concern that FEMA had about training of these personnel. (FEMA Test., fol. Tr. 1731, at 270-72; Tr. 2236). This training will be completed before the full-scale exercise, which is consistent with the requirements of NUREG-0654. (Tr. 1623). In addition to the training provided these agencies, Kansas Fish and Game Commission personnel, who may be involved with field sampling during emergencies, will receive training in radiation survey techniques. (Tr. 1635-36).

31. Resource Availability and Allocation

Contention 31(c). The Fire Department of Burlington and other cities in Coffey County do not have radio equipment which is needed to communicate with the Sheriff's Office.

Contention 31(d). The Coffey County Road Department needs radio equipment for its vehicles to communicate with the Sheriff and others in the event of an emergency.

124. NUREG-0654, Criteria E.2 and F.1, require that each organization shall establish procedures for alerting, notifying, and mobilizing emergency response personnel and shall establish reliable primary and backup means of communication.

125. Radio equipment that would allow the fire departments to communicate with the Sheriff's Office and EOC is on order, and delivery is scheduled for Spring of 1984. (Appls.' Test., fol. Tr. 194, at 212; Tr. 644, 1188-91, 1206-09, 1280). The proposed arrangements will satisfy the requirements of NUREG-0654. (FEMA Test., fol. Tr. 1731, at 282-83).

126. Radio equipment allowing Road Department vehicles to communicate with the Sheriff's Office and EOC is on order, and delivery is scheduled for Spring of 1984. (Appls.' Test., fol. Tr. 194, at 213; Tr. 644, 746-48). This plan will satisfy the requirements of NUREG-0654. (FEMA Test., fol. Tr. 1731, at 284-85).

Contention 31(f). Protection gear against radiation is needed for all workers who are involved in the evacuation plan. Three hundred fifty people will be involved in three shifts. If so, 116 sets of protective gear are required.

127. NUREG-0654, Criterion H.9, states "[e]ach licensee shall provide for an onsite operations support center (assembly area) which shall have adequate capacity and supplies, including, for example, respiratory protection, protective clothing, ..." Criterion H.11 advises that each plan shall, in an appendix, include identification of emergency kits by general category (protective equipment, communications equipment, radiological monitoring equipment and emergency supplies).

128. Protective clothing only protects against contamination, not radiation. (Tr. 2289). Consequently only field radiation monitoring team members, who could contaminate themselves while collecting environmental samples, might require protective clothing. (Tr. 1530, 2286, 2292, 2296-97). KG&E has 100 sets of protective clothing set aside for emergency workers whereas only 21 sets might be needed for the field

monitoring teams. (Appls.' Ex. 1, § 3.10; Appls.' Test., fol. Tr. 194, at 214). Approximately 1900 additional sets are available at the plant site. (Tr. 2363). Criteria H.9 and J.6.b of NUREG-0654 require an onsite support center that would have protective clothing and provisions for use of protective clothing by individuals present or arriving on site during an emergency. There is no requirement that protective clothing also be available off site.

Conclusions of Law

The Board has considered all of the evidence submitted by the parties. Based upon a review of the entire record in this proceeding and the foregoing Findings of Fact the Board concludes that:

1. The emergency plans meet the requirements of 10 C.F.R. § 50.47, and Appendix E to 10 C.F.R. Part 50, as well as the criteria of NUREG-0654, and provide reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency;
2. the issuance of an operating license to the Applicants will not be inimical to the common defense and security or to the health and safety of the public; and
3. pursuant to 10 C.F.R. § 2.760a and 10 C.F.R. § 50.57, the Director of Nuclear Reactor Regulation should be authorized to issue to the Applicants, upon making requisite findings with respect to matters not embraced in this Initial Decision, and subject to the satisfaction of the conditions set forth in the Order, *infra*, a license authorizing operation of Wolf Creek Generating Station, Unit No. 1.

Order

WHEREFORE, IT IS ORDERED, in accordance with 10 C.F.R. § 2.760a and 10 C.F.R. § 50.57, that the Director of Nuclear Reactor Regulation is authorized to issue to the Applicants, upon making requisite findings with respect to matters not embraced in this Initial Decision, a license authorizing the operation of the Wolf Creek Generating Station, Unit No. 1, provided that the following conditions have been met prior to the issuance of the operating license:

1. Letters of agreement shall be signed by Coffey County with hospitals in surrounding counties providing for the acceptance of patients from the Coffey County Hospital and the Golden

Age Lodge Nursing Home in the event of an emergency evacuation occasioned by an accident at the Wolf Creek plant. These executed letters of agreement shall be submitted to the NRC Staff and shall be included in the Coffey County Plan.

2. Letters of agreement shall be signed by Coffey County with ambulance services and with funeral directors in surrounding counties providing for the transportation of nonambulatory patients from the Coffey County Hospital and from the Golden Age Lodge Nursing Home in the event of an emergency evacuation occasioned by an accident at the Wolf Creek plant. These executed letters of agreement shall be submitted to the NRC Staff and shall be included in the Coffey County Plan.

Pursuant to 10 C.F.R. § 2.760 of the Commission's Rules of Practice, this Initial Decision will constitute the final decision of the Commission forty-five (45) days from the date of issuance, unless an appeal is taken in accordance with 10 C.F.R. § 2.762 or the Commission directs otherwise. (*See also* 10 C.F.R. §§ 2.764, 2.785 and 2.786).

Any party may take an appeal from this decision by filing a Notice of Appeal within ten (10) days after service of this Initial Decision. Each appellant must file a brief supporting its position on appeal within thirty (30) days after filing its Notice of Appeal (forty (40) days if the Staff is the appellant). Within thirty (30) days after the period has expired for the filing and service of the briefs of all appellants (forty (40) days in the case of the Staff), a party who is not an appellant may file a brief in support of or in opposition to the appeal of any other party. A responding party shall file a single, responsive brief *only* regardless of the number

of appellants' briefs filed. (*See* 10 C.F.R. § 2.762 as amended December 19, 1983, 48 Fed. Reg. 52,283 (1983)).

THE ATOMIC SAFETY AND
LICENSING BOARD

George C. Anderson
ADMINISTRATIVE JUDGE

Hugh C. Paxton
ADMINISTRATIVE JUDGE

Sheldon J. Wolfe, Chairman
ADMINISTRATIVE JUDGE

Dated at Bethesda, Maryland,
this 2nd day of July 1984.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

Sheldon J. Wolfe, Chairman
Dr. George C. Anderson
Dr. Hugh C. Paxton

In the Matter of **Docket No. 50-482-OL**
(ASLBP No. 81-453-03-OL)

KANSAS GAS & ELECTRIC COMPANY, *et al.*
(Wolf Creek Generating Station, Unit 1)

July 26, 1984

Pursuant to Applicants' Motion for Clarification, concurred in by all parties, the Licensing Board clarifies its Initial Decision (LBP-84-26, 20 NRC 53) issued on July 2, 1984.

MEMORANDUM AND ORDER
(Re Applicants' Motion for Clarification of Initial Decision)

On July 2, 1984, the Board issued its Initial Decision authorizing the issuance of an operating license for the Wolf Creek Generating Station, Unit 1, provided two conditions were met prior to the issuance of the operating license. LBP-84-26, 20 NRC 53. On July 17, 1984, Applicants filed a Motion for Clarification. Therein, Applicants request (1) that the wording of the Board's Order in the Initial Decision, which specifies that the two conditions related to the offsite emergency plans must be "met

prior to the issuance of the operating license," should be changed to specify that these two conditions must be "met prior to the authorization of operations of greater than 5% of the rated power"; (2) that the wording of the first license condition be modified by substituting the words "health care facilities" for "hospitals"; and (3) that the Board's Finding of Fact 24 be modified to read that the U.S. Fish and Wildlife Service (USFWS) will use its siren-equipped vehicles to notify only that small portion of the USFWS territory within the EPZ which is not without acoustical siren range.

Counsel for Applicants advise that counsel for the Intervenors, the NRC Staff and for FEMA have authorized them to state that they concur in this motion.

1. Satisfaction of Conditions Prior to Issuance of an Operating License

Our Order in the Initial Decision is not inconsistent with 10 C.F.R. § 50.47(d). That Decision addressed the application by KG&E for a full-power license only, and the "operating license" we conditioned in our Order referred to that full-power license. Applicants state that this explanatory language would satisfy their concern that the effect of the condition, if interpreted literally, would prevent fuel loading and low-power testing prior to the satisfaction of the specified conditions.* A similar clarification was made by a Licensing Board in *Louisiana Power and Light Co.* (Waterford Steam Electric Station, Unit 3), LBP-82-112, 16 NRC 1901 (1982); there as here, such clarification should resolve any such concern. Also, we decline to amend the language of the Order lest it be misinterpreted as authorizing a low-power license. Absent a motion filed pursuant to 10 C.F.R. § 50.57(c), the issue whether fuel loading and lower power should be authorized is not before this Board.

2. Letters of Agreement with Host Health Care Facilities

The first license condition directs, in part, that "[l]etters of agreement shall be signed by Coffey County with hospitals in surrounding counties providing for the acceptance of patients from the Coffey County Hospital

---

*Since Applicants state that this explanatory language would satisfy their concern, we neither need to modify the wording of our Order, nor do we have to determine whether, in citing only one operating license for the Susquehanna Steam Electric Station, Unit 2, Applicants have established that it is customary NRC practice to issue operating licenses which "pending Commission approval" are "restricted to power levels not to exceed five percent of full power," even in the absence of a motion filed pursuant to 10 C.F.R. § 50.57(c). (*See* Applicants' Motion at 2 n.1).

and the Golden Age Lodge Nursing Home in the event of an emergency evacuation occasioned by an accident at the Wolf Creek plant. . . ." Applicants request that the words "and nursing homes" be added to this condition in order to give local authorities maximum flexibility in allocation and utilization of health care resources in emergency preparedness. This is a reasonable request. Thus, as modified, the first sentence of the first condition provides that "[l]etters of agreement shall be signed by Coffey County with hospitals and nursing homes in surrounding counties providing for the acceptance of patients from the Coffey County Hospital and the Golden Age Lodge Nursing Home in the event of an emergency evacuation occasioned by an accident at the Wolf Creek plant." Further, lines 6-8, 20 NRC at 71, of LBP-84-26 are amended to read: "Accordingly, the Board directs that such letters of agreement with hospitals and nursing homes be obtained and included within the County Plan. (*See* Order, *infra*)."

3. USFWS Notification of Small Portion of Redmond Reservoir

Applicants' request for a modification of the Board's Finding of Fact 24 is well-taken and supported by citations to the transcript. Accordingly, the sentence in Finding 24, 20 NRC at 93 of the Initial Decision which states that "[t]he Fish and Wildlife Service will use its siren-equipped vehicles to cover its jurisdictional area, will personally contact individuals where possible, and will put preprinted warning flyers on unattended, parked cars," is modified to read: "The Fish and Wildlife Service will use its siren-equipped vehicles to cover this small portion of land, will personally contact individuals in that small area where possible, and will put preprinted flyers on unattended, parked cars." Also, lines 13-16, 20 NRC at 66 of the Initial Decision are modified to state: "After reading the County Plan and hearing the testimony, we are satisfied that the F&WS will be able to notify visitors in all areas under its jurisdiction (including the small area not within range of a siren) that they should evacuate."

Order

Applicants' Motion for Clarification of Initial Decision is granted to the extent discussed above.

Judges Anderson and Paxton join but were unavailable to sign this issuance.

FOR THE ATOMIC SAFETY AND
LICENSING BOARD

Sheldon J. Wolfe, Chairman
ADMINISTRATIVE JUDGE

Dated at Bethesda, Maryland,
this 26th day of July 1984.

Cite as 20 NRC 129 (1984) LBP-84-26

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

Peter B. Bloch, Chairman
Dr. Jerry R. Kline
Mr. Glenn O. Bright

In the Matter of **Docket Nos. 50-440-OL**
50-441-OL

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

July 26, 1984

The Licensing Board, having admitted a broad emergency planning contention prior to the completion of State and local plans, grants Applicants' motion to require intervenors to "particularize" its contention by providing specificity and bases.

RULES OF PRACTICE: CONTENTIONS (SPECIFICITY AND BASES)

When a broad contention has been admitted at an early stage in the proceeding, intervenors should be required to provide greater specificity and to particularize bases for the contention when the information required to do so has been developed.

MEMORANDUM AND ORDER
(Particularization of Emergency Planning Contention)

Cleveland Electric Illuminating Company, *et al.* (Applicants) filed their Motion for Particularization of Issue No. 1 (Motion) on June 26, 1984. The Motion is opposed by Sunflower Alliance Inc., *et al.* (Sunflower) and by Ohio Citizens for Responsible Energy (OCRE) but it is supported by the Staff of the Nuclear Regulatory Commission (Staff).

Issue #1, on emergency planning, was admitted to this proceeding in 1981, prior to the completion of any local plans. We considered the contention to have an adequate basis in part because those plans were not completed and were, therefore, inadequate to assure the adequacy of offsite emergency planning. The contention we admitted was:

> Applicants' emergency evacuation plans do not demonstrate that they provide reasonable assurance that adequate protective measures can and will be taken in the event of an emergency.[1]

At the time, we considered the contention to be broad but not vague. We also recognized that it would be necessary to narrow this issue prior to trial and we indicated that intervenors would have the burden of going forward to show that factual issues exist which require a hearing.[2]

Our ruling on the pending motion is controlled by our commitment to using the hearing process as a way of protecting the public health and safety rather than as a sterile adversary process. Since intervenors filed their motion the entire emergency planning context has shifted. Before, when the contentions were admitted, there were no plans. Now, as Applicants have asserted in their Motion without direct disagreement from the intervenors, evacuation planning for the Perry Nuclear Power Plant is well advanced:

> Emergency plans for Lake, Ashtabula and Geauga counties exist in revised form, and have been available in public libraries in their respective counties for as long as a year and a half. . . . Further, the Federal Emergency Management Agency ("FEMA") Region V has completed its informal reviews of the county plans and

---

[1] LBP-81-24, 14 NRC 175, 189 (1981), *as modified by* LBP-81-35, 14 NRC 682, 686 (1981). Staff has correctly pointed out that the contention is erroneously worded since it challenges the State and local plans rather than "Applicants' " plan. Henceforth, the words "State and local" should be substituted for the word "Applicants' " in the wording of this issue.

[2] *Id.*

has issued an interim report concluding that there is reasonable assurance that appropriate protective measures can be taken in the event of a radiological emergency at [Perry].[3]

We are convinced that our action in admitting this contention was correct — although other Boards faced with similar situations have deferred acting on the contentions at all until after the emergency plans have been drafted. However, we also are convinced that the underlying factual situation has shifted so dramatically that the original basis for the contention has been undermined. Consequently, a motion for reconsideration might be in order if there were no other remedy to force Sunflower to make its contention relevant to the current situation.

The principal remedy provided for in the rules for paring down a broad contention is a Motion for Summary Disposition. We consider Applicants' present motion for "particularization" to be partly in the nature of a motion to reconsider the admission of the contention and partly in the nature of a generalized motion for summary disposition. 10 C.F.R. §§ 2.714(b) and 2.749. In either case, this is the type of motion that we invited as a condition of admitting this broad contention. LBP-81-24, 14 NRC 175, 189 (1981).

Because of the changed circumstances, which we anticipated, it is now appropriate that the intervenors place a new set of cards on the table. It is time for the intervenors to state with specificity, and with bases, the particular deficiencies that currently exist in the draft plans. *See* 10 C.F.R. § 2.714(b). Or, if they do not find such deficiencies, they may withdraw their contention.

It does not do for intervenors to argue that the emergency plans are not finished. Yes, there are additional steps being taken to modify and further improve those plans.[4] However, the plans have reached a mature state of development and it is time for intervenors to state their objections so that meritorious objections may be met. This is not a game. If there are problems intervenors know of, those problems should be remedied. It is not appropriate to lie in wait, stalking the plan like prey in the jungle.

It is the nature of emergency planning that it is an evolving process. The fact that plans are not "finished" is not ground for avoiding the responsibility for specifying the grounds for a contention, if there be such grounds. Similarly, the fact that flaws in the plan may show up during an

---

[3] Applicants' Motion at 3-4 (citing its discovery response and a Staff letter as authority for the factual statements).

[4] Emergency plans are never "final," since they must be reviewed, updated and amended annually. 10 C.F.R. § 50.47(b)(14), 10 C.F.R. Part 50, Appendix E, § IV.G; NUREG-0654, Criterion P.4.

emergency planning exercise is not an excuse for deferring litigation of the adequacy of the plan until the exercise is conducted.[5] Nothing in any court decision suggests otherwise.

Order

For all the foregoing reasons and based on consideration of the entire record in this matter, it is, this 26th day of July 1984,

ORDERED

Sunflower Alliance Inc., *et al.* shall, prior to August 22, 1984, specify in a written filing the specific inadequacies alleged to exist in the draft local and State emergency plans and shall provide a reasoned basis for believing that the allegations concerning inadequacies are true. If there are relevant sections of the applicable plans or of applicable regulations or guidance documents, those sections must be cited to support the claim of inadequacy.

THE ATOMIC SAFETY AND
LICENSING BOARD

Peter B. Bloch, Chairman
ADMINISTRATIVE JUDGE

Jerry R. Kline
ADMINISTRATIVE JUDGE

Glenn O. Bright
ADMINISTRATIVE JUDGE

Bethesda, Maryland

[5] A recent Court of Appeals' decision (still subject to a motion for rehearing) that the emergency planning exercise must be subject to litigation is irrelevant to a decision concerning whether intervenors must update their contentions now so that they reflect the current state of the record. *See Union of Concerned Scientists v. NRC*, 735 F.2d 1437 (D.C. Cir. 1984).

Cite as 20 NRC 133 (1984) LBP-84-29

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

John H Frye, III, Chairman
Glenn O. Bright
Emmeth A. Luebke

In the Matter of

Docket No. 50-142-OL
(Proposed Renewal of Facility License)

THE REGENTS OF THE UNIVERSITY OF CALIFORNIA
(UCLA Research Reactor)

July 17, 1984

Licensing Board reviews allegations of misconduct made against technical members of the NRC Staff and concludes that, although the information available to the Board does not conclusively show misconduct, that information does raise concerns for the integrity of the adjudicatory process. These concerns are brought to the Commission's attention for whatever action it deems necessary. Additionally, the Board recommends that the Commission take up a Staff proposal for rulemaking which it had earlier declined to entertain.

MEMORANDUM

On December 23, 1983, this Board referred two charges of misconduct leveled against NRC Staff technical members to the Office of Inspector

and Auditor.[1] These charges were made by the intervenor in this proceeding, the Committee to Bridge the Gap (CBG). Additionally, because these charges raised questions concerning the credibility of these Staff members whose affidavits supported Staff's motion for summary disposition of CBG's Contention XX, we required Staff to file an explanation with us. We also required Staff counsel's explanation of a charge made against her by CBG, although we did not refer that matter to the Inspector and Auditor. Responses to all these charges were filed by Staff counsel on January 10, 1984.

On February 24, 1984, after reviewing UCLA's security plan and the security inspection reports of the NRC Staff, we raised questions regarding the accuracy of representations made by both UCLA and Staff counsel. In that connection, we inquired whether these representations had been reviewed by each counsel's client, and if so by whom. Staff and UCLA counsel responded to this inquiry on March 9, 1984. On April 13, we issued a Memorandum and Order in which we concluded that no basis existed to impose sanctions against Staff counsel and proposed to reprimand UCLA counsel. However, we withheld any review of the representations of the technical Staff because Staff counsel, in a March 16 letter, notified us that she had on that date been advised of certain Staff practices which were inconsistent with Staff's position as it had been conveyed to her and was investigating these practices.

UCLA's counsel responded on May 1 to our April 13 Memorandum and Order. On June 5 we dismissed the charges pending against him and refused to institute action against UCLA pursuant to 10 C.F.R. § 50.100, again withholding any review of the technical Staff's representations pending Staff counsel's investigation.[2]

On June 12, Staff counsel filed the supplemental information which had been promised in her March 16 letter. We must now consider the conduct of the NRC technical Staff called into question by our February 24 Memorandum and Order (unpublished) and the charges leveled by CBG which we discussed in our December 23, 1983 Memorandum and Order (unpublished). We discuss these matters in detail below.

---

[1] We understand that the Office of Inspector and Auditor has made a report to the Commission on these charges. We have not received or reviewed a copy of this report.

[2] Our June 5 Memorandum and Order is published as LBP-84-22, 19 NRC 1383, with our April 13 Memorandum and Order as an attachment.

BACKGROUND

All of the alleged misrepresentations at issue here involve CBG's Contention XX which concerns physical security at the Nuclear Energy Laboratory (NEL) where the reactor which is the subject of this proceeding is located. In order to understand the charges, some background is necessary. We begin by noting that 10 C.F.R. Part 73, which states the Commission's regulatory requirements for physical security, sets out three categories or levels of protection which must be implemented by nonpower reactor licensees. The particular category an individual licensee falls into depends upon the amount of special nuclear material (SNM) it possesses.

The first, or highest category (Category I) applies to licensees who possess a formula quantity[3] of strategic special nuclear material (SSNM). These licensees must implement the most stringent protective measures.[4]

The second category (Category II) applies to licensees who possess less than a formula quantity of SSNM, but whose inventory of SNM is deemed to be of moderate strategic significance.[5]

The third category (Category III) applies to licensees who possess less than a Category II amount of SNM. Licensees in this category are deemed to possess SNM of low strategic significance and must implement the least stringent security measures.[6]

Licensees are exempt from the regulatory requirements laid out to the extent that they possess SNM which is not readily separable from other radioactive material and which emits a dose in excess of 100 rems per hour at a distance of 3 feet from any accessible point without intervening shielding.[7] Such fuel is deemed self-protecting.

Additionally, § 73.40(a) directs all licensees to protect against both theft of SNM and radiological sabotage. We held in LBP-83-25A, 17 NRC 927 (1983), and LBP-83-67, 18 NRC 802 (1983), that this provision required UCLA to initiate some measures to protect against sabotage.

The alleged misrepresentations here involved concern: (1) whether Staff misrepresented the regulatory requirements concerning protection

---

[3] Although the definition of "formula quantity" is more complicated, for purposes of this discussion it may be considered to be 5000 grams or more of U^{235}.

[4] 10 C.F.R. §§ 73.40(b), (c), and (d); 73.60; 73.67.

[5] 10 C.F.R. § 73.67(d).

[6] 10 C.F.R. § 73.67(f).

[7] 10 C.F.R. §§ 73.60, 73.67(a)(1)(i).

against sabotage; (2) whether a Staff affiant improperly stated that a portion of the SNM was self-protecting when it was not; and (3) whether Staff counsel misrepresented the amount of SNM on hand by stating that it was less than a formula quantity of SSNM. We deal with the last charge first.

ALLEGATION THAT STAFF COUNSEL MISREPRESENTED THE AMOUNT OF SNM ON HAND

In its December 13, 1983, Memorandum on the status of Contention XX (at 10), CBG asserts that at a prehearing conference held early in 1981 Staff counsel stated that UCLA had less than a formula quantity of SSNM on hand. CBG points out that this statement came shortly after Staff had written UCLA indicating that more than a formula quantity was present. CBG's allegation is spelled out in more detail at page five of its February 8, 1983, supplemental response to Staff's motion for summary disposition of this Contention. There, CBG asserts that on January 12, 1981, James R. Miller of the Staff wrote to UCLA informing the latter that, because more than a formula quantity of SSNM was on hand at the NEL, UCLA would have to either: meet the criteria of 10 C.F.R. §§ 73.67 and 73.60; operate the reactor so as to meet the self-protection exemption; or ship a quantity of fuel off site so as to retain less than a formula quantity of SSNM.[8] CBG alleges that at the February 5, 1981, prehearing conference, Staff counsel argued that UCLA possessed less than a formula quantity of SSNM, citing lines 22 and 23, Tr. 388.

This matter is easily dispatched. In the February 5, 1981, transcript (at 388-89), Staff counsel makes two arguments: first, that the irradiated fuel in the core, "somewhere around 4000 grams . . . ," emits more than the 100 rems per hour required for the exemption to be applicable; and second, that the amount of unirradiated fuel "is less than 500 grams . . . ," or less than a formula quantity of SSNM. It is obvious that the figure "500 grams" is a typographical error. Staff counsel corrected that error in her April 13, 1981, motion for summary disposition of Contention XX at page 10, noting that the correct figure was "5000 grams." This correction was necessary because UCLA had approximately 4700 grams of unirradiated fuel at that time. No dispute between CBG and

[8] The Miller letter is Exhibit C to Exhibit E attached to CBG's September 7, 1982, response to Staff's motion for summary disposition.

Staff as to the amount of fuel on hand is revealed by the discussion reflected in this portion of the transcript, and no basis exists to accuse Staff counsel of having misrepresented that amount. This accusation is groundless.

CHARGES AGAINST JAMES R. MILLER

More difficulty is presented by CBG's charge that James R. Miller made a materially false statement in an affidavit supporting Staff's motion for summary disposition.[9] In this affidavit, Mr. Miller asserted that he had verified that the irradiated fuel in the reactor core met the 100-rems-per-hour exemption criterion of 10 C.F.R. § 73.60. CBG claims that this was false. We referred this matter to the Inspector and Auditor. At the time it was made, Mr. Miller's statement was material because, if the fuel was not self-protecting, UCLA would have had to comply with the Category I requirements which it did not meet.

In order to understand this matter, one needs to begin with the language of the exemption for self-protecting fuel. That exemption states:

> that a licensee is exempt from the requirements of this section [§ 73.60] to the extent that he possesses or uses special nuclear material which is not readily separable from other radioactive material and which has a total external radiation dose rate in excess of 100 rems per hour at a distance of three feet from any accessible surface without intervening shielding.

(10 C.F.R. § 73.60)

In making the charge CBG refers to two letters from UCLA which state that UCLA cannot meet this exemption. These are an August 15, 1979, letter from Brown of UCLA to Miller,[10] and an August 29, 1979, letter from Catton of UCLA to Reid of the Staff.[11] CBG also points out that in SECY-79-187C[12] (at 3) the Staff informed the Commission that UCLA could not meet the 100-rems-per-hour exemption. CBG then points out that Mr. Miller executed the affidavit in question in April 1981, asserting that the exemption was met. CBG asserts that it

---

[9] This charge is made at page 11 of CBG's December 13, 1983, memorandum on Contention XX. It is spelled out in more detail in CBG's February 8, 1983, supplemental response to Staff's motion for summary disposition. When he executed this affidavit, Mr. Miller was Chief, Standardization and Special Projects Branch, Division of Licensing, Office of Nuclear Reactor Regulation.

[10] CBG's February 8, 1983, supplemental response to Staff's motion for summary disposition, Exhibit B.

[11] *Id.*, Exhibit C.

[12] *Id.*, Exhibit D. Exhibit D contains only pages 1-3 of SECY-79-187C. Attachment K to CBG's May 9, 1984 response to Mr. Cormier's and UCLA's response to our April 13, 1984 Memorandum and Order supplied pages 1 and 4.

demonstrated in its September 8, 1982, submission that UCLA's fuel falls below this standard within 8 hours of reactor shutdown. CBG further asserts that it demonstrated this using UCLA's formulae. CBG's arguments summarized above are set out in its February 8, 1983, supplemental response to Staff's motion for summary disposition.

In response, Staff correctly asserts that the correspondence cited by CBG all predates a January 1981 exchange of correspondence between Miller and Dr. Wegst of UCLA. In Miller's January 12, 1981, letter to Wegst,[13] Staff informed UCLA that it possessed more than a formula quantity of SSNM and consequently would have to take action to meet the applicable Category I requirements, qualify for the self-protecting exemption, or ship some fuel off site. In Wegst's January 29 reply,[14] UCLA informed Staff that it was scheduling reactor operations to meet the self-protecting exemption pending arrangements to ship sufficient fuel off site so as to fall into Category II. It was following this advice that Mr. Miller, assisted by Mr. Carter of his Staff, performed certain calculations which indicated that the UCLA core would meet the self-protecting exemption given certain operational assumptions.[15]

On the surface, this would appear to end this inquiry. However, as noted above, CBG asserts that UCLA's calculations were wrong. Miller and Carter's calculations for the Staff determined the dose rate for the entire core, as did UCLA's.[16] CBG maintains that the dose rate for each individual fuel bundle must be calculated.[17] Thus the question presented to the Board was whether Staff's and UCLA's interpretation of the self-protecting exemption was correct. This question became moot because UCLA reduced its inventory of SNM in August 1982. Staff and UCLA never responded to CBG's position,[18] and we never decided this question.

In the context of CBG's charge against Mr. Miller, the pertinent inquiry becomes whether Mr. Miller, in calculating the dose rate for the core rather than each individual fuel bundle, knowingly departed from a Staff position that, for purposes of the self-protecting exemption, the dose from each fuel bundle rather than the core must be calculated. Such a

---

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

[14] Exhibit B to Exhibit E to CBG's September 7, 1982, response to Staff's motion for summary disposition.

[15] Those calculations are found in the January 9, 1984 affidavits of Miller and Carter attached to Staff's January 10, 1984, response to CBG's allegations of misrepresentation.

[16] *See* Exhibit H to CBG's September 9, 1983, response to Staff's motion for summary disposition.

[17] *See* CBG's September 9 response to Staff's motion for summary disposition at 15.

[18] The question of the amount of SNM remaining at the NEL after this shipment was resolved by us in LBP-83-67, *supra*, 18 NRC at 803-05. There we concluded that the amount remaining fell within Category II.

position would be in accord with the language of the exemption itself which states that the SNM must not be "readily separable" from other radioactive material. We have no basis on which to assess Mr. Miller's knowledge of any such Staff interpretation. However, there is some indication that such an interpretation existed and that his treatment of this problem may not have been in accord with it. This indication is furnished by the following documents.

1. On August 27, 1979, the Staff held a meeting with nonpower reactor licensees to discuss the impact of the safeguards upgrade rule.[19] A review of the transcript of this meeting reveals the following exchanges of interest.

> MR. FURR: Keith Furr, Virginia Tech.
>
> I'd like to address a question to Mr. Burnett [Robert Burnett, Director, Division of Safeguards]. Since we have MTR-type fuel rather than the rod-type fuel, what is going to be considered the basic thing that has to meet the 100R rule? An element or a plate within that element?
>
> MR. RAMOS [Steve Ramos, Project Manager, Division of Project Management]:
>
> At the present time, it's a fuel element which can be anywhere from 10 plates to 18 plates, depending on the configuration.
>
> MR. FURR: Okay. Then you have an answer.
>
> MR. CARLSON [Donald Carlson, Reactor Safeguards Analyst]:
>
> One single element.
>
> MR. RAMOS: An element. Not a plate, now; an element.
>
> MR. CURTNER: Alan Curtner, Virginia Tech.
>
> Our question, that MTR fuel, all you would need is one pair of heavy tin-snips and you could break a —
>
> MR. RAMOS: I'm aware of how your fuel's put together. I've seen a lot of it. I realize that with a good sledgehammer, you'd probably need a tin-snip, but you know, that is considered not readily separable. The trigger [*sic* TRIGA?] people have a bigger problem because they're just really screwed down. It's easy to knock that one off. I almost demonstrated it the other night.

(Meeting Tr. 101-02.)[20]

> MR. RAMOS: . . . there's a lot of things that have to go into that 100R per hour, how you take the measurements, what do you consider a mass; you know, we

---

[19] The transcript of this meeting was furnished by Staff counsel with her response of January 10, 1984, to CBG's allegations. *See* response at 18 n.24.

[20] It should be noted that UCLA also employed MTR-type fuel.

consider a single fuel element as the lowest common denominator. Now, when we're done with the study, it may be a different size.

(Meeting Tr. 129.)

MR. KACHEL: Pete Kachel from General Electric.

Is there going to be any credit given for comingling of irradiated fuel above 100R per hour with those who would be somewhat less?

MR. RAMOS: I can't answer that yet because we haven't finished deciding how we're going to handle that yet.

(Meeting Tr. 132.)

2. Exhibit J to CBG's September 9 response. This exhibit purports to be a summary at a "Special Nuclear Material Self-Protection Criteria Investigation" conducted by Los Alamos National Scientific Laboratory. CBG dates this summary December 27, 1980.[21] Paragraph 2 of the summary estimates the range of doses likely to be received by an adversary attempting to remove irradiated fuel. One of the assumptions on which the estimate is based is that each fuel element has a dose rate of 100 rems per hour. Paragraph 4 evaluates the physical separability of fuel elements for various nonpower reactor fuels. It did not consider plate-type fuel bundles of the kind used at UCLA separable into individual fuel plates. One assumes from this paragraph that the authors were considering the smallest units into which fuel is "readily separable" and that they would have considered a fuel bundle readily separable from other fuel bundles.

3. A proposed rule published by the NRC: "Safeguards Requirements for Nonpower Reactor Facilities Authorized to Possess Formula Quantities of Strategic Special Nuclear Material," 46 Fed. Reg. 46,333 (1981). This proposed rule states that, after consideration of whether safeguards credit should be given to certain design features, the Staff concluded that "[a] TRIGA FLIP type fuel cluster may be considered a discrete unit in determining external radiation dose rates for exemption purposes . . . ." It may be inferred from this statement that, because of the fuel clusters design, it was not necessary to compute the radiation dose rate of each individual fuel unit within the cluster for exemption purposes.[22] It should also be noted that Staff concluded that some safeguards credit could be given to Argonaut reactors because their design makes it difficult to gain access to the reactor core. The appropriate

---

[21] *See* CBG's September 9 response at 16.

[22] This inference is confirmed at 2 of SECY-79-187C (*see* note 12, *supra*).

credit is not indicated, but the proposed rule indicates that the Commission determined that the level of protection afforded by the proposed rule was adequate in light of the credits Staff identified.

4. Exhibit I to CBG's September 9 response. This exhibit is the declaration of Daniel O. Hirsch, President of CBG, reciting a telephone conversation between Hirsch and C.K. Nulsen of the Staff. According to the declaration, Nulsen informed Hirsch that the Staff's position was that the dose from each fuel element (i.e., bundle) must meet the self-protecting standard. The declaration also recites that, in the future on adoption of a new rule on the subject, it might be possible to average the dose for all the fuel elements in the core in order to meet the 100-rems-per-hour standard, but that at the time of the conversation (August 13, 1982) the dose from each element must meet that standard.

5. A proposed rule published by the NRC: "Physical Protection Requirements for Nonpower Reactor Licensees Possessing Formula Quantities of Strategic Special Nuclear Material," 48 Fed. Reg. 34,056 (1983). The statement of considerations accompanying this proposal took into account a number of comments made on the earlier proposal described in ¶ 3, above. Some of these comments noted that the 100-rems-per-hour dose rate may be difficult for some licensees to maintain and that it could encourage reactor operations simply to meet that standard. As predicted by Mr. Nulsen, the response to this comment stated that "the Licensee will be allowed to average its irradiated fuel to meet the 100 rem per hour exemption so long as no single fuel unit drops below 50 rem per hour at 3 feet." The response speaks in the future tense; it does not state that licensees at that time were permitted to adopt this approach.

While Staff has not indicated what position, if any, it took with regard to this aspect of the self-protecting exemption, the above materials all indicate that its position was that each "readily separable" fuel unit (in this case, fuel bundle) must emit 100 rems per hour in order to qualify. If this is so, then Mr. Miller departed from that position in determining that UCLA's irradiated fuel was exempt on the basis of the dose rate emitted by the entire core.

Mr. Miller's April 1981 affidavit in question states that he had:

> verified that the irradiated fuel in the UCLA reactor core emits radiation such that the dose at three feet will be in excess of 100 rem per hour and that the design of the reactor makes accessibility to that fuel very difficult. In addition, UCLA has committed to schedule reactor operations to maintain the self protection of the fuel in the reactor core.

The affidavit does not indicate whether the dose was calculated for each fuel bundle or the entire core. The January 9, 1984, affidavits furnished by Miller and Carter[23] indicate that the dose rate was in fact calculated for the entire core. In light of the above materials and the wording of the self-protecting exemption, the possibility exists that UCLA received more lenient treatment on this score than other licensees.

Indeed, some justification exists for treating UCLA's situation more leniently in the circumstances. In his January 29, 1981, letter,[24] Dr. Wegst indicated that, while UCLA would conform to the self-protecting standards, scheduling reactor operations to keep the fuel self-protecting was a "temporary arrangement" and that UCLA had already identified two possible recipients who had tentatively agreed to take the fuel subject to approval of the final plans. If the fuel were not self-protecting, UCLA would have been required to implement the additional security precautions mandated for Category I. We assume that these would have involved considerable expense and that practical considerations would have precluded their immediate implementation. In light of the forthcoming shipment of fuel, imposition of Category I requirements on a temporary basis may well have seemed unreasonable. Thus Mr. Miller may have been motivated to depart from the Staff position (assuming one existed) in making his calculations. Or it may have been Staff's practice to treat such situations more leniently. Indeed, in view of the fact that § 104(c) of the Atomic Energy Act[25] directs the Commission to impose on nonpower reactor licensees "only such minimum amount of regulation . . ." as will permit the Commission to fulfill its responsibilities, some justification for leniency exists.

To conclude that Mr. Miller's statement was false, it must appear that there was no justification under Staff's practices for the approach utilized by Mr. Miller. Given the wording of the statement and our lack of information with regard to Staff's practice, we cannot conclude that it was false. Furthermore, considering the temporary nature of UCLA's reliance on the self-protecting exemption and the provisions of § 104(c) of the Atomic Energy Act, we do not believe that such an ironclad rule should have been enforced in this case. Nonetheless, Mr. Miller should have stated in his affidavit that he had computed the dose rate for the entire core and why he believed this approach was justified. Had this issue not become moot, he would have been required to do so.

---

[23] *See* note 15, *supra*.
[24] *See* note 14, *supra*.
[25] 42 U.S.C. § 2134(c).

CHARGES AGAINST DONALD CARLSON

CBG alleges that, in his affidavit supporting Staff's motion for summary disposition, Mr. Carlson made a material false statement.[26] The statement in question asserts that "[t]here are no explicit NRC regulations for the protection of nonpower reactors against radiological sabotage . . . ."[27] CBG's allegation appears on page 11 of its December 13, 1983, memorandum on the status of Contention XX. It is set forth in more detail in CBG's February 8, 1983, supplemental response to Staff's motion for summary disposition.[28]

In our April 13 Memorandum and Order, we did not reach the question of Staff's candor regarding the regulatory standards applicable to UCLA's reactor. On March 16, 1984, Staff counsel had advised that she had learned that I&E was enforcing a requirement to protect against sabotage and promised to provide further information. That information was submitted on June 12, 1984, and consists principally of the affidavit of Loren Bush of the Operating Reactor Programs Branch, Office of Inspection and Enforcement.

CBG's allegation that Mr. Carlson's statement quoted above is materially false and our concerns over the truthfulness of the representations made to Staff counsel are closely interrelated. In our discussion of these matters below, we have not considered whether these statements and positions are consistent with 10 C.F.R. Part 73. In LBP-83-25A, *supra*, and LBP-83-67, *supra*, we concluded that 10 C.F.R. § 73.40(a) does require that some steps be taken to protect against sabotage. To the extent that Staff's position is to the contrary, we conclude that it is in conflict with Part 73.

We have qualified our last statement because we have not explored in an evidentiary hearing the exact nature of the Division of Safeguard's position. This Division apparently believes that protection against theft

---

[26] At the time the affidavit was executed, Mr. Carlson was a Plant Protection Analyst in the Physical Security Licensing Branch, Division of Safeguards, Office of Nuclear Materials Safety and Safeguards.

[27] *See* Carlson affidavit accompanying Staff's motion for summary disposition of April 13, 1981, at 4 n.1; revised and resubmitted August 27, 1982.

[28] In this document, CBG also accuses Staff counsel, Colleen P. Woodhead, of a lack of candor in representing Staff's view that UCLA was not required to take measures to prevent sabotage. This allegation need not be discussed here. A similar allegation was made by this Board in its unpublished February 24, 1984 Memorandum and Order. In that document, we raised the question whether counsel's representations had been false in light of evidence that the Staff was, in fact, enforcing such a requirement. Following counsel's response of March 9, 1984, we found in our Memorandum and Order of April 13, 1984 (*see* note 2, *supra*), that counsel's representations accurately reflected the position of the Safeguards Division, NMSS, as it had been conveyed to her. Consequently we concluded that there was no basis to impose sanctions. The discussion of Staff counsel's representations in that document is equally applicable to CBG's accusations; we conclude that Staff counsel's conduct in this regard was not improper.

inherently provides some protection against sabotage.[29] We believe that this Division would not quarrel with the provisions of the UCLA Security Plan which were designed to protect against sabotage.[30] However, to the extent that Staff maintains that no such provisions are required by the regulations, we have concluded that it is plainly wrong.

Regardless of whether Staff's position is contrary to the regulations, the question which confronts us here is whether that position was misrepresented. In other words, was Staff lying to its counsel and this Board in representing its position. We conclude that it was not. These representations appear to have accurately reflected the position of the Division of Safeguards, NMSS, at the time they were made. However, it also appears that this organization's position, to the extent that it was binding on the rest of the Staff, was not fully communicated to and implemented by the Office of Inspection and Enforcement. The latter office appears to have continued to enforce a requirement that steps be taken to protect against sabotage.

In order to understand what transpired, we have outlined in chronological order the important events of which we are aware which bear on this issue. This chronology is attached to this Memorandum. The chronology makes it clear that Staff was considering the matter of the need to protect against sabotage from at least January 1979, when it advised the Commission that the subject was under study, until no later than August 1981, when it advised the Commission that in its view such protection was not required. Indeed, in June 1979 the Commission specifically asked for Staff's review of this subject. Although Staff now takes the position that the adoption of § 73.67 in 1979 superseded the sabotage protection requirements of § 73.40(a), the chronology reveals that Staff continued for some period after § 73.67 was promulgated to tell licensees that they must protect against sabotage under § 73.40(a). At some point during this period, Staff apparently reached the conclusion forwarded to the Commission in August 1981. We cannot be sure when that occurred, but we are told by Mr. Kasun, who in June 1981 was Section Chief of the Section in which Mr. Carlson worked, that he believes Mr. Carlson's statement in his April 1981 affidavit to accurately represent the collegial position of the Headquarters Safety Staff during the 1980-81 time period.[31] In view of its proximity in time to Staff's memorandum to the Commission of August 1981, we conclude that Mr. Carl-

---

[29] *See* Staff's December 13, 1983, response to this Board's order concerning Contention XX.

[30] These are identified in Appendix B (which contains protected information) to our April 13, 1984 Memorandum and Order.

[31] *See* affidavit of Donald J. Kasun attached to Staff's March 9, 1984, response to the Board's allegations of misrepresentation.

son's statement accurately reflected the Safeguards Division's position at the time it was made. Similarly, we conclude that the representations made to counsel with regard to Contention XX accurately reflect the position of the Safeguards Division.

We are compelled to note the unfortunate consequences which the Staff's approach to the sabotage issue has caused. It is clear that, even following the promulgation of § 73.67, Staff recognized that § 73.40(a) required protection against sabotage. Mr. Carlson said so in the August 1979 meeting with nonpower reactor licensees. He was not corrected. The August draft physical security plan which was circulated by Staff recognized the requirement, and it was specifically mentioned in the letter transmitting this plan for comment. Both of these events occurred after the promulgation of § 73.67 and Regulatory Guide 5.59. Staff's subsequent position that § 73.67 states the only applicable requirements amounts to a repeal of the applicability of § 73.40(a) to nonpower reactors.

Such a repeal cannot properly be made by Staff acting unilaterally. Section 73.40(a) reflects Commission policy that all licensees must protect against sabotage. It codified two decisions to the same effect: *Florida Power and Light Co.* (Turkey Point Nuclear Generating Station, Units 3 and 4), 3 AEC 173 (1967); and *Trustees of Columbia University*, 4 AEC 349 (1970). While we assume that Staff took its position that sabotage protection was not required only after due study and deliberation, the fact remains that Staff may not unilaterally repeal the Commission's policy expressed in its regulations. That may be accomplished only by following the rulemaking procedures set out in the Administrative Procedures Act (APA).[32] Indeed, the APA defines "rule making" as an "agency process for formulating, amending, or repealing a rule."[33] Consequently, the rulemaking provisions of the APA[34] must be followed. *See Environmental Defense Fund v. Gorsuch*, 713 F.2d 802, 815 (D.C. Cir. 1983); *cf. Union of Concerned Scientists v. NRC*, 711 F.2d 370 (D.C. Cir. 1983).

Further, had Staff proposed that the Commission amend § 73.40(a), the Commission would have expressly indicated whether sabotage protection was to be required and I&E would undoubtedly have "gotten the word" and conformed its own operations. As things happened, it appears that I&E, perhaps unwittingly, continued to follow the policy expressed

---

[32] 5 U.S.C. §§ 551-559.
[33] 5 U.S.C. § 551(5).
[34] 5 U.S.C. § 553.

in § 73.40(a) while NMSS did not. In short, we believe this situation illustrates the pitfalls of failing to act in a straightforward manner to change the regulations to reflect changes in Staff and Commission policy.

Two remaining matters which are related to the Staff's position on protection against sabotage remain to be discussed. The first of these involves our concern, expressed in footnote 4, of our April 13, 1984 Memorandum and Order,[35] that Mr. Carlson should have informed Staff counsel that the UCLA Security Plan did contain provisions aimed at protection against sabotage. We voiced this concern because we believed that Mr. Carlson had reviewed the Security Plan and the response procedures attached to it which were furnished to us by UCLA. However, in his affidavit of May 1, 1984,[36] Mr. Carlson states that such was not the case. While Mr. Carlson did review the Security Plan, the response procedures were not submitted by UCLA.[37] Hence he did not review them and was unfamiliar with the details of those procedures which are aimed at sabotage rather than theft.[38]

However, two provisions of the Plan itself which are aimed at sabotage[39] and a listing of the response procedures were contained in the Plan reviewed by Mr. Carlson. Hence he was aware that these provisions existed.[40] We believe plain common sense would have dictated that he inform Staff counsel of their existence so that they could be brought to the Board's attention. In light of our holding in LBP-83-25A, *supra*, that measures such as these were required, we are frankly amazed that Mr. Carlson did not flag them to counsel.[41] The fact that the technical Staff considered them not to be required at all[42] is irrelevant. We held them to be required but were uninformed of their existence until we reviewed the Security Plan and Response Procedures for ourselves. Staff failed in its duty to fully inform the Board in this regard.[43]

---

[35] *See* LBP-84-22, *supra*, 19 NRC at 1407 n.4.

[36] This affidavit, which contains protected information, was submitted with Staff's May 1, 1984, response to our questions concerning the Security Plan.

[37] *Id.* at 12, ¶ 37.

[38] These procedures are identified in Appendix B (which contains protected information) to our April 13, 1984 Memorandum and Order.

[39] These are also identified in Appendix B (*see* note 38, *supra*).

[40] *See* ¶ 6 of Mr. Carlson's affidavit accompanying Staff's motion for summary disposition of April 13, 1981, revised and resubmitted August 31, 1982.

[41] In her affidavit of March 9, 1984, accompanying Staff's response of the same date to our allegations of misrepresentation, Staff counsel states that she was unaware of any such provisions in the Security Plan until reading our February 24, 1984 Memorandum and Order. (*See* ¶ 4.)

[42] *See* Carlson's affidavit of March 9, 1984, accompanying Staff's March 9, 1984, response to the Board's allegations of misrepresentation.

[43] Our discussion of the obligation of parties and counsel to keep Boards informed of relevant and material information in our April 13, 1984 Memorandum and Order is fully applicable to the technical Staff. *See* LBP-84-22, *supra*, 19 NRC at 1401-05.

The second matter which we must address involves two affidavits which accompanied Staff's March 9, 1984, response to our February 24, 1984 Memorandum and Order. These affidavits were executed by Leroy R. Norderhaug, Chief, Safeguards and Emergency Preparedness Branch, Region V, and Matthew D. Schuster, Chief, Security Licensing and Emergency Preparedness Section, Region V. Both affidavits indicate that, following the adoption of § 73.67 in 1979, inspection of nonpower reactor licensees for protection against sabotage ceased.[44] We bring this matter up because it seems inconsistent with the inspection procedures which have been in use for nonpower reactors.[45] While there may be an explanation for this inconsistency, it is not apparent from the materials which have been furnished us.

CONCLUSIONS AND RECOMMENDATION TO THE COMMISSION

An Atomic Safety and Licensing Board has no direct authority over the technical Staff. While the regulations do empower us to discipline counsel, including counsel for the Staff,[46] they contain no such authority with respect to other Commission employees. We believe that the improper practices outlined in this Memorandum must be brought to the Commission's attention. While we have described areas of concern with respect to specific affidavits executed by Staff members, the information which has been made available to us does not conclusively show misconduct. The information does, however, raise concerns for the integrity of the Commission's adjudicatory process.

These concerns may be summarized as follows:

- First, when an affidavit stating a conclusion is furnished that affidavit must state precisely what the conclusion is and on what basis it is founded. Mr. Miller's affidavit executed in support of Staff's motion for summary disposition did neither. It did not clearly inform us that Mr. Miller had determined

---

[44] *See* ¶ 6, Norderhaug affidavit, and ¶ 5, Schuster affidavit.

[45] *See* ¶¶ 4, 7-8 of Loren Bush's May 16, 1984, affidavit accompanying Staff's June 12, 1984 submittal of supplemental information. There, Mr. Bush indicates that IP81455, "Protection Against Radiological Sabotage," has apparently been in use in the field since 1977. While we have not reviewed this inspection procedure, we note that its existence, according to Mr. Bush, apparently led to the incorporation of language on radiological sabotage in MC 2545, which was adopted on January 1, 1984, and may have been responsible for the language in recent inspection reports which indicates that nonpower reactor licensees were inspected to evaluate their measures to protect against sabotage. The Norderhaug and Schuster affidavits therefore appear on the surface to be inconsistent with the inspection procedures which were in use.

[46] 10 C.F.R. § 2.713.

UCLA's irradiated fuel to be self-protecting based on the dose rate of the entire core. Nor did it inform us why Mr. Miller adopted that approach rather than computing the dose rate for each individual fuel bundle. Had this issue not become moot, we would have required this explanation. Staff's failure to furnish this sort of information in the first instance certainly results in delay and a waste of time at a minimum and, at most, a loss of confidence in the licensing proceeding and a board decision which is not well founded.

Affidavits should only be executed after the affiant has carefully ascertained the facts sworn to. Obvious, unexplained inconsistencies between an affidavit and established Staff procedures, such as are presented by the Norderhaug and Schuster affidavits, cannot be tolerated. Boards must to be able to rely absolutely on Staff's representation of factual matters. There is simply too much at stake in our adjudications to permit mistakes of fact, particularly by the NRC Staff. Staff affidavits which are ambiguous or incorrect force boards to engage in time-wasting inquiries to determine the facts or risk rendering a decision based on ambiguous or incorrect information. *Cf. Carolina Power & Light Co.* (Shearon Harris Nuclear Power Plant, Units 1, 2, 3, and 4), CLI-78-18, 8 NRC 293 (1978).

- Second, Staff has an ironclad obligation to bring relevant and material information to the attention of boards. Mr. Carlson's failure to advise Staff counsel of the provisions in the UCLA Security Plan of the very sort we had held to be required presents a situation that cannot be tolerated in NRC adjudication. Staff, as the keeper of the public trust, must be particularly sensitive to this obligation.
- Third, while we cannot know specifically what may have led to the concerns we have identified above, we fear that a contributing cause may have been Staff's embroilment in this proceeding. It is understandably hard to remain detached when one's positions are attacked. However, Staff's obligation is to the public interest, and its members should take care that their actions are directed toward that end rather than toward besting an adversary.
- Fourth, we have already indicated the unfortunate state of affairs created by Staff's failure to seek Commission approval of an amendment to § 73.40(a) upon concluding that protection against sabotage need not be required. We would be surprised

> if the decision to proceed as Staff did could be laid at the doorstep of any individual whose conduct we have reviewed. However, while Staff is certainly free to interpret the rules, those interpretations must stop short of repealing the applicability of rules. Just as anyone else, Staff is bound by the rules. Until such time as they are amended, Staff must follow the rules.

By means of this Memorandum, we are bringing these concerns to the Commission's attention for whatever action it deems appropriate.

Finally, we wish to address the need for rulemaking to correct the situation created by Staff's treatment of § 73.40(a). We had earlier suggested to the Staff that, in light of its conclusion that sabotage did not pose a risk to Argonaut university training reactors, it should seek Commission approval of an amendment to § 73.40(a) which would exempt these reactors.[47]

Staff took our suggestion and submitted SECY-83-500 and SECY-83-500A to the Commission. The Commission, in CLI-84-10,[48] rejected this approach apparently out of a concern that it might somehow compromise the adjudicatory process.

This proceeding is in the process of termination.[49] Consequently the Commission's concerns expressed in CLI-84-10 no longer appear valid. Moreover, while appellate consideration of our decision would review the correctness of our holding that § 73.40(a) requires protection against sabotage, it would not reach the crucial question whether such protection is technically necessary. Indeed, under our holding, Staff's position that protection against sabotage is not necessary for these reactors constitutes a clear attack on § 73.40(a) which is prohibited by 10 C.F.R. § 2.758. As a result, we have not considered the merits of Staff's position and do not believe that it would be open to consideration on appeal.

Consequently, we find ourselves in substantial agreement with Chairman Palladino's dissent in CLI-84-10, *supra*. We view the essential question for the Commission to be not whether we were correct, but whether Staff's technical justification for its position is correct. If the Commission agrees with Staff, it should amend § 73.40(a) so that no ambiguity will exist with respect to what is required of nonpower reactor licensees. If the Commission does not agree with Staff's technical position, then it should instruct the Staff to modify its position accordingly. We believe

---

[47] *See* LBP-83-67, *supra*, 18 NRC at 808.

[48] 19 NRC 1330 (1984).

[49] On June 14, 1984, UCLA filed a request to withdraw its application and a motion to suspend proceedings. In a letter of even date, UCLA's Chancellor informed the Chairman that UCLA would seek permission to decommission the reactor.

that this can best be accomplished through rulemaking, and therefore recommend that the Commission take up Staff's proposal to amend § 73.40(a).[50]

THE ATOMIC SAFETY AND
LICENSING BOARD

Glenn O. Bright
ADMINISTRATIVE JUDGE

Emmeth A. Luebke
ADMINISTRATIVE JUDGE

John H Frye, III, Chairman
ADMINISTRATIVE JUDGE

Bethesda, Maryland
July 17, 1984

---

[50] In making this recommendation, we of necessity express no view on Staff's technical position. However, we do wish to note that, assuming the Staff is correct that sabotage does not pose a risk, UCLA's approach to this matter, in which it recognized that sabotage might be attempted and must be met with a response, makes good sense and is not necessarily inconsistent with the position that sabotage could not result in radiological consequences. After all, experience could prove that position wrong. It appears foolish to simply ignore the possibility of sabotage. The Commission may wish to consider requiring the kind of planning which UCLA voluntarily undertook even if it agrees with Staff that sabotage would not pose a radiological hazard.

CHRONOLOGY

Staff Consideration of Sabotage at Nonpower Reactors

11/4/73 — Sections 73.40, 73.50, and 73.60 adopted, requiring all licensees to protect against sabotage and setting specific requirements for protection of formula quantities of SSNM. (*See* 38 Fed. Reg. 30,537.)

1977 — I&E adopts inspection procedures 81405, "Security Plan," and 81455 "Protection Against Radiological Sabotage," both of which deal with sabotage at nonpower reactors. In his affidavit accompanying Staff's June 12, 1984, submittal of supplemental information, Loren Bush of I&E states that these procedures were designed to obtain information useful in evaluating the threat of sabotage at nonpower reactors (*see* pp. 2-3).

8/9/78 — Revised proposed rules governing protection of formula quantities of SSNM were published (*see* 43 Fed. Reg. 35,321). The revisions in the proposed rules were prompted by comments on an earlier version (*see* 42 Fed. Reg. 34,310). In responding to the comment of nonpower reactor licensees that the cost of the proposed safeguards enhancements might be prohibitive, the Commission stated the proposal was not intended to apply to such licensees with less than a formula quantity of SSNM, noting that they would continue to be covered by § 73.40.

1/16/79 — SECY-79-38, "Physical Protection of Category II and III Material." This paper forwarded the Staff's recommendation that the Commission publish amendments to Parts 70, 73, and 150 dealing with protection of SNM of moderate and low strategic significance against theft. The recommendation notes an earlier proposed rule on the same subject (*see* 43 Fed. Reg. 22,216 (1978)) and reacts to the significant public comments on that proposed rule. The recommendation further states that its purpose is to protect against theft and states on page 5:

Sabotage at Non-power Reactors

The proposed amendments, that are the subject of this paper, are limited to consideration of theft of SNM and do not include sabotage protection. The NRR Staff is currently examining the necessity to require additional physical protection measures at non-power reactors that have the potential for exceeding Part 100 release limits as a result of sabotage. If this proves to be necessary, NRR plans to propose a new separate section of Part 73 to deal with this issue. Preliminary investigation indicates that these added requirements, if necessary, would be applicable to a very small number of non-power reactors. For that reason, the Staff recommends that Commission approval of the proposed new Section 73.47 not be delayed pending resolution of this issue.

6/79 "Consequences of Sabotage at Nonpower Reactors," NUREG/CR-0843. This study, conducted by Los Alamos National Laboratory, concluded that only one nonpower reactor had the potential to release significant amounts of fission products in the event of sabotage.

6/28/79 Commission directs Staff to identify for Commission consideration alternative approaches to further strengthen the security of licensees with SNM in Categories II and III. Staff was directed to consider protection against sabotage as one of six identified topics. (*See* Memorandum for Gossick, *et al.* from Chilk of June 28, 1979, attached to Staff's May 21, 1984, response to CBG's estimate of threat, at 4.)

7/24/79 Section 73.47 (subsequently redesignated § 73.67 at 44 Fed. Reg. 68,198 (1979)) adopted (*see* 44 Fed. Reg. 43,280). This represents the Commission's decision on SECY-79-38. Consistent with the Staff's representation that it was studying the question of sabotage, the statement of consideration notes that the new rule deals only with theft of SNM.

7/79 Regulatory Guide 5.59, "Standard Format and Content for a Licensee Physical Security Plan for the Protection of Special Nuclear Material of Moderate or Low Strategic Significance," issued for public comment. This document does not mention sabotage.

8/9/79 A draft "Sample Physical Security Plan for Non-Power Nuclear Reactor Facilities Possessing Special Nuclear Material of Moderate Strategic Significance" was forward-

ed to several selected licensees for review and comment. This draft provided that a purpose of the plan is to protect against sabotage. Although followed by UCLA, the draft was never formally issued by the Staff. (*See* Carlson affidavit, ¶ 3, accompanying Staff's March 9, 1984, response to the Licensing Board's allegations of misrepresentation.) The draft plan also appears to have contained provisions designed to protect against sabotage. (*See, e.g.*, the sections of the plan labelled Vital Areas and Response Procedures, the latter calling for responses to bomb threats, civil disorders, fires or explosions, and industrial sabotage. The plan is attached to the Carlson affidavit referred to immediately above.) Frank R. Pagano, Chief, Reactor Safeguards Development Branch, Division of Operating Reactors, wrote the University of Missouri at Columbia enclosing the plan and indicating that the Commission had added § 73.47 (now 73.67) to its regulations so as to require detection of theft of SNM from Category II and III licensees. This letter also states "[a]pplicable nonpower reactor licensees must meet these requirements for detection of theft in addition to previous regulatory requirements for protection against sabotage." (This letter is also attached to the Carlson affidavit referred to above.)

8/27/79 Staff meeting with nonpower reactor licensees at Glen Ellyn, Illinois, on the subject "Impact of the Safeguards Upgrade Rule on Nonpower Reactor Licensees." CBG relies on Mr. Carlson's statements reported in the meeting transcript for the proposition that his affidavit in support of Staff's motion for summary disposition was materially false when it stated that there was no explicit requirement that UCLA take steps to protect against sabotage. Two portions of the meeting transcript are relevant.

> MR. DAVIS: Monte Davis, Georgia Tech.
>
> I have some trouble with some of your comments, Mr. Burnett. It sounds like theft and sabotage are being used interchangeably.
>
> MR. BURNETT [Robert Burnett, Director, Division of Safeguards, NMSS]: Negative.
>
> MR. DAVIS: Because throwing a bomb is — although I don't know of any kind of a nuclear facility that's been bombed. I would like to know about that.

MR. BURNETT: Well, it depends on what we call the facility, but the visitor center on the West Coast, the Trojan was bombed, but to answer your first question, no, theft and sabotage are not the same, and in the upgrade rule that is being published, I thought it had gone out, we have moved away from individual threats to facilities, and we have defined two types of threats in this country, postulated threats, one being a threat [theft?] and one being a sabotage.

Some facilities would have to meet both threats, like a high-enriched uranium facility that has greater than trigger quantities available. They have both a sabotage and a theft potential, whereas a nonpower reactor, if it's below trigger quantity, most probably, it has a single threat, that being sabotage.

Now, if they have unirradiated cores sitting on hand, then that could put them into the threat, I mean a theft, I meant theft, that could put them into the theft scenario, but no, they're both being treated totally different.

MR. CARLSON [Donald Carlson, Reactor Safeguards Analyst]: What I might add, you have to protect against sabotage under the provisions of 73.40. (Meeting Tr. 55-56.)

MR. BURN: Bob Burn, University of Michigan.

This is perhaps an extension, but I'd at least like to know your feelings on this.

This sabotage aspect of things, that is, right now, we could say well, we could limit our controlled access area to just our fuel vault or maybe also to the pool core or the pool surface if some of the elements are not self-protecting, but then I think to myself, well, somebody could conceivably come down and rupture a bean port, drain the pool, commit sabotage down there so even though things wouldn't be stolen, they could cause a horrible damage.

MR. NULSEN [Robert Nulsen, Project Manager, Division of Safeguards, NMSS]: Category II/III rule does not protect against sabotage.

MR. BURN: I was going to ask you, is sabotage coming?

MR. CARLSON [Donald Carlson, Reactor Safeguards Analyst]:

Sabotage has always been here. In 1974, your initial plans were submitted to protect against sabotage. You have to follow the provisions of 50.35 C which tells you that you have to follow 73, Part 73, and in there, in 73.40, it says you have to protect against sabotage.

Now, the plan that NRR put together to meet a Category II facility encompasses sabotage and protective measures. It protects the reactor as well as the fuel in the reactor, vital equipment, if you will, or

the old term of essential equipment which the Staff used in 1974. (Meeting Tr. 142-43.)*

9/80 — Draft inspection procedures 81N22, "Security Organization," and 81N38, "Records and Reports" were put into use by I&E on an interim basis. Procedure 81N22 paraphrased 10 C.F.R. § 73.40(a); procedure 81N38 was designed to check compliance with 10 C.F.R. § 73.71(b).

3/20/81 — Contention XX admitted. (*See* unpublished Board Order subsequent to second prehearing conference at 12.)

4/13/81 — Staff moves for summary disposition of Contention XX, relying on the Carlson and Miller affidavits.

8/13/81 — Staff informs the Commissioners of its conclusion that sabotage of nonpower reactor fuel would create only minimal problems. (*See* Memorandum for the Commissioners from William J. Dircks dated August 13, 1981, attached to Staff's May 21, 1984, response to CBG's estimate of threat. At page four of his affidavit accompanying Staff's June 12, 1984, submittal of supplemental information, Loren Bush notes that I&E was omitted from the distribution of this Memorandum.)

1/27/84 — I&E promulgates Manual Chapter 2545 in order to restore the safeguards inspection program at nonpower reactors which had been discontinued in 1980 for budgetary reasons. MC 2545 listed IP81455, "Protection Against Radiological Sabotage," as an applicable inspection procedure. (Bush affidavit accompanying Staff's June 12, 1984, submittal of supplemental information, at 3, 5.)

---

*Apparently, the plan referred to in the last paragraph is the plan discussed in the preceding entry.

Directors' Decisions Under 10 CFR 2.206

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

OFFICE OF INSPECTION AND ENFORCEMENT

Richard C. DeYoung, Director

In the Matter of **Docket No. 50-293**
(10 C.F.R. § 2.206)

BOSTON EDISON COMPANY
(Pilgrim Nuclear Power Station) **July 3, 1984**

The Director of the Office of Inspection and Enforcement denies the remaining portion of a petition under 10 C.F.R. § 2.206 which requested that the Nuclear Regulatory Commission take action to remedy alleged serious deficiencies in the offsite emergency response plans for the Pilgrim Nuclear Power Station. On February 27, 1984, the Director issued an Interim Decision, DD-84-5, 19 NRC 542, which denied relief on all issues except potential traffic bottlenecks to evacuation of the area surrounding the Pilgrim facility. The remaining issue was referred to the Federal Emergency Management Agency (FEMA) for evaluation. Based on FEMA's evaluation that traffic management issues have been adequately addressed by the Commonwealth of Massachusetts, the Director denies the remainder of the petition.

LOW POPULATION ZONE: EVACUATION

Traffic management issues related to potential bottlenecks to evacuation have been adequately addressed by the Commonwealth of Massachusetts.

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

INTRODUCTION

In its "Petition of the Massachusetts Public Interest Research Group for Emergency and Remedial Action" (Petition) dated July 20, 1983, the Massachusetts Public Interest Research Group (hereinafter referred to as Petitioner) requested that the Nuclear Regulatory Commission (NRC) take action to remedy alleged serious deficiencies in the offsite emergency response plans for the Pilgrim Nuclear Power Station in Plymouth, Massachusetts. On February 27, 1984, I issued an "Interim Director's Decision Under 10 C.F.R. § 2.206" examining a number of issues raised by the Petition and denying the relief requested with respect to those issues.[1] However, the Petitioner's concern regarding potential bottlenecks to evacuation of the area surrounding the Pilgrim facility was noted to be still under consideration. The Petitioner was informed that the NRC had formally requested the Federal Emergency Management Agency (FEMA) to evaluate the potential bottlenecks in the area near the Pilgrim site which may impede effective evacuation of the plume exposure pathway Emergency Planning Zone (EPZ). FEMA has now responded to the NRC's request and a final decision in this matter is now possible.

DISCUSSION

The Interim Decision noted that, in its review of the Petition, the NRC staff considered information available to it concerning evacuation planning and determined that, as the Petitioner had suggested, potential bottlenecks to effective evacuation of the EPZ may exist on the periphery of the EPZ.[2] The Interim Decision noted that it would be important to control traffic beyond the EPZ so that such traffic, e.g., on Route 3, did not lead to evacuation traffic congestion. Two notable points beyond the plume EPZ which could cause congestion are Route 3 at Route 128 and Route 3 at the Sagamore Bridge. Consequently, the NRC staff formally requested that FEMA review these traffic issues for the Pilgrim

---

[1] *Boston Edison Co.* (Pilgrim Nuclear Power Station), DD-84-5, 19 NRC 542 (1984), hereinafter referred to as the Interim Decision.

[2] Interim Decision, *supra*, 19 NRC at 552.

facility and I deferred resolution of that portion of the Petition until after the staff received FEMA's response.

On May 15, 1984, FEMA responded to the NRC request. Its "Response to January 20, 1984, Request for Assistance on Evacuation Time Estimates for Pilgrim Nuclear Power Station" and the attached "Analysis Report on Issues Related to the Pilgrim Evacuation Time Estimate, Pilgrim Nuclear Power Station, Plymouth, Massachusetts" dated May 1, 1984 (hereinafter referred to as the FEMA Analysis) are attached hereto as Exhibit A (not published).

The FEMA Analysis notes that the bottlenecks at issue had previously been identified in the NRC's "Safety Evaluation Report related to the construction of Pilgrim Nuclear Generating Station, Unit No. 2," NUREG-0022, Supplement No. 5 (hereinafter referred to as NUREG-0022). NUREG-0022 indicated that the Evacuation Time Estimates (ETEs) did not adequately reflect the two potential impediments to evacuation located outside the 10-mile EPZ discussed above. These potential impediments were identified by Dr. Thomas Urbanik, II, of the Texas Transportation Institute who, as a consultant to the NRC, conducted the review of the ETEs discussed in NUREG-0022.

As is set forth in the FEMA Analysis, FEMA has reviewed this matter by consulting with Dr. Urbanik, reviewing the pertinent plans and documents developed in response to NUREG-0022, and consulting with the State agencies responsible for implementing evacuation plans. The FEMA Analysis revealed that, following the issuance of NUREG-0022, impediments to evacuation were carefully studied by the Boston Edison Company, operator of the Pilgrim Nuclear Power Station, and a traffic management plan was developed to eliminate the problems identified in NUREG-0022. FEMA concludes that, after extensive analysis, the traffic management issues raised in NUREG-0022 have been adequately addressed by the Commonwealth of Massachusetts in accordance with proper emergency management standards and the evacuation time estimation methods now available.

CONCLUSION

In summary, the single issue remaining after issuance of my Interim Decision in this matter was the existence of potential bottlenecks to effective evacuation of the EPZ for the Pilgrim facility. This matter has been examined by FEMA and it has been found that the traffic management issues have been adequately addressed by the Commonwealth of Massachusetts. Consequently, I conclude that evacuation planning,

including the associated traffic management, is adequate for the Pilgrim facility.

Accordingly, the remaining portion of Petitioner's request for action pursuant to 10 C.F.R. § 2.206 is hereby denied. As provided by 10 C.F.R. § 2.206(c) a copy of this decision will be filed with the Secretary for the Commission's review.

Richard C. DeYoung, Director
Office of Inspection and
Enforcement

Dated at Bethesda, Maryland,
this 3rd day of June 1984.

[The attachments have been omitted from this publication but may be found in the NRC Public Document Room, 1717 H Street, NW, Washington, DC 20555.]

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

OFFICE OF INSPECTION AND ENFORCEMENT

Richard C. DeYoung, Director

In the Matter of

Docket Nos. 50-413
50-414
(10 C.F.R. § 2.206)

DUKE POWER COMPANY, *et al.*
(Catawba Nuclear Station,
Units 1 and 2)

July 6, 1984

The Director of the Office of Inspection and Enforcement denies a petition filed by the Government Accountability Project on behalf of the Palmetto Alliance which requested initiation of independent design, construction and management audits of Duke Power Company's construction of the Catawba Nuclear Station. In denying the requested relief, the Director determined that the quality assurance program for Catawba had not suffered a serious breakdown.

RULES OF PRACTICE: SECTION 2.206 PETITIONS

Although licensees are not required to respond to petitions under 10 C.F.R. § 2.206 in the absence of a formal request by the staff under 10 C.F.R. § 50.54(f) of § 182 of the Atomic Energy Act, licensees may respond to such petitions at their own volition.

RULES OF PRACTICE: SECTION 2.206 PETITIONS

A request for an investigation, particularly for an investigation of internal NRC personnel matters, does not fall squarely within the class of requests contemplated by 10 C.F.R. § 2.206.

ATOMIC ENERGY ACT: SAFETY FINDINGS

Neither the Atomic Energy Act nor the Commission's regulations mandate error-free construction. What is required is a finding of reasonable assurance that the facility, as built, can be operated without undue risk to public health and safety.

TECHNICAL ISSUE DISCUSSED: QUALITY ASSURANCE PROGRAM

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

NRC ENFORCEMENT POLICY

A Notice of Violation under 10 C.F.R. § 2.201 is the primary enforcement tool used by the NRC to document noncompliance and to ensure corrective action and compliance with regulatory requirements. Under the enforcement policy, the Commission generally does not issue Notices of Violation in cases involving violations of lesser significance which the licensee has identified and has corrected or will correct.

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

I. INTRODUCTION

On behalf of the Palmetto Alliance, Ms. Billie Pirner Garde of the Institute for Policy Studies' Government Accountability Project (GAP) requested in a letter dated September 14, 1983, that the Commission initiate various "independent" reviews of the construction, design, and management of Duke Power Company's Catawba Nuclear Station. The petitioner asks that the Commission modify the construction permits so as to require "a mandatory review by an independent contractor" of:

- the actual as-built condition of the Catawba facility through a 100% reinspection of the safety-related areas of the plant,
- "the design deficiencies and the breakdown in the design change control systems which render the design, as approved in the Final Safety Analysis Report [FSAR], inaccurate and incomplete," and

- the quality assurance and quality control program "which has existed with major weaknesses at the Catawba facility since the beginning of construction."

Petition at 1. In addition, the petitioner asks that the Commission order "a management audit of the Catawba upper- and mid-level managers responsible for both design and implementation of the Catawba quality control/quality assurance program." *Id.* The petitioner contends such relief is warranted because the available evidence demonstrates a continuing and pervasive breakdown in the quality assurance program for design and construction of Catawba.

The petitioner also asks that the Commission's Office of Investigations investigate harassment and intimidation of Catawba workers and that the Office of Inspector and Auditor's pending internal investigation include alleged improprieties by NRC Region II personnel in maintaining the confidentiality of NRC informants and in executing the Commission's regulatory program.

In accordance with usual Commission practice, the petitioner's request was referred to the staff for consideration under 10 C.F.R. § 2.206. *See Lorion v. NRC,* 712 F.2d 1472, 1474 (D.C. Cir. 1983), *cert. granted on other grounds sub nom. Florida Power & Light Co. v. Lorion,* 52 U.S.L.W. 3701 (U.S. 1984). The Director of the Office of Inspection and Enforcement acknowledged receipt of the petition in a letter dated October 14, 1983. In this letter, the Director also denied the petitioner's request for immediate implementation of the proposed relief, because no imminent danger to public health and safety warranted such action, nor was such action required to ensure adequate consideration of the petition. A notice was published in the *Federal Register* that the petition was under consideration. 48 Fed. Reg. 48,882 (1983).

In deciding this petition, the staff has considered the petition and its various attachments as well as other relevant information. GAP responded by letter dated December 2, 1983, to staff questions concerning the § 2.206 petition. Duke Power Company (DPC) submitted a response to the petition on January 5, 1984.[1] The results of the NRC inspection program at Catawba were also reviewed in reaching this decision. The pertinent inspection reports containing those findings are referenced in this decision and provide greater detail regarding the basis for this decision.

---

[1] Letter to Richard C. DeYoung from W.H. Owen, Executive Vice President for Engineering and Construction, DPC (Jan. 5, 1984) (hereinafter "DPC Response"). Although licensees are not required to respond to § 2.206 petitions in the absence of a formal request pursuant to 10 C.F.R. § 50.54(f) or § 182 of the Atomic Energy Act, licensees may respond to such petitions at their own volition, as was the case here. *See* LeBoeuf, Lamb, Leiby & Mac Rae, 41 Fed. Reg. 3359 (1976).

Additionally, the staff has reviewed the record developed before the Atomic Safety and Licensing Board in the operating license proceeding for the Catawba Nuclear Station. Among other issues, the Licensing Board has held hearings on the adequacy of the quality assurance and quality control program at Catawba.[2] As noted in several instances in this decision, the petitioner has advanced before the Licensing Board much of the evidence on which it relies in its request under § 2.206. While this § 2.206 decision was in final preparation, the Licensing Board issued its "Partial Initial Decision," LBP-84-24, 19 NRC 1418 (1984), in the operating license proceeding. Subject to certain stated conditions, the Licensing Board authorized issuance of a low-power license for Catawba Unit 1. Partial Initial Decision, 19 NRC at 1585-86. The Licensing Board's decision is generally consistent with the staff's view of the facts concerning the common issues regarding quality assurance which were raised in both the operating license proceeding and the § 2.206 petition. The Licensing Board found "no pervasive failure or breakdown" of the quality assurance program for Catawba; to the contrary, the Board found that, "on the whole, the Duke QA program at Catawba worked well." Partial Initial Decision, 19 NRC at 1434.

Upon the staff's review of information pertaining to the petitioner's request, I have determined that modification of the Catawba construction permits to compel the independent reviews requested by the petitioner is not required to ensure adequate protection of public health and safety. Consequently, for the reasons stated in this decision, the petitioner's request for such action is denied.[3]

---

[2] The ultimate issue before the Licensing Board is, of course, whether operating licenses for the Catawba units should be issued. The Licensing Board does not have jurisdiction to modify the construction permits as the petitioner requests be done in its § 2.206 petition. *See Consumers Power Co.* (Midland Plant, Units 1 and 2), ALAB-674, 15 NRC 1101, 1102-03 (1982).

[3] As noted at the outset of this decision, the petitioner also requested investigations by the NRC's Office of Inspector and Auditor (OIA) and the Office of Investigations (OI). A request for an investigation, particularly one for an investigation by OIA of internal NRC personnel matters, does not fall squarely within the class of requests contemplated by § 2.206. Section 2.206 contemplates requests to institute enforcement proceedings with respect to any license. In all events, both OI and OIA have initiated investigations related to matters raised in the petition.

OI has initiated an investigation of harassment and intimidation issues raised in the petition and in an April 21, 1983 letter from GAP to Ben B. Hayes, Director of OI, and James P. O'Reilly, Region II Administrator. *See* Board Notification Memorandum (Nov. 1, 1983) from T. Novak, Office of Nuclear Reactor Regulation. GAP considers its request for an OI investigation to have been granted. Letter from Billie P. Garde to Richard C. DeYoung (Dec. 2, 1983), at 3.

OIA was provided a copy of the petition for its use in connection with its investigation begun as a result of GAP's April 21st letter to Messrs. Hayes and O'Reilly. As discussed in the latter portion of this decision, the Office of Inspection and Enforcement has reviewed the allegations of misconduct by regional personnel raised in the petition. It does not appear that Region II personnel revealed confidential sources or information in their communications with licensee personnel, or that the region's review of DPC's welding inspector task forces or other aspects of the construction of Catawba was inappropriate.

II. THE NRC INSPECTION PROGRAM

Because of the asserted deficiencies in design and construction of the Catawba plants, the petitioner contends that the NRC's inspection program has been incapable of identifying problems at Catawba and ensuring necessary corrective action. By way of background, the inspection program is described below. Additional details are contained in Appendix A to this decision with respect to the inspection program at Catawba.

The NRC inspection program, as applied to reactor facilities under construction, utilizes sampling inspection techniques to determine whether there is reasonable assurance that the plant is constructed and tested according to the requirements of the construction permit and NRC regulations, and the commitments made by the licensee in its Preliminary and Final Safety Analysis Reports (PSAR and FSAR) and in various correspondence with the NRC. These techniques are also used to establish whether the licensee's quality assurance and quality control (QA/QC) program is effective in inspecting, correcting and documenting activities in a way that assures protection of public health and safety. Furthermore, beyond the construction phase, the NRC inspection program is applied to plants undergoing startup testing after they are licensed for operation, and for plants already in routine operation, to provide this same assurance.

The NRC inspection program is designed as a preventive program and is applied to structures, systems, components, and activities that are important to safety. This preventive objective is achieved by examination of management controls, quality assurance and quality control manuals, procedures and records, and observation of work in progress. Work in progress is inspected by experienced engineers in various technical disciplines for quality of workmanship, conformance to codes and standards and the licensee's established QA/QC program requirements. Records are examined to verify that purchased equipment meets quality standards and that quality control inspections are implemented throughout the construction and preoperational test phases. Enforcement action is taken for violations of NRC requirements in accordance with the Commission's enforcement policy.

As described in this decision, the overall NRC inspection and enforcement program has been identifying problems in the Catawba plant and requiring corrective action. More fundamentally, the petitioner has not demonstrated why its concerns cannot be adequately addressed through implementation of the NRC inspection program. In short, no adequate justification for the proposed extraordinary independent review efforts has been shown.

III. CONSIDERATION OF PETITIONER'S BASES FOR RELIEF

The thrust of the petition is that the quality assurance program for Catawba has broken down in a pervasive way. The petitioner asserts that this breakdown is reflected in these major respects:

1. Failure to assure that the "as-built" condition of the plant reflects the final version of an acceptable design,
2. Failure to maintain an adequate quality assurance program organization to identify and correct construction deficiencies,
3. Failure to maintain adequate controls to process and respond to nonconforming conditions,
4. Failure to maintain adequate material traceability to identify and document the history of all material, parts, components, and special processes, and
5. Failure to maintain an adequate quality assurance program for vendors.

Each of these alleged failures is addressed in turn below. Additional supporting details are discussed in the decision's appendices.

Before turning to the petitioner's arguments regarding the sufficiency of DPC's quality assurance program, it is important to note that the petitioner has not provided substantial new information in support of its request. The petitioner relies primarily on the findings of DPC's Self-Initiated Evaluation (SIE) conducted for Catawba and on allegations related to welding inspectors' concerns and DPC's treatment of those concerns. These issues as well as other aspects of design and construction of the Catawba plant have been reviewed by the staff as part of the NRC's inspection program and, as noted above, many of these issues have been aired in the Catawba operating license proceeding.

The Commission recognizes that deficiencies will be found as a result of its inspections. Corrective action is required for every violation of NRC requirements. *See* 10 C.F.R. § 2.201. Inevitably, in any project approaching the magnitude and complexity of a nuclear power plant, some construction defects will occur and, therefore, it would be unreasonable to expect error-free construction. *See Union Electric Co.* (Callaway Plant, Unit 1), ALAB-740, 18 NRC 343, 346 (1983). Neither the Atomic Energy Act nor the Commission's regulations mandate such a result. What is required is a finding of reasonable assurance that the facility, as built, can be operated without undue risk to public health and safety. *See Citizens for Safe Power, Inc. v. NRC*, 524 F.2d 1291, 1297 (D.C. Cir 1975); *Petition for Shutdown of Certain Reactors*, CLI-73-31, 6 AEC 1069, 1070 (1973), *aff'd sub nom. Nader v. NRC*, 513 F.2d 1045 (D.C.

Cir. 1975). The best alternative to error-free construction is an effective quality assurance system that detects problems, evaluates them and verifies that appropriate corrective action has been implemented to handle them. In the staff's view, DPC's quality assurance program for Catawba is adequate to provide the requisite assurance under the Commission's requirements.

1. Assurance That the As-Built Condition of the Plant Reflects the Final Version of an Acceptable Design

The petitioner contends that design control is lacking at Catawba because design documentation does not reflect the plant as designed and may not reflect the as-built condition of the plant. The petitioner points to the findings and observations of the Self-Initiated Evaluation (SIE), and DPC's alleged lack of an appropriate response to the recommendations which emerged from SIE, as the "best argument" in support of the petitioner's request for an independent design and construction verification program. The petitioner further contends that DPC's use of "Variation Notices" for controlling field variations between the specific design and as-built construction does not comply with 10 C.F.R. Part 50, Appendix B, Criterion III.

The SIE uses methodology developed by the Institute of Nuclear Power Operations (INPO). The SIE evaluations conducted at Catawba and other plants are designed to examine and evaluate site activities in order to make an overall determination of plant safety, to evaluate management systems and controls, and to identify areas needing improvement. The goal of the program evaluation is to assist the utility in achieving the highest standards of excellence. The recommendations in each area are based on best practices, rather than minimum acceptable standards or requirements. Accordingly, areas where improvements are recommended by the SIE team are not necessarily indicative of unsatisfactory performance. A detailed discussion of the SIE methodology and the NRC's review and evaluation of the SIE findings for Catawba is contained in Appendix B to this decision.[4]

---

[4] The SIE report is entitled "Construction Project Evaluation for Catawba Nuclear Station Unit 1-2," and is attached to both the petition (Attachment 1) and DPC's Response (Attachment 6). As a result of a request by Palmetto Alliance, the petitioner here, to reopen discovery based on findings in the SIE report, the Licensing Board determined that a number of the authors of that report should appear before the Board in order for the Board to determine if there were sufficient bases for the motion. The SIE witnesses were questioned by the Board and parties. Tr. 10,053-10,276 (DPC Response, Attachment 1). Based upon the testimony, the Board decided not to reopen discovery. *In Camera* Tr. 948-54 (DPC Response, Attachment 2).

The Catawba SIE was conducted from September 27 through October 14, 1982. The staff was kept informed of the outcome of this evaluation. In Region II, a team composed of the Catawba Resident Inspector and experienced regional management personnel was established to perform the onsite SIE review. Team members and other regional specialists performed a comprehensive review of the SIE report and selected items for further review and followup with the licensee. The team performed a comprehensive onsite review of the DPC status report on corrective actions and comparison with the SIE report.

The review team concluded that the licensee's proposed actions and schedules were appropriate for the nature and safety significance of the issues. The team concluded that the SIE findings were appropriately evaluated for reportability in accordance with 10 C.F.R. § 50.55(e) and 10 C.F.R. Part 21. Several items in the design control area noted in the petition are among those that the review team identified for further evaluation. NRC has completed its review of the completion and timeliness of the licensee's actions in response to the SIE report. The staff findings do not identify any practice which would have led to poor quality construction or unsafe operation of the plant.

Based on NRC inspections and review of the SIE findings and recommendations, including those which the petitioner identified as examples supporting its concerns, the staff believes that the recommended improvements would enhance the licensee's QA program, but the SIE findings regarding design control are not indicative of a failure by DPC to meet NRC requirements, much less a significant quality assurance breakdown.[5] Inasmuch as DPC's actions in response to the SIE constitute improvements to its program and are not required to ensure minimal compliance with NRC requirements, there is no basis to the petitioner's charge that DPC's response to the SIE has been inadequate or tardy.

Beyond its review of the SIE, NRC Region II inspections of DPC design activities indicate that there is reasonable assurance that Catawba's design meets regulatory requirements.

The petitioner, as noted earlier, presents several concerns relative to the Variation Notice (VN) system used by DPC at Catawba. Utilities, architect/engineers and construction organizations throughout the nuclear industry commonly utilize various systems to assure that field variations are approved by the proper organizational element and that the

---

[5] The SIE team members who testified before the Licensing Board on the petitioner's motion to reopen discovery did not believe that their findings indicated a significant quality assurance breakdown at Catawba. *See* Tr. 10,153-55 (Attachment 1 to DPC Response).

proper changes appear as revisions to the design drawings, specifications, or other documentation as required by Criterion III of 10 C.F.R. Part 50, Appendix B. This criterion requires control of design changes commensurate with those controls applied to original design activities. At DPC, one form of such a field change request is called a "Variation Notice."

The detailed staff review of the petitioner's concerns relative to the handling of field-initiated design changes is contained in Appendix B to this decision. The staff concludes that DPC has developed a system which controls design and meets regulatory requirements. The inspections of this area during the construction of Catawba included review of the Variation Notice procedures and their implementation by DPC. Those inspections show that the Variation Notices have been controlled within the DPC design control system as required by 10 C.F.R. Part 50, Appendix B, Criterion III.[6]

In addition, it should be noted that prior to full-power licensing of McGuire Unit 2, a comprehensive DPC self-audit was performed of activities related to seismic design at the Catawba and McGuire units within the DPC Design Engineering Department. NRC Region II reviewed the subject report, examined some of the audit findings to verify performance of corrective actions, and found the activity to be acceptable. Region II's review of DPC's seismic design audit is documented in NRC Inspection Report No. 50-370/83-18. Furthermore, due to DPC's broad nuclear design and construction experience, and demonstration of adequate performance at Oconee, the staff concluded that an independent design verification program was not needed for McGuire Unit 2. Since Catawba's design is practically identical to that of McGuire, the staff has concluded that an independent design verification was also not warranted for Catawba.

In summary, based on the inspection findings to date and the staff's review contained in Appendix B, it is concluded that the design control system at Catawba is acceptable, the Variation Notice system has not been abused, the findings of the SIE were appropriately handled within the DPC management control systems, and the findings were properly reviewed for reportability to the NRC.

---

[6] The concerns of Mr. Ronald McAfee, referenced by the petitioner with respect to alleged design control deficiencies, were included in the review by the staff in reaching the above conclusions on design control. Mr. McAfee was a witness in the Catawba licensing proceeding where his concerns with respect to the correct use of procedures involving documentation of deficiencies and design changes were presented. In the staff's view, Mr. McAfee's testimony does not raise substantial doubt as to the effectiveness of the licensee's quality assurance program or the adequacy of the Catawba plant. *See generally* NRC Staff's Proposed Findings of Fact and Conclusions of Law in the Form of a Partial Initial Decision, at 15-26, 41-46 (March 8, 1984); *see also* Partial Initial Decision, 19 NRC at 1532-41.

2. *Maintenance of an Adequate Quality Assurance Program to Identify and Correct Construction Deficiencies*

The petitioner alleges that the DPC organizational structure and Quality Assurance Program do not meet the independence and organizational freedom requirements of 10 C.F.R. Part 50, Appendix B, Criteria I and II. The petitioner charges that the DPC Construction Quality Assurance Program is not and has never been independent of construction, thereby restricting the quality control inspectors' ability to determine the quality of construction, to implement approved QA procedures, or to identify and correct construction deficiencies.

NRC and its predecessor, the Atomic Energy Commission, have reviewed the Catawba QA program and organization routinely since DPC applied for construction permits for Catawba on July 24, 1972. Appendix C to this decision contains a chronology of the development and NRC's review of the DPC quality assurance and quality control (QA/QC) program at Catawba from 1973 to 1983. The NRC staff found that the DPC organization for QA and QC met the requirements of 10 C.F.R. Part 50, Appendix B, in 1973, about 2 years before the construction permits were issued for Catawba. The initial acceptability of the DPC QA program in 1973 was predicated on DPC's commitment to fill the position of Corporate QA Manager by July 1974. This commitment was met in February 1974. The overall QA program and QA organization for design and procurement were inspected by the NRC Region II staff during 1973, 1974, and 1975 prior to the issuance of the construction permits.[7]

Before the construction permits were issued, the Design Engineering Department (DED) "Design Engineering QA Plan," the DED procedures (including procedures for engineering calculations, engineering drawings, SAR commitment control, variation notices, nonconforming item reports, specifications and procurement), the divisional QA procedures for the internal audits of civil, electrical, and mechanical-nuclear design work, and various appendices were examined to determine the state of readiness for start of construction.

The Catawba construction permits were issued in August 1975. In authorizing issuance of the permits, the Atomic Safety and Licensing Board found that DPC's quality assurance program met the Commission's requirements. *Duke Power Co.* (Catawba Nuclear Station, Units 1

[7] *See* NRC Inspection Reports 50-413/73-01, 73-02, 73-03, 73-04, 74-01, 74-02, 74-03, 75-01, 75-02, 75-03, 75-04, 75-05, and 75-06.

and 2), LBP-75-34, 1 NRC 626, 650 (1975), *aff'd,* ALAB-355, 4 NRC 397 (1976).

Since issuance of the construction permits in 1975, NRC inspection findings have confirmed that DPC has developed and implemented an acceptable QA/QC organizational and functional alignment. No violations or deviations have been identified related to the organizational freedom and authority aspect of the DPC QA/QC organizations as approved by the NRC. Thus, DPC realignment of QC administrative functions in 1981 was not designed to "cure" any prior noncompliance. Contrary to the petitioner's suggestion, the SIE did not find a lack of independence in DPC's QA/QC program. Rather, the SIE report states, "Quality Assurance and Quality Control functions were performed adequately and independently to support and control the quality of the facility." SIE Report at 2a. The allegations in the petition that the DPC Quality Assurance Program is not, and never has been, independent of construction have not been substantiated. *Compare* Partial Initial Decision, 19 NRC at 1458-60.

On pages 16-18, the petition cites complaints expressed by welding inspectors as evidence of pressure from construction. In addition to the routine inspections, the Region II inspection staff started in 1979 to conduct special inspections designed to detect whether undue pressure, harassment, or intimidation was present that could be detrimental to quality of work at Catawba. These inspections and the inspection results are described in Appendix A, pp. 185-87, to this decision. In addition to these special inspections, the NRC Region II staff monitored the DPC Task Force efforts and conducted an assessment of the concerns which included interviewing the involved welding inspectors, review of the task force reports, and other documentation. The Region II inspection efforts regarding the welding inspectors' complaints are described in Appendix D, pp. 207-08, to this decision. As further detailed in staff testimony in the operating license proceeding, NRC review of the welding inspectors' concerns and DPC Task Force response to those concerns did not reveal any programmatic breakdown or harassment of welding inspectors which adversely affected the overall operation of the QA program.[8] The problems seemed to have stemmed primarily from poor communication between site supervision and the welding inspectors. None of the welding inspectors acknowledged knowing of any poor work that had not been found by QC and properly corrected. It was unlikely

---

[8] NRC Staff Testimony of P.K. Van Doorn on Palmetto Alliance Contention 6 Regarding Welding Inspector Concerns, received into evidence in the Catawba operating license proceeding as Staff Exhibit 7, Tr. 9206 (December 2, 1983). *See also* Partial Initial Decision, 19 NRC at 1504-05, 1530-32.

that harassment detrimental to quality developed under the conditions observed. The Licensing Board has reached similar conclusions. While finding that harassment of welding inspectors by craft workers and foremen occurred on occasion, the Board concluded that the incidents did not deter the inspectors from performing their job nor was the freedom of the QA program restricted. Partial Initial Decision, 19 NRC at 1531-32. The Licensing Board did find, however, that DPC's policy against harassment could be improved, and the Board has directed that the policy be revised. *Id.* at 1532, 1585.

3. Maintenance of Adequate Controls to Process and Respond to Nonconforming Conditions

The petitioner identifies a number of concerns regarding this subject. Details concerning DPC's Nonconforming Item (NCI) system, NRC's review of that system, and a discussion of the petitioner's specific concerns about the system are contained in Appendix D. The alleged deficiencies at the Catawba site regarding DPC's management control system for identifying, documenting and correcting a broad spectrum of construction-related problems, appear to be based primarily on the petitioner's review of the SIE and comments provided to GAP by several present and former DPC employees.

A review of the information pertinent to concerns noted in the petition leads to the conclusion that DPC has developed and implemented an adequate control system for identifying, documenting, and correcting a broad spectrum of problems. Each revision of the DPC system for controlling, dispositioning and correcting nonconforming conditions (NCIs) has been reviewed by the NRC Region II inspection staff. In the staff's view, the control and evaluation of NCIs have been improved with each revision of that system and its implementing procedures. The NCI system, and NCIs related to defects in specific components and systems, have been routinely inspected as part of the NRC inspection program. DPC has implemented needed corrective actions to the NCI system that have been identified by NRC inspection findings, by the licensee's QA audit program, and by the SIE. The deficiencies to which the petitioner refers do not, in the staff's view, suggest a significant, "decade-long" breakdown in the entire QA program. The allegations

made by the petitioner do not provide a basis for technical concern for safety of the plant.[9]

The petitioner alleges that Catawba's nonconformance procedure ("Q-1") violates 10 C.F.R. Part 50, Appendix B, Criterion X for the following reasons:

- The procedure bears a striking similarity to a situation at Midland Nuclear Plant that resulted in a Severity Level III violation.
- Catawba QC inspectors by procedure were shackled to the Senior Engineer in that they no longer had authority to write NCIs without first getting approval
- It was improper for Document Control to issue sequential serial numbers only for approved NCIs.

The comparison between Catawba and Midland regarding the handling of in-process inspections at Midland is not valid. At Midland, QC inspectors stopped their inspection activities when an excessive number of deficiencies became apparent. When this occurred, the system being inspected was returned to the crafts for rework. The crafts corrected only the reported deficiencies, and upon reinspection by QC, only the reported deficiencies were reinspected. In some cases at Midland, this practice led to a situation where complete system inspections were not performed, and some systems contained deficiencies even though final QA inspection and acceptance had been indicated. At Catawba, however, work on nonconforming work activities was stopped and documented while QC inspections continued for those work activities which were allowed to proceed.

The petition quotes the following from Catawba's "Control of Nonconforming Items," Procedure Q-1, Rev. 9, dated June 11, 1976 (Petition, Attachment 14), and contends that it allows for suspended inspections and, consequently, the undesirable consequences at Midland could also occur at Catawba:

---

[9] It should be noted that during the Catawba licensing hearings, the DPC QC inspectors consistently stated that the hardware problems they identified were always corrected. Their stated concerns were disagreements with handling of the resolution of nonconformances. *See generally* NRC Staff's Proposed Findings of Fact and Conclusions of Law in the Form of a Partial Initial Decision, at 46-51, 74-76 (March 8, 1984); *compare* Partial Initial Decision, 19 NRC at 1497-98, 1530.

NRC staff testimony presented at the Catawba licensing hearing on Contention 6 regarding welding inspector concerns shows that DPC recognized these problems, made a proper investigation into these concerns, and implemented appropriate corrective action to handle these concerns and any programmatic or hardware problem so identified that needed attention. *See* NRC Staff Testimony of Peter K. Van Doorn, *supra* note 8, at 42-50; Tr. 9679-81, 9875-76, 9897-98. *See also* NRC Staff's Proposed Findings, *supra*, at 68-77; *compare* Partial Initial Decision, 19 NRC at 1492-98, 1504-05, 1583-84.

> If a nonconformance is identified on material, equipment, or activities in the course of installation or construction, the nonconforming activities or activities which affect the resolution of the nonconformance shall be stopped and not resumed until the resolution of the nonconformance is identified. Activities involving the material, equipment, or item which do not affect the resolution of the nonconformance may continue. The Project QA Staff shall be responsible for determining which activities may proceed. Where necessary, these activities shall be described in the statement of the nonconformance.

However, this mode of construction nonconformance control is in accordance with NRC requirements. Section 16 of ANSI N45.2, accepted by NRC in Regulatory Guide 1.28, states that "measures which control further processing, delivery, or installation of a nonconformance or defective item pending a decision on its disposition shall be established and maintained." The petitioner implies that Catawba QC inspectors performed limited inspection of items after an NCI was issued but provided no examples to substantiate its claim. The NRC believes, based on inspections and investigations into employee concerns to date, that adequate inspections were performed. This procedure, as written, does not violate 10 C.F.R. Part 50, Appendix B, Criterion X.

There is no meaningful basis on which to evaluate the petitioner's claim that violations of Criteria X and XVI increased after 1978. NRC experience indicates that as more construction work disciplines become involved, or as each discipline approaches peak activity, more construction problems may occur. Such problems do not pose a safety problem as long as adequate measures exist to identify and correct problems. Adequate measures exist at Catawba.

The petitioner believes that the procedure for controlling NCIs has been deficient in other respects. *See* Petition at 21. The petitioner contends that Revision 12 to Procedure Q-1 "completely shackled" QC inspectors to the Senior Engineer. Additionally, the petitioner implies that obtaining serial numbers only for approved (valid) NCIs is improper.

NRC inspection findings do not indicate that the DPC inspector's freedom and independence to identify quality problems, and verify corrective action, was denied. The corrective action system described by Revision 12 to Procedure Q-1 met NRC requirements. Subsequent revisions of this procedure have helped to remove any real or perceived uncertainties by a QC inspector as to their freedom and independence. In addition to the routine NRC inspections at Catawba, the NRC staff conducted two special inspections, specifically focused on interviewing DPC employees, to determine the extent of cooperation between work groups, management support, and whether pressures, harassment or intimidation were present at Catawba that could be detrimental to perform-

ance of their functions. The details of these inspections are described in Appendix A.

The NRC inspection staff has found no problem with the licensee issuing serial numbers only for valid NCIs. As discussed more fully in Appendix D, not every construction deficiency requires handling as an NCI under Catawba's program for controlling deficiencies. Deficiencies declared to be nonvalid NCIs were corrected on another type QA record certifying their acceptability in accordance with existing QA procedures. There is no NRC requirement to keep record copies of nonvalid NCIs, but the NRC staff encourages licensees to keep any documentation that the licensee feels may help verify the quality of its plant.

NRC testimony relative to Palmetto Alliance Contention 6 in the Catawba operating license proceeding provides the staff's position concerning alleged misuse of the Catawba NCI system.[10] That testimony addresses each specific allegation for merit and safety significance and clarifies the NRC requirements concerning corrective action systems. Based on the staff's review, the NCI system and its implementation at Catawba generally have met regulatory requirements. To be sure, the NRC staff has not found the corrective action system and its implementation at Catawba to have been consistently effective; however, no major QA breakdown has occurred in this area as alleged by the petitioner. The Licensing Board has reached similar conclusions regarding the NCI system. *See generally* Partial Initial Decision, 19 NRC at 1437-38, 1439-40, 1460-1505. Violations in this area have been identified by the NRC. DPC has recognized those problems and has been cooperative in making appropriate evaluations and taking proper corrective actions. The evaluations and actions by DPC have been reviewed by NRC. The licensee has been responsive to the need for improvements in the NCI system identified by the NRC. The licensee's internal audit program has focused on this area from time to time; corrective measures were taken in response to the audit findings. Therefore, no additional enforcement measures appear warranted at this time based on findings to date.

The petitioner also raises concerns relative to the handling of DPC's R-2A system. The concerns raised by the petitioner are:

- The R-2A system being used to report inspection deficiencies at Catawba is deficient (inferior) when compared to the NCI (Form Q-1A) system used.

---

[10] *See* NRC Staff Testimony of Peter K. Van Doorn, *supra* note 8, testimony of Messrs. Bryant, Maxwell, and Van Doorn, Tr. 9197-10,002, *passim* (December 2, 5 and 6, 1983). *See also* NRC Staff's Proposed Findings, *supra* note 6, at 68-111.

- The SIE report identified areas of weakness with the R-2A construction corrective actions.
- In the past, Catawba has been criticized by NRC for having "too many NCIs."
- Workers have reported to GAP that the R-2As are used liberally by both QA and construction to legitimize construction that pushes ahead of QA/QC inspection.
- The R-2A (Inspection Discrepancy Report) governed by the R-2 procedure is used on the bulk of nonconformance items.
- R-2As remain under the control of construction, corrective actions were not required to be documented and an indeterminate number of nonconforming conditions may have been corrected without trending of appropriate reviews.

The R-2A, "Inspection Discrepancy Report," is a quality control mechanism utilized to document and correct identified deficiencies that do not rise to the level of significance of a nonconforming item. Part 50, Appendix B, Criterion XVI of 10 C.F.R. requires that conditions adverse to quality be promptly identified and corrected. Catawba's Procedure R-2 was written to meet a selected element of this requirement. Form R-2A, which is a part of Procedure R-2, is utilized at Catawba to document the identification and correction of minor deficiencies found by the QC inspectors as a result of preplanned inspections, which are thought to be readily correctable and require no additional engineering design evaluation. Other, more serious deficiencies, that qualify as significant conditions adverse to quality, are required by Criterion XVI of Appendix B to be documented, to be given an extensive review to determine the cause, identify appropriate corrective actions to prevent recurrence and to be reported to the appropriate levels of management. Catawba's Procedure Q-1 was specifically developed to document NCIs, the more serious type of deficiency. Forms R-2A and Q-1A (NCI) are two of the mechanisms utilized by Catawba to report deficiencies and, when implemented properly, these procedures meet NRC requirements. The petitioner's assertion that the R-2A system is "inferior" to the NCI system reflects a misunderstanding of the corrective action system and has no real bearing on the acceptability of Catawba's corrective action program. A detailed discussion of the weaknesses the petitioner perceives in the R-2A system is contained in Appendix D. As noted above, NRC staff testimony summarizes inspection findings concerning alleged misuse of the Catawba corrective action system.[11]

---

[11] *Id.*

NRC routinely addresses deficiencies as they are identified by or to NRC inspectors. Deficiencies are classified according to safety significance, and priorities and remedial actions are guided by that classification. As noted above, at Catawba the more significant-type deficiencies are classified as NCIs. The NRC inspection findings show that construction deficiencies at Catawba have been generally classified appropriately. The ratio of NCIs to R-2A-type deficiencies at Catawba has been small. Although there were examples identified in the SIE where R-2A-type deficiencies were improperly dispositioned, these were few in number and represented a small percentage of the thousands of R-2As recorded at Catawba. In the past, some NRC inspectors have been critical of Catawba QC inspectors for writing too many NCIs for problems which could rightfully have been resolved as minor deficiencies under other QA procedures. In NRC Inspection Report 50-413/81-02, it was noted that an apparently large volume of NCIs had been generated at the site, averaging nearly 300 per month over a 7-month period. The subjects covered by these NCIs ranged from relatively minor documentation problems to major problems with safety-related hardware. The processing of such a wide range of problems in the same manner was brought to DPC's attention as a possible contributor to generic items or trends apparently going unnoticed. Several NCIs were cited as an example of the condition, and the licensee was cited for a violation for generic items or trends being neither recognized nor forwarded to management. The DPC corrective actions on this matter were evaluated and found to be acceptable by Region II staff. Followup by the staff verified implementation of the corrective actions.

The SIE findings, in light of the results of NRC inspections, show that the DPC system for control of construction deficiencies has functioned adequately with a few minor exceptions. Therefore, it is the NRC staff's view that the DPC QA/QC program is continuing to function adequately in the area of nonconformance and corrective action in that:

- The NCI system is the appropriate system to be utilized for significant deficiencies; however, the R-2A system is not inferior to it because its intended function is also accomplished. Catawba's corrective action system satisfies 10 C.F.R. Part 50, Appendix B, Criterion XVI requirements.
- The SIE correctly identified two minor weaknesses in construction trending but in general QA trending overlapped these deficient areas. One R-2A appears to have been inappropriately closed out but had no safety significance nor was any hardware

affected. Considering that 20,456 R-2As have been written at Catawba as of October 7, 1983, these findings do not indicate a programmatic breakdown.

- Some Region II inspectors, after examining Catawba's NCIs for adequacy, informed the licensee that some DPC QC inspectors were being overly conservative and were writing too many NCIs which could have been appropriately handled by other approved QA mechanisms such as R-2As, M-4s or M-51Cs.[12] Proper utilization and trending of these other QA mechanisms does not violate NRC requirements.
- Proper utilization and implementation of the R-2A system would not permit construction to push ahead of QA/QC inspections. Alleged misuse of the R-2A system has been investigated and problems identified were found to have no safety significance.[13]

In summary, DPC has developed and implemented an adequate corrective action system (which includes the NCI and the R-2A system) that meets NRC requirements, and one which has been appropriately revised, updated and improved over the years. The reviews conducted by the NRC staff provide sufficient assurance that there has not been, nor is there now, a breakdown in the QA program at Catawba as alleged by the petitioner.

4. Measures Established to Provide Adequate Material Traceability

The petitioner contends that DPC failed to maintain adequate material traceability to identify and document the history of all materials, parts, components, and special processes as required by 10 C.F.R. Part 50, Appendix B, Criteria VIII and IX. *See* Petition at 26-27. The petitioner relies on findings from the SIE as the basis for lack of traceability. These specific items are discussed in Appendix E to this decision.

NRC inspections have revealed relatively few violations or deviations in this general area of concern or the specific areas discussed in the SIE report. The SIE findings do not reflect a severe breakdown in DPC's quality assurance and control program for material traceability at Catawba.

---

[12] Inspection Report No. 50-413/81-02.

[13] As stated by NRC staff witnesses P.K. Van Doorn, J.C. Bryant and G.F. Maxwell during the Catawba hearings, the DPC quality assurance program included various methods of reporting deficiencies, including R-2As and there was no evidence that DPC was not generally following the appropriate procedures. Tr. 9776-78 and 9806. *Compare* Partial Initial Decision, 19 NRC at 1504-05.

5. *Measures Established to Maintain an Adequate Quality Assurance Program for Vendors*

The petitioner alleges that DPC has failed to maintain an adequate quality assurance program for vendors. To illustrate this concern, the petitioner repeats the observations and recommendations of the SIE report to show alleged weaknesses in the heating, ventilation and air conditioning (HVAC) contractor's welding program. The specific items and the NRC evaluation are discussed in Appendix F.

NRC inspection findings relative to the alleged weaknesses in the HVAC contractor's onsite welding program do not support the contention that serious weaknesses exist in the contractor's program. NRC inspections indicate that the site contractor has fabricated, inspected, and erected the HVAC system consistent with applicable codes, specifications, and NRC requirements. Although deficiencies have been identified in the areas of QC inspections and QA/QC records, these were, in the staff's view, isolated cases. NRC inspections of onsite welding activities revealed no evidence of unqualified welders performing safety-related welds, or examples of flawed welding procedures being used to perform this work.

6. *Summary*

As shown in the foregoing discussion and the supporting appendices, the design and construction of the Catawba plant has not suffered the severe quality assurance breakdown that the petitioner believes has occurred. To the contrary, the licensee's quality assurance and quality control program has generally satisfied the Commission's requirements with respect to the structure and implementation of the program. The results of NRC inspections do not provide a basis for concluding such a substantial breakdown has occurred, and the petitioner's reliance on the SIE's findings is misplaced. The welding inspectors' concerns and the related DPC task forces have been examined extensively by the staff through the inspection program and in the operating license hearings for Catawba. While DPC's performance at Catawba has not been perfect, the design and construction of the plant has been adequate to provide reasonable assurance that operation of the plant will not pose an undue risk to public health and safety.

IV. ADEQUACY OF REGION II'S PERFORMANCE

The foregoing analysis of the alleged quality assurance breakdown is the best answer to the petitioner's charge that NRC Region II and its

management have failed to detect serious problems at Catawba and to ensure the licensee's adherence to the Commission's requirements. As indicated at numerous points in this decision, Region II has examined, through the inspection program, DPC's organization and implementation of its systems to control design and construction of Catawba. The regional office has also followed such matters as DPC's handling of the welding inspectors' concerns and the findings of the SIE to ensure the licensee satisfied the Commission's requirements and took appropriate corrective actions. Region II and other responsible staff offices continue to initiate appropriate action to deal with new issues that may arise bearing on the adequacy of the plant.

As noted in Appendix A to this decision, the region has identified a number of violations at Catawba, but on balance DPC's program for design and construction of Catawba has been adequate. Nonetheless, the petitioner suggests on the one hand that enforcement action has been lacking at Catawba, but the petitioner notes on the other that a "large number" of Notices of Violation at low severity levels have been issued to Catawba. A Notice of Violation is, however, the primary enforcement tool used by NRC to document noncompliance and to ensure corrective action and compliance with regulatory requirements. *See* General Policy and Procedure for NRC Enforcement Actions, 10 C.F.R. Part 2, Appendix C, § IV (1983), *as revised,* 49 Fed. Reg. 8583 (1984). Far from indicating weak enforcement, identification of a large number of low-level violations may well indicate an enforcement program that vigorously ensures compliance and identifies problems at an incipient stage. In view of the general sufficiency of DPC's construction activities, the extent of enforcement action to date seems appropriate at Catawba. Civil penalties and orders for construction-related violations often indicate longstanding problems which have remained undetected or which have grown more significant by virtue of inadequate corrective actions. Although the petitioner criticizes Region II for not issuing Notices of Violation for welding deficiencies identified in the SIE, the Commission does not generally issue Notices of Violation in such instances involving lower level violations which the licensee has identified and has corrected or will correct. *See id.* The NRC follows this policy to encourage self-inspection activities such as the SIE and correction of deficiencies identified through such programs.

In sum, Region II's inspection and enforcement activities appear adequate and, thus, do not indicate a failure to come to grips with alleged

safety problems at Catawba.[14] Along these lines, the Licensing Board remarked, "[s]uffice it to say that while we may not agree with everything the Region II personnel did at Catawba, we believe them to be conscientious and men of integrity. On the whole, we think they did a good job." Partial Initial Decision, 19 NRC at 1499 n.19.

V. CONCLUSION

For the reasons stated in this decision, the petitioner has not demonstrated that Duke Power Company's quality assurance and quality control program for the Catawba Nuclear Station has suffered a serious breakdown. From the staff's review, it appears that the program has been adequate to ensure acceptable design and construction of the facility. *See Callaway, supra,* ALAB-740, 18 NRC at 346. In view of these findings, the petitioner has not demonstrated a substantial safety issue that warrants initiation of enforcement proceedings to mandate the extraordinary "independent" reviews requested by the petitioner. *See Consolidated Edison Co. of New York* (Indian Point, Units 1, 2 and 3), CLI-75-8, 2 NRC 173, 176 (1975). Accordingly, the petitioner's request is *denied.*

This decision is made without prejudice to the Licensing Board's Partial Initial Decision and any appeal of that decision. The staff will, of course, follow up the items identified by the Licensing Board as conditions of its authorization of a low-power license and the staff will pursue the resolution of other safety issues that may come to the staff's attention during the course of its inspections and further licensing review of Catawba. The staff will take appropriate action on the results of the Office of Investigations' examination of alleged harassment and intimidation. At this juncture, however, the available evidence — including earlier inquiries by Region II on this issue (*see* Appendix A) and the record in the licensing proceeding — do not suggest a need for the extraordinary remedies that the petitioner requests.[15]

---

[14] Although these questions are subject to inquiry by the NRC's Office of Inspector and Auditor, it does not appear that regional personnel revealed the identity of confidential sources or violated NRC staff policy concerning release of draft inspection reports. *See* Petition at 29-33, 44. While NRC will protect the identity of confidential informants to the extent permitted by law and NRC prohibits release of draft agency reports, the NRC will bring safety information promptly to the attention of licensees to ensure appropriate actions are taken to cure noncompliance and abate any hazard to public health and safety.

[15] *See* "NRC Staff Testimony of P.K. Van Doorn," *supra* note 8; NRC Staff's Proposed Findings of Fact and Conclusions of Law in the Form of a Partial Initial Decision, at 35-147; *see also* Partial Initial Decision, 19 NRC at 1519-20, 1530-32, 1546-48. To correct any misunderstanding on this point, it should be noted that, contrary to the petitioner's impression, 10 C.F.R. Part 19 is not the regulatory

(Continued)

A copy of this decision will be filed with the Secretary of the Commission for the Commission's review in accordance with 10 C.F.R. § 2.206(c). As provided in § 2.206(c), this decision will become the final action of the agency 25 days after issuance, unless the Commission determines to review the decision within that time.

Richard C. DeYoung, Director
Office of Inspection and
Enforcement

Dated at Bethesda, Maryland,
this 6th day of July 1984.

APPENDIX A

NRC INSPECTION AND ENFORCEMENT PROGRAM FOR PLANTS UNDER CONSTRUCTION

General

The purpose of the NRC inspection and enforcement program is to ensure that facilities and materials under NRC jurisdiction are constructed, operated, and used in a manner which protects the public health and safety and the environment, and to take prompt and vigorous enforcement action against licensees who do not comply with NRC requirements.

Implementation of the NRC inspection program is generally conducted under two basic formats: (1) scheduled inspections designed to evaluate the licensee's routine activities, recognizing that the licensee has primary responsibility for protection of the public health and safety; and (2) unscheduled, reactive inspections to assure the adequacy of licensee response to incidents and accidents or to assess licensee compliance with special NRC requirements.

---

basis for NRC actions to prevent harassment and discrimination against workers at nuclear reactor *construction* sites. *See Union Electric Co.* (Callaway Plant, Units 1 and 2), ALAB-527, 9 NRC 126, 136-37 (1979). Currently, such wrongful conduct may be reached under 10 C.F.R. § 50.7 or 10 C.F.R. Part 50, Appendix B, Criterion I. Section 210 of the Energy Reorganization Act provides workers a direct remedy against discrimination for engaging in the "protected activities" defined by the statute.

NRC resident inspectors provide a substantial increase in verification of licensee performance through direct observation and independent measurements. Region-based inspections consist of in-depth, specialized technical inspections and followup activities relative to allegations.

Inspections at Catawba

Region II inspections at Catawba began in February 1973, before the NRC granted the limited work authorizations for both units on May 16, 1974 (construction permits for Catawba Units 1 and 2 were issued on August 7, 1975). Inspections were conducted in accordance with the Commission's inspection program. Inspections covered design, procurement, construction and vendor QA programs.

Subsequent to the issuance of a construction permit, inspection activities are accomplished in accordance with the inspection program applicable to the construction and preoperational phase. The quality assurance and quality control (QA/QC) programs for the DPC Engineering and Construction Departments, and portions of the QA/QC program were inspected during each inspection at the construction site. Ongoing construction inspections included detailed examination and inspection of licensee and contractor safety-related activities and the associated QA/QC procedures, work in progress, and records. The following functional areas have been inspected during the construction and preoperational testing phases at Catawba:

- QA Program
- Design Control
- Procurement
- Receipt inspection, storage and handling of material and equipment
- Site excavation and foundations
- Structures and supports
- Concrete operations
- Containment erection
- Piping systems installation
- Electrical/Instrumentation and control systems installation
- QA/QC documentation and records
- Operational staffing and training
- Comparison of as-built plant to FSAR description
- Preoperational test program, implementation and verification
- Operating, maintenance and emergency procedures
- Fuel receipt and storage
- Fire prevention/protection

- Technical specification review
- Environmental protection
- Emergency plan
- Radiation protection
- Radioactive waste systems

NRC Enforcement Program

Enforcement is jointly carried out by IE Headquarters and the Regions (a) to ensure compliance with NRC regulations and license conditions; (b) to obtain prompt correction of noncompliance; (c) to deter further noncompliance; and (d) to encourage improvement of licensee performance. The enforcement program employs a series of sanctions that escalate according to the seriousness of the noncompliance and the past history of licensee performance. Sanctions available to the NRC include notices of violation, civil monetary penalties, orders to cease and desist, and orders to suspend, modify or revoke construction permits or licenses.

NRC Construction Permit Nos. CPPR-116 and CPPR-117 were issued on August 7, 1975, for the Catawba facility. Since that time, NRC enforcement actions have been taken in accordance with the NRC enforcement policy in effect at the time. Between August 1975 and October 1980, the effective policy was the one issued on December 31, 1974 and implemented through the Office of Inspection and Enforcement Manual Chapter 0800 (Enforcement Actions). Between October 1980 and March 1982, a revised Interim Enforcement Policy was in effect. 45 Fed. Reg. 66,754 (1980). Since March 1982, the General Policy and Procedure for NRC Enforcement Actions (10 C.F.R. Part 2, Appendix C) has been in effect. Revisions to this policy were issued on March 2, 1984. 49 Fed. Reg. 8583 (1984). Review of the enforcement history of Catawba reveals that through April 1984, 108 violations were identified at Unit 1 and 76 violations were identified at Unit 2. Sixty-seven violations, already included above, were common to both units. The majority of these violations were of minor significance and, in all cases, the licensee addressed the violation with corrective actions acceptable to the NRC.

Specialized Inspections at Catawba

In addition to routine NRC inspections, NRC has conducted special inspections at Catawba where particular emphasis was placed on interviewing QA/QC, craft, engineering, support, and management personnel

to determine the extent of cooperation between work groups; management support, supervisory and technical assistance to the craft and QA/QC; and whether pressures, harassment, or intimidation were present that could be detrimental to quality work.

The first of these special inspections was conducted in 1979, in response to a suggestion by the General Accounting Office. This special inspection was conducted as part of a plan to conduct one special inspection at one construction site in each of the five NRC Regions. The purpose of these inspections was to privately interview craftsmen and craft foremen involved in safety-related work to determine if they were aware of any nuclear safety-related problems at the site that should be brought to the attention of the NRC. Confidentiality of the participants was maintained by several methods. Interviewees were randomly selected, and the interviews were held where they could not be overheard. A minimum of three persons was chosen from each craft and each interviewed separately. None of the information received was identified with any person interviewed. Management was informed that no discriminatory or personnel action was to be taken against those interviewed should management become aware of an individual's identity.

This inspection[1] was performed at Catawba on November 13-16, 1979. The two primary reasons for the choice of Catawba were that the site was in the mid-construction phase at that time, and DPC was its own architect/engineer and constructor. Questions asked of the interviewees included:

- "Do you have any outstanding concerns about the quality of construction?"
- "Are you aware of any instances where construction did not meet prescribed specifications, codes, standards, or other requirements, and corrective actions were not taken?"
- "Are you aware of any day-to-day problems or irregularities affecting quality that you believe the NRC should know about?"

Twenty-eight persons were selected for interviews. After DPC management announced the purpose of the inspection to the work force, an additional twenty-nine persons expressed interest and were interviewed also. No specific allegations of wrong-doing were received from the interviewees.[2]

---

[1] Reported in Inspection Report No. 50-413, -414/79-21.

[2] The following characterizes the type of findings which received followup inspection efforts by the NRC staff.

Several persons said that concrete placement was rushed, objects such as soft drink cans and pieces of wood were left in the forms, and vibration was not good. All of them stated that problems found were

(Continued)

None of those interviewed expressed negative opinions about DPC's intent or ability to build a safe plant. Most said they felt free to express opinions to foremen and some said they felt sure management would listen to them.

Another special inspection[3] was conducted about 2 years later on January 26–February 6, 1981. This special inspection was one of a series conducted by the Regions to test inspection methods and procedures which eventually resulted in the NRC Construction Assessment Team (CAT) inspection program. The inspection involved 45 man-days of direct inspection activity at the site. During this inspection at Catawba, in addition to DPC management, the NRC inspectors held discussions with twenty-five engineers, construction supervisors, and foremen; forty-seven construction craftsmen; thirty-eight technicians (QC); and sixteen office personnel.

Objectives of the inspection were:

- An evaluation of implementation of the DPC/QA program for control of construction activities.
- An evaluation of methods used by management to ensure that a quality product is produced, and an evaluation of the degree of management and supervisory staff participation in the handling of site problems.
- An evaluation of the competence of craftsmen and QC inspectors and their perception of the DPC commitment to quality; availability of technical assistance; relationship between work groups; accessibility of management; freedom to express opinions; and protection from harassment.

Inspections were performed in the areas listed below both at the Catawba site and at DPC corporate offices. The objectives identified above were pursued in each of the following areas:

- Site QA program implementation
- Site project management and control
- Site procurement, receiving, and storage
- Electrical equipment and installation
- Instrumentation and control

---

always corrected thoroughly. NRC inspectors looked at one void identified by an interviewee and agreed there was more voiding than normal. All void areas examined during the inspection were marked by QC, cleaned, and repaired. This matter was discussed with site management and was subsequently reinspected by NRC. Report No. 50-413, -414/79-21.

One employee questioned vendor torqueing (and other) procedures and wanted to know more about requirements. He was recontacted the week of November 19, 1979. Several persons were concerned about the attitude of personnel safety inspections. This information was passed on to DPC project management in a general way which protected the identity of the individual.

[3] Reported in Inspection Report 50-413, -414/81-02.

- Pipe support and restraint system
- Mechanical equipment
- Nonconforming item report evaluation
- 10 C.F.R. § 50.55(e) and 10 C.F.R. Part 21 reporting

Five violations of regulatory requirements were identified. *See* NRC Inspection Report 50-413/81-02. These violations were primarily related to procedural problems and were not significant.

The inspection findings and conclusions resulted in a complete review by DPC of their handling of approximately 10,000 nonconforming item reports (NCI) with respect to description of the problem, evaluation, corrective actions, generic issues, reportability, and programmatic improvement. Subsequent to this special inspection and special NCI review by DPC, the NRC Resident Inspector has received all NCIs.

The Resident Inspector has reviewed all NCIs generated during the 2 years subsequent to this special inspection. The review of the NCIs was to ensure proper description of the problem, appropriate evaluation, and adequate corrective actions by DPC. The Resident also reviewed the NCIs for generic concerns, verification of corrective actions, and appropriate programmatic changes to minimize future occurrences. The Resident has identified several minor violations during the first year of his reviews. Since DPC instituted an NCI review task group in September 1982, no violations have been identified.

Generally, the NRC inspection findings at Catawba reflect that the QA program is working; site management is informed and involved; and technical assistance is readily available in problem areas. The inspectors believe that there is good cooperation between work groups; that management and supervision are available to employees at a low threshold; and that it is unlikely that harassment detrimental to quality has developed under the conditions observed.

Inspections Related to Allegations

Procedures are in place in the NRC Regional offices to process allegations, complaints, or other concerns which come to the attention of the staff. This function is centrally coordinated and controlled within each Regional office. Allegations are evaluated by appropriate technical staff including any necessary site inspection activities. Where appropriate, allegations are referred to the NRC's Office of Investigations. Allegations pertaining to licensed activities have been received by telephone, letter, news media reports, and direct contact. NRC employees who receive allegations are aware that it is essential to protect the identity of allegers.

The NRC draws a distinction between providing information about safety problems, which require prompt resolution to assure public health and safety, and the source of that information. Safety problems will be brought to the attention of the proper licensee organization which can correct those problems and, as such, the disclosure of this information does not constitute a breach of confidentiality. NRC procedures are designed to protect the identities of information sources rather than the information itself.

Inspections Resources Expended at Catawba

Inspections performed at the Catawba site April 30, 1984 are documented in 475 NRC inspection reports (Unit 1-257, Unit 2-218). These reports document approximately 17,683 hours of direct inspection by forty-nine inspectors.

APPENDIX B

ASSURANCE THAT THE AS-BUILT CONDITION OF THE PLANT REFLECTS THE FINAL VERSION OF AN ACCEPTABLE DESIGN

Petitioner's Allegation

The petitioner alleges that there is a lack of design control at the Catawba site, that design documentation does not reflect the plant as designed, and that it is unclear whether that documentation reflects the as-built condition of the plant. The petitioner further contends that the findings and observations of the Self-Initiated Evaluation (SIE), and DPC's lack of appropriate response to the recommendations which emerged from the SIE, form the best argument in support of the petitioner's request for an independent design and construction verification program. The petitioner alleges that the system of Variation Notices used for controlling variations between the specific design of a system or structure and its actual construction in the field does not comply with 10 C.F.R. Part 50, Appendix B, Criterion III.

Utility Self-Initiated Evaluation (SIE)

General

The petitioner cites recommendations and findings from the SIE as the major basis to support its assertion regarding a lack of design control at the Catawba site. Petition at 6-8.

By way of background, the SIE methodology was specifically developed by the Institute of Nuclear Power Operations (INPO) for nuclear power plants under construction. The SIE evaluations are performed and managed by licensees. The evaluations are designed to examine and evaluate site construction activities in order to make an overall determination of plant safety, to evaluate management systems and controls, and to identify areas needing improvement. As a basis for the evaluation, the programs used performance objectives and criteria relative to each of the areas examined. These are applied and evaluated in light of the experience of the team members, members' observations, and industry practices. The expressed goal of the SIEs was to assist the affected utilities in achieving the highest standards of excellence. The recommendations in each area are based on best practices, rather than minimum acceptable standards or regulatory requirements. Accordingly, areas where improvements are recommended are not necessarily indicative of unsatisfactory performance. The SIE program was carried out during 1982 at all nuclear power plants under construction. The Office of Inspection and Enforcement issued special instructions to ensure an orderly and thorough review process by the regional and headquarters' staffs.[1]

Catawba SIE

The Catawba SIE was conducted from September 27 through October 14, 1982. Personnel conducting the Catawba evaluation were employed by Duke Power Company and the Tennessee Valley Authority. The team leader for the SIE was a representative from INPO. The SIE team members were selected on the basis of their experience in design, construction, and quality assurance. TVA personnel assumed lead responsibilities for the review and evaluation of DPC activities. The team members from DPC had limited direct responsibilities for ongoing construction and design activities at the Catawba site. The areas to which they were assigned to review were those for which they had no direct involvement in ongoing activities. To prepare the team members for the

---

[1] Temporary Instruction 2510/10 "Review and Followup of Utility Self-Evaluation (Using INPO Criteria) at Nuclear Facilities Under Construction" (April 21, 1983).

evaluation, INPO trained key team members in the methodology of the SIE review. These key members then trained the other team members. The evaluation consisted of field observations, interviews, and review of supporting documentation. The licensee submitted the final SIE report to INPO for review and evaluation; the NRC has complete access to the SIE findings.

NRC was kept informed of the outcome of the evaluation performed at Catawba. The NRC Resident Inspector was fully aware of the SIE activities and was briefed regarding the results.[2] A Region II-based inspector was also briefed on the SIE findings during a design engineering inspection on January 24-28, 1983.[3] On March 1, 1983, DPC briefed Region II management relative to the findings and recommendations of the Catawba SIE. On March 11, 1983, INPO briefed the Commission on the results of the SIEs conducted at various plants.

A Region II team, composed of the resident inspector and experienced management personnel, was established to perform the onsite review of the SIE at Catawba. Region II Inspection Report Nos. 50-413/83-20 and 50-414/83-18, dated August 16, 1983, addressed the first special inspection of the Catawba SIE. The review team, following a comprehensive examination of the licensee's status report on corrective action in comparison with the SIE report, obtained further clarification and confirmation from DPC of the status of numerous selected items. In particular, the team stressed to licensee personnel the necessity for timeliness in completing the corrective actions, QA monitoring, and management review of the effectiveness of actions that were implemented. A number of specific items were identified to the licensee for followup by the review team.[4] NRC Region II review team inspection followup activities have been completed. The team findings do not identify any systematic breakdown in the QA program at Catawba nor do the findings point to any practice which would have led to poor quality of construction or unsafe operation of the plant.

The Region II review team concluded that proposed actions and schedules were appropriate for the nature and safety significance of the issues and that the SIE findings were evaluated appropriately for reportability in accordance with 10 C.F.R. § 50.55(e) and Part 21. Several items

---

[2] *See* Inspection Report Nos. 50-413/82-30 and 50-414/82-28.

[3] *See* Inspection Report No. 50-413, -414/83-02.

[4] *See* NRC Inspection Report Nos. 50-413/83-20 and 50-414/83-18. These items from the SIE report for Catawba were selected for followup action by Region II: DC.1-1, DC.1-3, DC.1-5, DC.4-2, CC.1-1, CC.3-1, CC.3-5, DD.3-6, CC.4-1, CC.5-1, CC.5-3, CC.7-1, QP.4-1, TC.1-2, TC.2-3, and TN.1-1.

Subsequent Region II reports that address followup of specific SIE-identified design and construction items are 50-413/83-19, 83-35, 83-37, 84-23 and 50-414/83-17, 83-30, 83-32 and 84-14.

in the design control area, that were identified in the petition as problem areas, were among those identified for inspector followup.

Review of Specific Petition Concerns

The petitioner relies on a number of recommendations and findings from the SIE report pertaining to design in support of the petition. *See* Petition at 6-8. These findings concerned primarily such issues as tracking PSAR commitments, defining responsibilities for providing design input, control of design information, maintenance and use of current, accurate system descriptions and diagrams, and correct application of seismic response spectra. DPC's evaluations and corrective actions applicable to the SIE recommendations and findings are contained in the SIE report, which is attached both to the petition and the DPC Response to the petition. The DPC Response (at 5-18) also contains a summary of DPC's position and actions regarding the SIE findings cited by the petitioner.

As noted above, Region II reviewed the SIE recommendations and findings, including those specifically referenced in the petition. In sum, the staff's review confirms the initial inspection findings that the SIE-recommended improvements would enhance the licensee's QA program but were not indicative of any failure to meet NRC requirements. The following information was established during NRC inspections of the SIE and highlights the staff's views on the items identified by the petitioner in support of its request.

With respect to tracking PSAR commitments (SIE finding DC.1-1), DPC had been informally tracking SAR commitments prior to the SIE. DPC has since developed and formalized a program for tracking all PSAR/FSAR and other regulatory commitments. A sampling of quarterly SAR commitment listings issued by the licensee's design division licensing staff was inspected and confirmed the informal tracking of SAR commitments. A computerized listing of all regulatory commitments has been developed. In the staff's view, there is reasonable assurance that licensee commitments have been and are being complied with. The NRC agrees that formalization of a tracking system for DPC Design Division commitments would enhance the DPC QA program for design control.

The petitioner also cited SIE findings (DC.1-2 and DC.1-3) related to responsibilities for control of design information. During inspections in 1983 related to the Design Engineering Department staff performance, Design Engineering Department personnel were found to be knowledgable regarding their responsibilities for providing input information

to other Design Division departments. Similarly, they were also aware of the appropriate source of input information needed for their respective tasks. DPC Design Engineering Department document "Responsibility Statements" defines organizational responsibilities including design input responsibilities. The Design Engineering Manual contains design input and interface responsibilities. The Design Engineering Department QA Manual contains procedures for controlling design information and transmittal of data. These procedures have been further enhanced, subsequent to the SIE, to further strengthen the controls.

A number of the SIE findings (e.g., DC.1-4, DC.2-1, DC.3-3, DC.4-3, DC.5-1) concern the currency of system descriptions. An inspection of design calculations and design documents in 1983 did not identify the use of out-of-date system description information. During the inspection, it was determined that the licensee had verified the accuracy of thirty-two system descriptions and was in the process of verifying the remaining eight. To ensure that design calculations are not based on system descriptions, the licensee is instructing all mechanical system description holders not to use it as a design basis. In addition, the licensee surveyed various Design Division organizations to ascertain that out-of-date system descriptions were not used as a primary design document. The staff concludes that there is reasonable assurance that out-of-date system descriptions were not used as primary design documents.

With respect to proper application of seismic response spectra (SIE finding D.1-5), NRC inspections included verification of correct application of seismic response spectra.[5] In addition, the licensee's activities regarding SIE corrective action in the seismic design area were inspected and results documented. DPC originally had several procedures for various applications of the seismic response spectra. Subsequent to the SIE, the licensee compiled all the spectra and all the procedures into one design specification. An inspection of the licensee's Catawba structural design specification and specification for the response spectra and seismic displacement for Category I structures confirmed the compilation of various existing design information and documents into a comprehensive specification. It should be noted that this compiled specification was issued concurrent with the end of the SIE onsite efforts which indicates that the revision to the specification had been initiated independent of the SIE findings. It is the staff's view that the licensee previously had reasonably acceptable documented procedures and has further enhanced its program by compiling them into one design specification. Verification

[5] Inspection Reports, 50-413/83-02, 83-22, 83-35 and 83-51.

of the correct use of the seismic response spectra is required by the independent design document verification requirements of the DPC Design Department QA Manual. Further verification is provided by the supervisor during the design approval process.

Summary of NRC Findings Regarding SIE

Region II inspections of DPC design activities provide reasonable assurance that Catawba's design meets the applicable regulatory requirements. Where violations have been identified by NRC Region II or the licensee, NRC inspections have provided assurance of corrective action. The SIE findings related to the Design Engineering Department resulted in enhancement of several DPC Design Engineering Department procedures and programs. The SIE did not identify any violations or deviations from regulatory requirements. The licensee's Design Division management, including the Vice President for Engineering, has exhibited an understanding of the SIE items and has been involved in the enhancement programs. The DPC Vice President for Engineering has monitored the progress on these continuing actions.

The NRC inspection of the licensee's design activities is a continuing effort. NRC audits of DPC's design activities will be conducted, as it has in the past, on a periodic basis in accordance with the NRC inspection procedures. The adequacy of selected aspects of the Catawba design will be further verified during preoperational testing. The Catawba preoperational test program is being monitored by the NRC. Lastly, certain other specific inspections of design-related activities, such as those for IE Bulletins 79-02 and 79-14, are continuing. Appropriate completion of these Bulletin commitments is required prior to fuel load. Based on the above reviews, inspections and evaluations, the NRC staff concludes that the findings from the SIE, relied on by the petitioner, do not justify the actions requested.

Variation Notices

The petitioner alleges that Variation Notices (VNs) have been improperly used from the beginning of construction as the method of controlling field variations from Design Engineering drawings and specifications. The petitioner further alleges that no meaningful QA/QC review of design changes evidently occurred until May 1, 1974, when the Project Senior Quality Assurance Engineer became responsible for approving the QA aspects of variation notices; that design control procedures remained inadequate throughout the decade; and that Variation

Notices did not comply with 10 C.F.R. Part 50, Appendix B for design changes.

By way of background, various utilities, architect/engineers, and construction organizations throughout the nuclear industry utilize a "Field Change Request" type of document as one of the methods to assure that field variations are approved by the proper organizational element and that the approved changes appear as revisions to the design drawings, specifications, and appropriate other documentation. NRC experience shows that there is no uniform organizational and functional alignment throughout the industry that accomplishes this field change review, approval, and document change control process. Design changes must be controlled as required by Criterion III of 10 C.F.R. Part 50, Appendix B. Many types of documents, by name or function, company organization or contractual arrangements, are utilized to accomplish the required control of design changes. The NRC monitors the process frequently to ensure an adequate understanding of the process and its effectiveness.

NRC Review of DPC Variation Notice System

At DPC one form of a "Field Change Request" is called a "Variation Notice" (VN). DPC Construction Department QA Procedure R-3, "Design Drawing and Specification Variation," establishes the method for ensuring that field variations are evaluated and approved or reworked and that they appear as revisions to the design drawing, specification, or other documentation. Form R-3A, "Variation Notice," is the form that is used to document the problem, control distribution, document the action to be taken, document completed action inspection, and assure engineering document update. The Project Manager, or his designee, is responsible for approving the technical portion of the VN for field use and assuring that the use of the VN requirements in the approval chain include reaching agreement with appropriate Design Engineering Department personnel and identifying the name of the design engineer giving this approval on the VN form.

The petitioner's apparent objection (Petition at 11) that "all the paperwork from engineering to QA could be done in the convenience of office . . ." fails to recognize that "in the office" is where the specifications, drawings, and records of design criteria, design changes and, possibly other VNs are available to the "design engineering contact" and the "responsible construction engineer" (terms used in the VN). The DPC Construction Engineer is responsible for initiation of VNs involving problems under his or her purview. The Construction

Department is responsible for distribution and logging of VNs. The Design Engineering Department is responsible for assuring that all design changes meet design requirements and for properly making all required revisions to specifications, drawings, or calculations.

DPC Construction QA Procedure Q-1 "Control of Nonconforming Items," referenced in Procedure R-3, establishes the method to report work which has been completed and is in violation of the approved design drawing or specification effective at the time. Previously completed work which varies in some respect from later revisions to design drawings or specifications may be reported on a VN in accordance with Procedure R-3. The DPC procedure clearly distinguishes a VN from a Nonconformance Item Report (NCI). The licensee procedures in this area have been reviewed routinely during NRC inspections and found generally acceptable.

NRC inspections[6] have confirmed that VNs have been controlled within the design control system by DPC. Prior to establishing the office of the Corporate QA Manager on February 1, 1974, DPC had QA managers within the Mechanical-Nuclear Division, the Civil-Environmental Division, the Electrical Division, Purchasing Department, Steam Production Department, Construction Department, and QA Division. The QA review of design changes was conducted within the appropriate design divisions and audited by the QA department. The overall QA program and QA organization for design and procurement have been regularly monitored and inspected by NRC for the Catawba project since 1973. The implementation and control of VNs, with respect to drawings and specifications, have not been found to be a significant problem during NRC inspections.

The change from having the "Project Engineer" (or others) responsible for controlling VNs (or several other functions), as stated in Revision 7 to Procedure R-3 (April 21, 1975), to the "Project Manager or his designee in writing" as stated in Revision 9 (September 17, 1976) was acceptable to NRC based on the designee being responsible and qualified. A review of revisions to Procedure R-3 and the frequency of revisions indicates that the project was responsive to a need for maintaining quality control and did not restrict the Project Engineer.

Copies of VNs have been sent to Design Engineering Department or the Vice President, Engineering, per ¶ 4.4 of each issue of R-3 refer-

---

[6] The following NRC Inspection Reports, for Catawba only, reflect Region II review of design, NCI and Variation Notice control procedures and implementation: 50-413 and/or 50-414, Report Nos. 73-01, 76-5, 78-4, 78-12, 80-09, 81-10, 80-12, 80-14, 80-25, 81-01, 81-02, 81-03; 81-06, 81-11, 81-14, 81-15, 81-17, 81-22, 81-25, 81-28, 82-03, 82-06, 82-07, 82-09, 82-10, 82-12, 82-13, 82-24, 82-25, 82-26, 82-27, 82-29, 82-31, 83-02, 83-04, 83-17, 83-18, 83-19, 83-20, 83-22, 83-24, 83-30, 83-32, 83-35, 83-37.

enced in the petition (Revisions 5, 7, 8, 9, 13, 17). The NRC staff has no objection to DPC assigning the responsibility to the Design Engineering Department to evaluate problems for reportability as required by 10 C.F.R. Part 21 and § 50.55(e) or performing trend analysis of VNs. The deletion of the requirement for reportability review by the DPC Construction Department by Revision 17 of Procedure R-3 is acceptable to the staff because R-3 is a Construction Department QA Program procedure and is not applicable to the Design Engineering Department. Design Engineering Department Procedure PR-290 and QA Procedure QA-121 control the items to be reviewed for reportability to NRC. Thus, the petitioner's contention that DPC procedures did not adequately cover reportable items is not well taken.

The NRC is continuing to review the effectiveness of the DPC implementation of their procedural controls over VNs, NCIs, review and reportability of 10 C.F.R. Part 21 and § 50.55(e) items, QA approval of VNs, and design control activities. During the ongoing review of these items since 1973, the NRC has concluded that adequate measures have been established and implemented to control these aspects of their program.[7]

Staff Conclusions

Based on the results of the implementation of the NRC inspection program, the staff concludes that the design control system at Catawba is an acceptable system, and the Variation Notice system meets regulatory requirements and has not been abused. Applicable findings of the SIE were appropriately handled by DPC management. The SIE findings were properly reviewed for reportability to the NRC. The SIE findings and the results of the NRC inspection program do not indicate that there has been a design control or QA breakdown at Catawba.

---

[7] *Id.*

APPENDIX C

CHRONOLOGY OF SIGNIFICANT EVENTS
Quality Assurance (QA) and Quality Control (QC) Organization Development for Catawba Nuclear Power Plant

The following is a chronology of significant events regarding NRC's review of the Quality Assurance and Quality Control Organizations of the Duke Power Company.

Chronology of Events

February 1973	The initial NRC pre-construction QA inspection for Catawba resulted in a finding that the Construction Department QA manager is not sufficiently independent of construction costs and schedules as required by 10 C.F.R. Part 50, Appendix B, Criterion 1.[1]
May 29, 1973	NRC meeting with Duke Power Company (DPC) to discuss the DPC QA program which shows QA personnel reporting administratively to a line organization and functionally to the QA organization. It was also noted at this time that the Senior VP of Engineering and Construction was the acting Corporate QA Manager.
July 1973	NRC completed evaluation of the DPC QA program for Catawba. NRC received a commitment by DPC to fill the position of Corporate QA manager no later than July 1974. With this commitment, the NRC found the DPC QA program acceptable.
October 12, 1973	The Safety Evaluation Report was issued by NRC. Section 17 discusses DPC's QA program and its organization to meet the program objectives. It recognizes the combination of Senior VP of Engineering and Construction and the Corporate QA Manager into one position. It discusses

[1] Inspection Report No. 50-413, -414/73-1.

the distinction between the administrative and functional reporting relationships of DPC's QA managers. Pertinent conclusions are that:

(1) "The DPC organizational structure . . . complies with the requirements of Criterion I of Appendix B to 10 C.F.R. 50 and is acceptable." (Page 17-13)

(2) "A QA staff has been provided with adequate authority and guidance for the implementation of the DPC QA program." (Page 17-13)

Additionally, the Safety Evaluation Report discusses DPC's QC organization and states: "In the area of construction, we have reviewed the independence, responsibilities, authorities, and specific duties of the QC inspectors in the electrical, mechanical, welding, and civil disciplines. Figure 17.6 shows additional details of the Construction Department QC organization. DPC has stated that these inspectors perform objective acceptance inspections and are full-time inspectors who are independent from the construction and production craftsmen and foremen. DPC states that these inspectors have clear stop-work authority and the responsibility to refer problems to their supervision." (Pages 17-10, 17-12)

The NRC staff concluded that DPC's organizational structure was acceptable. The NRC inspection program monitors and verifies that these commitments have been implemented.

February 1, 1974 — The roles of Senior Vice President of Engineering and Construction and Corporate QA Manager separated with the Corporate QA Manager reporting to the Senior VP of Engineering and Construction.

April 2, 1974 — DPC reported restructuring of its QA organization planned for May 1974, with the QA organization reporting directly to the Corporate QA Manager.

October 1, 1974

DPC Topical Report *DUKE-1* on QA reflects the QA organization established on April 2, 1974, with the QA organization reporting to the Corporate QA Manager and the Corporate QA Manager reporting to the Senior VP of Engineering and Construction.

That DPC Topical Report on QA indicates that the QA organization reviews and approves QC inspection procedures and records. The pertinent organization chart shows the site QC staff reporting directly to a Senior QC Engineer who is shown with a "functional" reporting relationship to the Project Senior QA Engineer within the DPC QA organization.

February 14, 1975

DPC Topical Report on QA adds the commitment that QC inspector certification procedures and certifications are approved by QA.

April 17, 1975

NRC affirms acceptability of DPC Topical Report on QA — Amendment 2 dated February 14, 1975 — which continues to show the QA organization reporting to the Corporate QA Manager who continues to report to the Senior VP of Engineering and Construction.

August 7, 1975

Construction Permits issued for the Catawba facility.

With respect to DPC's QA Program, the Atomic Safety and Licensing Board states:

> After a careful consideration of the written and oral testimony and the replies to the Board's own questions in this record, the Board finds that the QA program of the Applicant meets the requirements established by the Commission and that the full record shows that the Applicant is technically qualified to design and construct the Catawba facility.

Duke Power Co. (Catawba Nuclear Station, Units 1 and 2), LBP-75-34, 1 NRC 626, 650 (1975).

February 9, 1981

DPC informed the NRC that the site QC staff was being brought into the QA organization for both functional and administrative controls.

July 14, 1981	NRC staff, by letter of July 14, 1981, reports acceptability of having DPC construction QC included in the DPC QA organization.
February 3, 1983	NRC, in a letter responding to DPC's Amendment 6 to the QA Topical Report, continues to affirm acceptability of DPC organization which continues to show QA organization reporting to the Corporate QA Manager who continues to report to the Senior VP of Engineering and Construction.

APPENDIX D

EVALUATION OF CONTROLS TO PROCESS AND RESPOND TO NONCONFORMING CONDITIONS

Background

This Appendix discusses the staff's review of the Duke Power Company's (DPC) management control systems used at the Catawba site to identify and control deficiencies detected during the construction process. Before proceeding, it is important to understand the distinction drawn by the NRC between "deficiencies" and "significant deficiencies." Appendix B to 10 C.F.R. Part 50 does not require the same level of consideration for all deficiencies that are identified by a licensee. Criterion XVI of Appendix B requires the determination and documentation of the cause, corrective action, and management attention given to those deficiencies only in the case where there are significant conditions adverse to quality. Criterion XVI requires that other conditions adverse to quality [note the omission of the term "significant"] are promptly identified and corrected.

Also, because the petition raises issues specifically related to nonconforming items, and to better understand NRC actions with respect to the measures established to control and respond to nonconforming conditions, the American National Standards Institute (ANSI) Standard N45.2.10 definition of a "Nonconformance" should be understood. The ANSI definition describes a nonconformance as a deficiency in characteristic, documentation, or procedure which renders the quality of an item unacceptable or indeterminate. This does not mean that all identified problems are nonconformances or reportable to NRC. If the identified

problem is of such a nature that it is judged to be correctable through the use of the licensee's established QA program for corrective measures to bring the item back into specification, the item is not considered unacceptable or indeterminate. Under these circumstances, minor problems may be documented and corrected via an alternative mechanism as opposed to declaring the item nonconforming. NRC has accepted this definition and approach to problem resolution. *See* Regulatory Guide 1.74, "Quality Assurance Terms and Definitions."

Typically, licensees constructing nuclear power plants establish several management control and record systems to report, monitor, and achieve correction of conditions adverse to quality, including significant conditions. These control systems usually are multiple-level systems and can originate in several construction-related organizations depending on the origin, nature and significance of the identified problem. In many cases, licensees use terms such as "Nonconformance Report" or "Nonconforming Item Report" to describe that system which is used to manage the identification and correction of significant conditions adverse to quality.

QA Procedure Q-1, "Control of Nonconforming Items (NCI)," establishes the DPC mechanism for documenting, controlling, evaluating, correcting and inspecting identified NCIs. NCI reports are a part of the QA record files. The site records vault is under the management and control of the QA Department. Procedure Q-1 is one of approximately 166 QA procedures that implement the DPC QA program described in the DPC Topical QA Report, *DUKE-1*. The Construction Department has ninety-one QA procedures, the Design Engineering Department has thirty-two QA procedures, and the QA Department has forty-three QA procedures. Procedures similar to Q-1 are also used to document deficiencies for specific work areas and related corrective action programs for construction, design, and QA work. The NCI system is one of the mechanisms that has been used by DPC to document field-initiated design changes since before the Catawba construction permits were issued in August 1975.

For deficiencies that qualify as significant conditions adverse to quality, Criterion XVI of Appendix B requires that they be documented, a review be performed to determine the cause of the condition, corrective action be taken which prevents recurrence and that the issue be reported to appropriate levels of management. Catawba's Procedure Q-1 (Form Q-1A or NCI) was specifically developed to deal with this type of significant deficiency.

As noted previously, 10 C.F.R. Part 50, Appendix B, Criterion XVI requires that conditions adverse to quality be promptly identified and

corrected. Catawba's Procedure R-2 was written to meet the above requirement. Form R-2A (Inspection Discrepancy Report) from Procedure R-2 is utilized at Catawba to document the identification and correction of minor deficiencies which are readily correctable, require no additional engineering design evaluation, and are found by the QC inspectors as a result of preplanned inspections.

The licensee through its QA program conducts planned and documented audits of all aspects of the Catawba QA program, including the several deficiencies control systems, to verify compliance with its program.

NRC Review of DPC's Deficiency Control Systems

Forms R-2A and Q-1A are only two of the mechanisms utilized by Catawba to report deficiencies. When implemented properly, these mechanisms meet NRC requirements. The fact that the petitioner contends that the R-2A system is inferior to the NCI system has little, if any, bearing on the acceptability of Catawba's corrective action program. The R-2A system meets the requirements of Criterion XVI and the staff is satisfied that the Appendix B requirements are being met.

NRC inspections at Catawba began[1] with a review of the QA programs for Design, Construction, and QA. Activities related to design control, design changes, QA organization and independence, QA manuals and procedures, quality of construction, vendors, document control, records, audits, corrective action systems, and other 10 C.F.R. Part 50, Appendix B criteria have been routinely inspected since 1973. The DPC QA Topical Report, *DUKE-1,* was reviewed and approved by NRC as applicable to Catawba Project prior to issuance of the construction permit. This has been discussed in detail elsewhere in this response.[2] NRC has also reviewed and accepted six revisions to *DUKE-1* over the years it has been in use.

The NCI system and the NCIs related to defects in specific components and systems have been routinely examined as part of the NRC inspections implemented during the construction phase. The licensee has upgraded Procedure Q-1 at least fourteen times as of November 1, 1983. Each revision has been reviewed by the NRC, and the control and evaluation of NCIs by DPC have been observed to improve in some respect due to the revision of Q-1. DPC has made improvements to the NCI

---

[1] *See* NRC Inspection Report No. 50-413, -414/73-1.

[2] *See* Appendix C, *supra.*

system based on findings by the NRC, by DPC's own QA audit program, and by the Self-Initiated Evaluation (SIE).

In addition to determining whether the licensee's procedures are adequate, NRC inspectors routinely review nonconformance or deficiency reports to determine whether the subject records are complete, legible, retrievable, and properly closed out. In conjunction with the routine inspection program, a special regional Construction Assessment Team inspection was conducted at the Catawba facility on January 26–February 6, 1981. This inspection is described in detail in Appendix A to this decision. The purpose and findings of this special inspection are also applicable to the concerns being addressed here.

NRC inspectors are sensitive to licensee activities to ensure that QA functions are kept separate from line responsibilities of the Construction Department. These inspections indicate that the Construction Department at Catawba generally performs the function of correcting the deficiencies in the field. The Design Department evaluates and approves the corrective action when corrective actions go beyond Construction's authority and capability. The DPC QA organization approves the adequacy of the description of the deficiencies, the corrective action program, and the implementation of the corrective program, including the DPC reinspection program. Trend analysis is performed by Construction, Design, and QA, each to meet its own responsibilities. The logging of NCIs and maintaining the status of Construction NCIs is a function of the Construction Department. QA audits Construction's work, deficiency corrective actions, documentation, and trending.

QA/QC verifies the corrective action taken by Construction. Verification by the QA inspector usually involves a hardware inspection. NRC inspectors have verified the adequacy of the files of completed and incomplete NCIs and inspected to assure that the NCI system has been adequately maintained. These inspections indicate that the review and approval role of QA over the NCI system has been maintained.

Staff Review of Petitioner's Concerns Relative to NCIs

The petitioner's view that QA violations were identified on "more informal substitute forms such as R-2As, M-4s, M-51s, VNs, and frequently mere interoffice memoranda . . ." is unfounded and inaccurate. The staff has found that the use of each of these forms (R-2As, M-4s, M-51s, VNs) is controlled by a DPC procedure and the necessary corrective actions are documented through a controlled system. NRC review indicates that it is a practice at Catawba for interoffice memoranda, prepared by responsible engineers, to be attached to the above forms to

supply or refer to supplementary information. The above forms are not viewed as "informal substitute forms," since they are part of the management system to correct deficiencies. As stated above, the DPC system meets Appendix B criteria.

The petitioner believes that use of NCI trending lists (probably a reference to status printouts) for "CONST [Construction] Engineers to expedite the completion of their responsibilities for resolving the nonconformance," provides a "chilling insight" into construction practices at Catawba. Based on NRC staff inspection findings, use of such lists has not been found to be detrimental to the adequacy of the corrective action work, the inspection of the work, or the documentation of the NCIs.

The specific concerns identified on page 22 of the petition regarding various heat numbers on pipe material and the apparent misunderstanding, or lack of communication, between the inspector and management have been reviewed by NRC inspectors. The NRC staff has reviewed the relevant QA records at Catawba and has found that the material was correct for the application. It should be noted that the pipe involved was a non-ASME Code piping system, and thus did not require heat number traceability. This matter was properly documented and corrected by DPC and the QC inspectors retrained. It was found to be an unfortunate circumstance that the two parties involved did not have a common understanding of the problem and resolution. This lack of common understanding resulted in further discussions that led to the comment "that the resolutions on NCIs were no concern of mine." The NRC staff has determined that the problem with heat numbers on the pipe was evaluated and resolved appropriately and there was no effect on the plant hardware. *See* NRC Inspection Report Nos. 50-413/82-21, 82-32, 82-33, and 50-414/82-19, 82-30, 82-31.

The petitioner suggests, erroneously, that Revision 17 of Procedure Q-1 contains "the first requirement for a 10 C.F.R. Part 50, Appendix B, Criteria [*sic*] XVI evaluation of each NCI." *See* Petition at 22. The requirement to document nonconformances under Criterion XVI, so that they are properly identified, evaluated and corrected, and receive review for significance for 10 C.F.R. § 50.55(e) reportability, has been in the DPC QA program procedures for Design and QA since 1974. This requirement and its implementation have been verified by NRC on a regular basis. The Catawba site QA engineer is trained to review NCIs and route potentially reportable items to Design if the NCI was not routinely marked to be routed to Design. Also, an NRC inspector has verified that procedures appropriate for 10 C.F.R. Part 21 reporting requirements were in the QA manuals for the Design Engineering Department, the

Construction Department, and the QA Department and that appropriate training of the DPC staff was to be conducted with the annual training for the requirements of 10 C.F.R. § 50.55(e).[3] DPC implementation of NRC evaluation and reporting requirements have been periodically reviewed by NRC Region II inspectors during the course of normal inspection efforts.

The petitioner alleges that DPC technical supervisors took authority from the QC inspectors when the Q-1 procedure was revised from Revision 11 (approved July 18, 1977 – Petition, Attachment 14) to Revision 12 (approved June 27, 1978 – Petition, Attachment 15). *See* Petition at 21, 42. Revision 12 is more definitive in its general and specific instructions; however, the responsibilities for technical duties by QC technicians is unchanged. Although the petitioner contends that the QC inspector was unrightfully "shackled to the Senior Engineer," NRC inspection findings do not indicate that the inspector's freedom and independence to identify quality problems and verify corrective action to those problems, was denied. The QC inspector is, however, required to use the proper procedural reporting mechanism. The corrective action system as described by Revision 12 to Procedure Q-1 is acceptable under NRC requirements. In the staff's view, technical supervisors did not take authority from the QC inspectors.

With respect to petitioner's concerns (Petition at 21, 43) about QC inspectors being told what "not to write up" as a NCI and what to "sign off," it should be noted that the supervisor's normal responsibilities include instructing and training QC technicians to provide a uniform, corporate interpretation of specifications and commitments being inspected against. The concerns relative to NCIs not being written up, as described in the petition, illustrate the occasional problem that occurs when QC inspectors provide their own individual interpretations of specifications, drawings, and procedures. Occasionally, the supervisors may find it necessary to provide uniform interpretation of design, construction and QA requirements when such problems are encountered.

NRC requirements and industry standards do not require QC inspectors to have the qualifications of graduate engineers, and the staff's experience shows they seldom possess a strong technical design background. Quite often the technical significance of deficiencies found during their inspections may not be clearly established without engineering assistance whereby the appropriate identification and documentation method is selected (i.e., NCI systems for significant conditions adverse

---

[3] *See* NRC Inspection Report No. 50-413, -414/78-1 (January 24, 1978.)

to quality as opposed to M-51C, M-4A, R-2A, etc., for other conditions). In the staff's experience, QC inspectors are conscientious individuals who generally err on the side of conservatism (and are encouraged to do so). Consequently, they may occasionally write NCIs for deficiencies of lesser significance which do not need to have a design evaluation and should have been classified as a minor deficiency, i.e., one that is readily correctable with no additional engineering evaluation needed. To provide better control of these unwarranted NCIs,[4] DPC implemented Revision 12 to Procedure Q-1 that required a Senior Engineer review all NCIs to determine if the reported deficiencies were valid for reporting under the NCI format or if they were problems of lesser significance that could be handled by other existing in-process QA inspection procedures. As required by procedure Revision 12, the first review was initiated by the Senior Engineer (Supervisor or site QC) and, if he determined the NCI to be invalid, the reason for that determination was noted on the NCI form. This method of screening NCIs to reduce unwarranted NCIs and control the resolution of identified problems through other mechanisms has been reviewed by the NRC and found acceptable.

In NRC inspections, the staff found that the DPC QC inspectors at times were uncertain if their findings merited an NCI report and sought guidance from the Senior Engineer. If, after discussion, the QC inspectors could accept the Senior Engineer's rationale, the QC inspectors would often withdraw their written NCI and redocument the finding by other appropriate QA mechanisms.[5] By procedure, the valid or nonvalid NCI report was then forwarded to the Senior QA Engineer for his review. If the report was determined to be invalid, it was filed with no further action taken. Valid NCIs were signed and dated, then sent to the document controllers for assignment of a sequential serial number.

The petitioner implies that it is improper for Document Control to issue sequential serial numbers only for approved NCIs. The staff finds no problem with the licensee issuing serial numbers for only valid NCIs since those minor deficiencies initially reported as NCIs but later declared to be nonvalid will be corrected through other QA procedures.

---

[4] Massive numbers of unnecessary NCIs can mask important items, as was pointed out in Inspection Report No. 50-413, -414/81-02. Whether as a direct result of this comment or for some other reason, the licensee began to use R-2As more frequently for deficiencies not requiring engineering review.

[5] The NRC acknowledges there was testimony presented at the hearings that concerned some invalid welding NCIs which were not formally documented by other appropriate QA mechanisms. Testimony also revealed that a DPC task force (accepted and monitored by NRC) thoroughly evaluated all such concerns that were specific in nature for technical adequacy and whether specific criteria were violated. Although procedural violations were identified, no technical inadequacies were found that affected the safety of the plant.

There is no NRC regulation requirement to keep record copies of nonvalid NCIs.

Additionally, the licensee's QA program requires the conduct of planned and documented audits of all aspects of the Catawba QA program, including nonconformance control to verify compliance with the QA program. The NRC has determined that DPC has conducted trend analysis on NCIs in accordance with DPC procedures QA-150, QA-304, and CDA-9. DPC has not identified to NRC any reportable items as a result of this program.

Several task forces were created by DPC in 1981 and 1982, to review the concerns expressed by DPC welding inspectors to which the petitioner refers. The Region II staff and management monitored the task force efforts and conducted an independent assessment of the concerns which included interviewing the welding inspectors, review of the task force reports, and reporting documentation. A more detailed description of the review process and findings are contained in the "NRC Staff Testimony of Peter K. Van Doorn on Palmetto Alliance Contention 6 Regarding Welding Inspector Concerns," which was filed in the Catawba operating license proceeding. *See also* NRC Staff's Proposed Findings of Fact and Conclusions of Law in the Form of a Partial Initial Decision, at 46-147 (March 8, 1984).

With respect to DPC's task forces, the petitioner suggests that it was inappropriate for NRC to allow DPC to address the issues raised by the welding inspectors through the task forces. In the first instance, the concerns of the welding inspectors were first brought by the inspectors to DPC management which, appropriately, instituted the welding task forces and retained the services of an outside consultant to enhance the objectivity of the review. The NRC expects licensees to identify and correct problems and to responsibly address any others brought to their attention. Indeed, the various regulations involving reporting requirements make licensee identification and evaluation of problems mandatory in many instances. *See, e.g.,* 10 C.F.R. § 50.55(e). Further, the NRC enforcement policy encourages licensee identification and correction of problems. For example, the policy provides for reduction of civil penalties for unusually prompt and extensive corrective action and the Commission will not cite a licensee for self-identified and corrected violations of lesser severity. *See* 10 C.F.R. Part 2, Appendix C, §§ IV.A, IV.B.1 & 2. Consistent with this regulatory practice, there is nothing inappropriate about allowing a licensee to conduct its own investigations into matters of concern and to develop and implement corrective actions on issues it has identified.

In connection with the above concerns, NRC inspection activities during the period referenced above included determining whether workers at Catawba knew of QA problems which had not been corrected. This inspection is described in detail in Appendix A. Workers were asked if they had any concerns relative to the quality of construction at Catawba; if they were aware of any instances when construction did not meet specifications, codes, or standards and corrective actions were not taken; or if they were aware of any day-to-day irregularities affecting quality that NRC should know about. Several of those interviewed mentioned occasions where extra work was required to repair poor work caused by haste or improper planning. None of those questioned indicated they had knowledge of any poor work that had not been found by QC and properly corrected. Two areas of concern were developed; however, neither dealt with welding problems as implied in the petition. Both were subsequently inspected and resolved by the licensee and verified by the NRC.

It has been made known to DPC employees, during numerous NRC inspections conducted since 1978 and via bulletin board postings, that NRC inspectors were available to discuss problems either on site or off site. The Region II telephone number has been permanently posted to facilitate reporting safety concerns or allegations. The first NRC Resident Inspector was assigned to the Catawba site in February 1981, and has been available to receive concerns or allegations from DPC and contractor personnel.

Staff Review of Petitioner's Concerns Relative to the R-2 Systems

The petitioner raises specific concerns relative to the use and handling of R-2As. These concerns are:

- The R-2A system being used to report inspection deficiencies at Catawba is deficient (inferior) when compared to the NCI (Form Q-1A) system.[6]
- The SIE report found areas of weakness with the R-2A construction corrective actions.
- In the past, Catawba has been criticized for having "too many NCIs" by the NRC.

---

[6] Although the petitioner calls the R-2A system (Procedure R-2) inferior to the NCI system (Procedure Q-1) for handling nonconforming conditions, the petitioner appears to accept as satisfactory the measures provided by Procedure R-2. On page 26 the petition states, "[t]he legitimacy of the R-2A as a substitute for NCIs depends not so much on its procedural flaws, but on its implementation."

- Workers have reported to GAP that the R-2As are used liberally by both QA and Construction to legitimize construction that pushes ahead of QA/QC inspection.
- The R-2A (Inspection Discrepancy Reports) governed by the R-2 procedure is used on the bulk of nonconformance items.
- R-2As remain under the control of Construction, corrective actions were not required to be documented and an indeterminate number of nonconforming conditions may have been corrected without trending or appropriate reviews.

The following discussion should clarify the areas of the R-2A process that the petitioner alleges are deficient when compared to the NCI system. The areas in which the petitioner contends that the R-2A is deficient compared to NCIs are listed below with the staff's response.

- *NCIs identify the cause of the problem.*

  Part 50, Appendix B, Criterion XVI requires that the cause of the problem be identified for *significant* conditions adverse to quality. However, R-2A-type problems, which do not rise to the level of significance described by Procedure Q-1, do not necessarily require cause determination and documentation. R-2As are reviewed to determine if they should be elevated to NCI status.
- *NCIs cannot be closed with an informal undocumented design change.*

  By Procedure R-2, any deficiency that requires design evaluation, other than interpretation, classification or editorial changes, must be elevated to an NCI. Therefore, an R-2A should not be written for any deficiency requiring a design evaluation. The NRC inspection findings have not identified an abuse of the R-2A system in this respect.
- *NCIs give inspectors the ability to stop work on a nonconforming item that needs to be isolated.*

  This statement is true, and the practice is necessary because, by definition, an NCI may be an unacceptable or indeterminate item requiring design resolution which generally takes some time to resolve. An R-2A, however, is to be used for minor deficiencies (which are, by definition, readily correctable) that are found during in-process inspections and that can be brought back into conformance with codes and specifications by existing site QA procedures. If a stop-work action should be necessary for an R-2A deficiency, the R-2A item should have been elevated to a NCI.

- *NCIs are sent to the NCI (sic) for review.*
  The petitioner contends that the R-2A is deficient from NCIs in that NCIs are sent to the "NCI" for review. We presume that the petitioner intended to say "NRC" instead of "NCI." It must be clearly understood that NCIs are not required to be sent to the NRC. This was a special arrangement that the NRC Senior Resident Inspector requested and to which DPC agreed. The requirement is that DPC have a nonconformance control program, implement that program and that the program be available for NRC review. Special arrangements for the R-2As were not requested. NRC inspection program findings reflect that DPC has satisfactorily implemented the R-2A program.
- *NCIs are trended in QA.*
  R-2As were trended in accordance with Procedure QA-304 from September 12, 1977 to December 8, 1982. Construction was given the responsibility to trend R-2As (Procedure R-2, Revision 8) on June 22, 1982, and is now trending them. DPC QA audits Construction's trending activities.
- *NCIs have control numbers (once issued).*
  R-2As have had control numbers (serial numbers) since November 25, 1974 to the present.
- *NCIs require written resolution.*
  Any documented R-2A condition also requires written resolution; it is true, however, that any minor R-2A-type deficiency identified during an inspection, that is immediately corrected when pointed out and corrected in the presence of a QC inspector, need not be documented on Form R-2A. "Undocumented" R-2As, which are immediately correctable by existing site procedures, are documented to the extent that the final signed QC inspection record indicates acceptance of the item in question.

The petitioner quotes from page 43 of the SIE report which identifies five areas of weakness with respect to the R-2A system. *See* Petition at 23. These areas are listed below along with applicable clarifying comments.

- *Construction has not performed any trend analysis during the period June 1, 1982 through August 23, 1982 for R-2As.*
  This was a valid finding of the SIE. The responsibility for performing certain trend analyses changed from QA to the Construction Department in June 1982. The Construction Department took time to develop a satisfactory implementing procedure (CDA-9 Trend Analysis Procedure) to conduct its trend-

ing. Construction now trends NCIs (Q-1As), inspection deficiencies (R-2As), component support information records (M-51Cs) and other items deemed necessary by management. These deficiencies are analyzed to detect generic problems and the results are forwarded to the Catawba Project Manager. NRC inspections show that DPC QA continues to trend NCIs and they did trend R-2As up until December 8, 1982. There is some trending overlap in these areas.

- *Construction has not performed any trend analysis of QA surveillance reports.*

  The licensee's QA program requires that the QA surveillance group report its problems as either NCIs, R-2As or as a problem area requiring further evaluation. As mentioned above, both R-2As and NCIs are trended by Construction. The third category of problems either gets resolved with further evaluation as not being a problem or eventually ends up being trended by Construction as an R-2A or NCI problem. In effect, Construction does trend QA Surveillance Reports. Additionally, although not formally identified as a trending mechanism, the DPC Surveillance Supervisor has been preparing monthly Surveillance Summary Reports since February 1982, which are distributed to the Project QA Manager, the Senior QA Engineer, and the Inspection Superintendent. These reports, some of which have been reviewed by NRC inspection personnel, summarize the findings of 1 month's accumulation of surveillance activities, highlighting problem areas, discrepancies noted, and followup action required as needed. Additionally, the reports list the status of previous monthly surveillance open items that required followup action.

- *Construction has not performed any trend analyses on nonconforming items reports.*

  While Construction did not perform NCI trend analysis during the period of change in responsibility, the DPC QA Department continued to perform this function and still does for NCIs, independent of Construction trending. It is the NRC staff's view that the licensee had adequate control and access to trend behavior during the transition period.

- *Statement of action on R-2A No. 5677 does not address all areas of concern. Piping system was pressurized prior to release to hydro*

group. R-2A did not address procedure violation or safety implications.

DPC Construction Procedure CP-201, "Transfer of System to the Systems Group for Cleaning, Pressure Testing and Control of Work," was not complied with in this case. The subject R-2A concerns work which was performed on a nonsafety-related section of a fire protection system. Even though the system was not safety-related, if QC finds any requirements not being followed they will write it up as they did in this case. CP-201 required various construction checks to be performed and documented as acceptable by the crafts (primarily for personnel safety) prior to the system being turned over to the Systems Group for pressure testing. QA/QC does not inspect pressure testing of nonsafety fire protection systems; however, QC does perform a general configuration verification of such systems. Apparently, while performing the configuration system inspection, the QC inspector discovered the system had already been pressure-tested by the System Group without obtaining a CP-201 release for the system. This is a violation of a DPC internal construction procedure, but it is not otherwise a violation of any code or NRC regulatory requirement.

- *Action required on R-2A No. M5350, although cleared by QA, has not been completed.*

  In this case, an auxiliary feedwater flow diagram (which is the basis for design but not for construction of a system) and the pertinent design isometric (the basis for construction of the system) disagreed as to the position of piping taps for instrument connections. When the construction technical support staff contacted Design for a clarification as to which drawing was correct, Design stated that they had already discovered the subject flow diagram was in error and had issued a change order to revise the flow diagram drawing. As it turned out, the system had been constructed properly but, based on the telephone conversation, QA had inappropriately closed this R-2A without verifying that the subject flow drawing corrections had indeed been incorporated on the drawing.

- *The R-2A system allowed construction to push ahead of construction QA/QC inspections.*

  If properly implemented, the R-2A system would not permit construction to push ahead of QA/QC inspections. The R-2A form requires initials and dates for the individual who specifies the corrective action, the person who completes the corrective action, the QC inspector who reinspects the corrective action.

> The system also requires final review, approval, signature, and date by project QA staff. Without these authentications (initials, signatures and dates) being completed, any construction that pushed ahead of documented R-2A findings would be discovered and elevated to an NCI condition. (This discrepancy would represent a bypassed inspection hold point.) For a non-documented minor R-2A-type discrepancy the correction action must be completed immediately under the observation of the QC inspector. Therefore, unless the crafts and/or QC knowingly circumvents the R-2 procedure, construction should not push ahead of QA/QC inspection. The NRC inspection program findings do not substantiate that there have been significant violations of the R-2 system.

The SIE findings on the R-2A system are, in the staff's view, of minor importance. The findings and recommendations of the SIE were appropriately handled by DPC and the matters identified have not had an impact on plant hardware.

The petitioner also alleges that the R-2A (inspection deficiency reports) governed by the R-2 procedures is used on the bulk of nonconforming items. Until the implementation of Revision 12 to the Q-1 procedure (June 22, 1978) and its required review of NCIs for validity, the vast majority of discrepancies (minor and major) were reported, evaluated and processed under the NCI format. Just prior to implementation of Revision 12, there were reportedly 3287 NCIs issued versus 52 R-2As, or a 63:1 ratio. In February 1981 (NRC Inspection Report No. 50-413, -414/81-02), NRC inspectors noted that a large volume of NCIs had been generated as of that date even though the NCI-to-R-2A ratio had been reduced to approximately 8:1. This ratio was observed by the NRC to have further declined to about 0.3:1 during the period between February 1981 and October 7, 1983. While the petitioner claims correctly that R-2As were used on the bulk of deficiencies identified during the February 1981 to October 1983 time frame, a ratio of 3 minor deficiencies (R-2As) to 1 major deficiency (NCI) is not inappropriate in light of NRC experience with other facilities under construction.

It is true that, in the past, some NRC inspectors have been critical of Catawba for writing "too many NCIs" for problems which could have been resolved as minor deficiencies under other existing DPC site QA procedures. In NRC Inspection Report 50-413, -414/81-02, NRC inspectors noted that an apparently large volume of NCIs had been generated at the site, averaging nearly 300 per month over a past 7-month time frame from July 1980 to February 1981. The subjects covered by these

NCIs ranged from relatively minor documentation problems to major problems with safety-related hardware. This large volume of all types of problems being handled in the same manner was pointed out to DPC management by the NRC as a possible contributor to the reason why some generic items and/or trends were apparently going unnoticed. Several NCIs were cited as an example of the condition, and DPC was issued a Notice of Violation for generic items (trends) being neither recognized nor forwarded to management. In response, DPC performed an extensive review of past NCIs to check for missed trends, proper definition, and appropriate corrective actions. NRC finds the DPC corrective action on this matter to be adequate.

Generally, the vast majority of deficiencies recorded by licensees and those observed by NRC inspectors are of minor safety significance. Deficiencies are usually correctly classified according to safety significance and priorities, and remedial actions are generally guided by the classifications of the deficiencies. The staff concludes that construction deficiencies at Catawba are generally classified appropriately. Although there were examples identified in the SIE where R-2A-type discrepancies were improperly disposed, these were few in number, representing a small percentage of the total R-2As recorded at Catawba through mid-1983. The NRC staff has found, with few exceptions, that the DPC system for control of construction deficiencies has functioned adequately. NRC inspections of construction activities will continue throughout the remainder of the construction period; where appropriate, the required evaluations will be made and, if necessary, enforcement actions will be taken to ensure compliance with NRC requirements.

Staff Review of Petitioner's Comparison of Catawba to Midland

On page 20 of the petition, the petitioner asserts that the nonconformance procedure (Q-1) for Catawba, Revision 9, dated June 11, 1976, bears a striking similarity to the situation discovered at Midland. NRC staff review of this matter has determined that there is no parallel in the handling of nonconformances at Midland Nuclear Plant and the Catawba facility. At Midland, QC stopped inspection activities while permitting work to continue, whereas under Catawba's Procedure Q-1, work on nonconforming activities was stopped and documented while QC inspection continued for those activities allowed to proceed.

In October 1982, the NRC Region III issued Consumers Power Company a Severity Level III violation for QC inspectors not documenting as nonconformances all deficiencies which they observed at the Midland Plant based on information developed by NRC inspectors and

investigators. In this case, Midland QC supervisors instructed their QC inspectors to suspend an inspection if an excessive number of deficiencies was observed. Consequently, measures were not implemented at Midland to prevent the continued installation or the use of these nonconforming items. Moreover, when an inspection was suspended before its completion, there was no assurance that a subsequent complete QC inspection was ever performed on the defective item, component, or structure involved. NRC inspections at Midland indicate that reexamination of suspended Midland inspections disclosed that for a period of time some of these QC inspections received final QC acceptance and closure based only on reinspection and acceptance of those limited deficiencies identified prior to suspending the inspection.

The petition quotes the following section taken from Procedure Q-1, Revision 9, dated June 11, 1976 (Petition, Attachment 14):

> If a nonconformance is identified on material, equipment, or activities in the course of installation or construction, the nonconforming activities or activities which affect the resolution of the nonconformance shall be stopped and not resumed until the resolution of the nonconformance is identified. Activities involving the material, equipment, or item which do not affect the resolution of the nonconformance may continue. The Project QA Staff shall be responsible for determining which activities may proceed. Where necessary, these activities shall be described in the statement of the nonconformance.

The petitioner states that the procedure allows suspended inspections and that the undesirable consequences that happened at Midland could also occur at Catawba. The NRC staff has reviewed this procedure and finds it to be an acceptable mode of construction nonconformance control and is in accordance with NRC requirements. Further, § 16 of ANSI N45.2, applicable to Catawba, states "measures which control further processing, delivery, or installation of a nonconformance or defective item pending a decision on its disposition shall be established and maintained." The petitioner contends that Catawba QC inspectors have performed limited inspection of items after an NCI was issued but has provided no examples to substantiate the contention. NRC does not believe, based on inspections and investigations into employee concerns to date, that inadequate inspections (similar to Midland) were performed. At Catawba, work on nonconforming work activities was stopped and documented while QC inspection continued for those work activities which were allowed to proceed.

APPENDIX E

ANALYSIS OF MEASURES ESTABLISHED TO PROVIDE ADEQUATE MATERIAL TRACEABILITY TO IDENTIFY AND DOCUMENT THE HISTORY OF ALL MATERIAL, PARTS, COMPONENTS, AND SPECIAL PROCESSES

General

Relying on findings from the Self-Initiated Evaluation (SIE), the petitioner alleges that Duke Power Company (DPC) failed to maintain adequate material traceability to identify and document the history of materials, parts, components, and special processes as required by 10 C.F.R. Part 50, Appendix B, Criteria VIII and IX. Petition at 26-27.

At Catawba, procurement, receiving and storage, identification and control of special processes, and QA records have been periodically inspected in accordance with the NRC inspection program by the NRC Region II inspection staff since the beginning of NRC inspection of construction activities.[1] These routine inspections covered verification of DPC's QA program for control of the above areas as required by 10 C.F.R. Part 50, Appendix B, Criteria VIII and IX. The NRC inspections covered, in addition to verification of the QA program, the implementation of the control program through work observation and review of completed records. The NRC inspections encompassed the major site activities of the licensee and other site contractors. The NRC staff has also reviewed and evaluated the complete SIE report for Catawba, including those items specifically identified by the petitioner.

NRC Staff Review of Specific Concerns by Petitioner

The petitioner points to six findings and one questionable area from the SIE report.[2] The following is a summary of the staff's review of the significance of each SIE finding referenced by the petitioner. The corrective actions proposed by DPC relative to each SIE finding are contained in the SIE report appended to the petition.

---

[1] *See* NRC Inspection Reports 50-413, 414/75-6; 50-413, 414/76-7; 50-413, 414/76-5; 50-413, 414/76-4; 50-413, 414/77-15; 50-413, 414/77-11; 50-413, 414/77-10; 50-413/78-11 and 50-414/78-10; 50-413, 414/78-05; 50-413, 414/79-08; 50-413, 414/79-12; 50-413, 414/79-16; 50-413, 414/80-13; 50-413, 414/81-02; 50-413, 414/81-23; 50-413/82-18 and 50-414/82-16.

[2] The referenced SIE findings are numbered CC.3-1, CC.3-2, CC.3-3, CC.3-4, CC.3-5, CC.3-6, and may be found in the SIE report at 30 and the questionable area may be found at 32, item 5.

- Site receipt inspection does not ensure that material and equipment received on site are evaluated against the requirements of the procurement specifications. Examples of the problem may potentially result in delays, waste of materials, additional time spent on disposition of deviations from procured materials and work stoppage.

(Finding CC.3-1.) The petitioner infers from this and other SIE findings that materials traceability has broken down "on a massive scale." Petition at 26. This particular SIE finding reflects matters of primarily economic concern, i.e., the efficiency with which DPC handles receipt of materials. The SIE finding does not indicate that substandard material has been used or installed at the plant, and NRC inspectors have not developed information that DPC's material receiving practices have led to problems that would affect hardware quality, personnel safety, or safe operation of the plant.

- A consistent method for material identification was not in effect in the warehouse. Several instances were noted where I.D. tags had fallen off; equipment was marked with ink; and when material was being sectionalized to start fabrication, a means for maintaining the identification was not being done.

(Finding CC.3-2.)

Safety-related equipment is marked in accordance with Manufacturers Standardization Society Practice-25 (MSSP25), American Society of Testing and Material (ASTM), or American Society of Mechanical Engineers (ASME) requirements. The paper tags which had fallen off of electrical equipment were not being used for material traceability. Also, as identified in the SIE, the galvanized angle material being sectionalized by the fabricator contained the proper ASTM color code. Part 50, Appendix B, Criterion VIII, allows identification of the item either on the item or on records traceable to the item. NRC staff evaluation found that no material had lost its traceability. Therefore, no violation or deviation occurred in the incident cited.

- Proper protective measures were not taking place for environmentally sensitive equipment that was "robbed" for spare parts. Some parts were being stored in an open door instrument cabinet.

(Finding CC.3-3.)

The particular item of concern identified by the SIE inspection team was a 24-kV circuit breaker. The circuit breaker was not a safety-related item and had been ordered as a spare circuit breaker for the McGuire facility. This circuit breaker was later transferred to Catawba and disassembled by the Transmission Department and the parts placed in their

warehouse. These breaker parts were not intended for use at Catawba. The NRC has verified adequate warehouse and in-place storage facilities throughout the Catawba construction period for equipment important to safety. The NRC has also verified that effective measures have been established and implemented to environmentally protect equipment in the warehouse and power block.[3] No violations or deficiencies were identified in this area during these inspections.

- Procedure QFP-8.002 CNS, Rev. 1A, does not indicate the disposition of unused filler material. Confusion appears to exist regarding handling of unused filler material and adherence to AWS code requirements could not be determined.

(Finding CC.3-4.)

NRC has reviewed Bahnson Procedure QFP-8.002 CNS, Rev. 1A, which controls the issue of welding material in the HVAC fabrication shop. Almost all welding in the fabrication shop is performed by the Metal Inert Gas (MIG) process. This type welding filler material does not contain a low hydrogen coating, and therefore, rebake requirements are not applicable. The NRC review of procurement, receipt inspection, review of certified material test reports, issue, and control of welding filler material has verified compliance with DPC-approved procedures.[4] Correction of the SIE-identified weakness observed in the referenced procedure and appropriate instructions to DPC personnel have been accomplished by DPC.

- Materials are not being maintained or stored effectively at work site locations. Several examples were noted which reflected improper control.

(Finding CC.3-5.)

This concern, involving in-place storage, was identified during the SIE. It dealt with a single piece of 4-inch stainless steel pipe in contact with rusty carbon steel rollers and end caps missing from pipe spool CT-SM-73 in the Catawba turbine building. Also, during a walkdown of the turbine building, it was observed that three valves were welded up on one side and left uncapped on the other. The example of end caps missing from pipe spool CT-SM-73 is normally outside the purview of the NRC in that the turbine building piping is not required to comply

---

[3] *See* NRC Inspection Reports 50-413/82-18 and 50-414/82-16, 50-413/81-23 and 50-414/81-23.
[4] *See* NRC Inspection Report 50-413/83-36 and 50-414/83-31.

with 10 C.F.R. Part 50, Appendix B, because it is not a safety-related structure. The staff has concluded that the other examples discussed in the SIE report are isolated instances. This view is based on a lack of similar problems being discovered during NRC inspections in the same area outside of the SIE followup effort. In view of the inspection findings,[5] which indicate a relatively small number of violations or deficiencies in this area, there has not been a massive breakdown in this area.

- Scheduled preventive maintenance activities on installed equipment are not always assured throughout the entire period of Construction Department control. Equipment was identified for which preventive maintenance has been cancelled up to 21 months ago, and there was not evidence that compensatory requirements had been established.

(Finding CC.3-6.)

NRC inspectors have reviewed the Catawba storage and preventive maintenance activities.[6] These inspections indicate that an adequate maintenance program has been established to prevent equipment deterioration. The NRC believes the examples identified during the SIE are isolated cases and are not of sufficient dimension to raise serious doubts as to the overall integrity of safety-related structures and components. DPC has performed a review of its preventive maintenance program in view of the SIE findings to ensure that plant equipment is adequately maintained during construction. Additionally, a comprehensive preoperational test is conducted on safety systems prior to plant operation to help verify that components have not experienced unacceptable deterioration during the construction phase.

- During a review of No. 10 Cadweld operation in the Auxiliary Building, it was learned that the Cadweld sleeves and powder had not been received by QC Receiving. These items were received from another site as nonquality items, and the QC inspector was not aware of the sixteen 51144 sleeves until notified by his supervisor. The work was stopped.

(SIE at 32, item 5.)

NRC inspections[7] confirm that written procedures were placed into effect and measures established to control material transfers from other DPC sites. In addition to receipt inspection, other measures were established to control the acceptance of material used in Cadweld splices.

---

[5] *See* note 1, *supra*.

[6] *Id.*

[7] *See* NRC Inspection Reports 50-413/80-13 and 50-414/80-13, 50-413/83-37 and 50-414/83-12.

Catawba Procedure M-14, "Cadweld Splice Inspection Testing," Revision 6, covers control of materials received from another DPC site by virtue of its requiring QC to verify that qualified materials were used subsequent to the fabrication of the Cadweld splice. The QC inspector is required to compare the Cadweld sleeve type, size, and the powder batch type with the release log information developed for the specific type of Cadweld. The NRC inspections do not indicate that there has been a massive breakdown in the Cadweld operation at Catawba.

Based on a review of the NRC inspection program findings, the examples presented in the petition and discussed above do not indicate a massive breakdown in QA relative to materials traceability at Catawba.

APPENDIX F

ADEQUACY OF QUALITY ASSURANCE PROGRAM FOR VENDORS

The petitioner alleges that DPC has failed to maintain an adequate quality assurance program for vendors. To support this position, the petitioner references findings and recommendations included in the DPC Self-Initiated Evaluation (SIE) report. These findings and recommendations are given as examples to illustrate serious weaknesses in the vendor program.

Background

The licensee contracted with Bahnson Service Company (Bahnson) to provide the heating, ventilating, and air-conditioning system (HVAC) for the Catawba auxiliary building, reactor building and other facilities on site. DPC provides for the general arrangement — i.e., location elevation — of the equipment and duct work, installs the major equipment, performs the seismic analysis of the Bahnson-designed duct work and supports, approves the final design, and provides QA surveillance of Bahnson's work. Bahnson provides project management, shop and field drawings, fabricated duct work and supports, and QA/QC for the fabrication and installation work. The contractor will also conduct the startup, testing and balancing of the installed HVAC system.

The controlling document of the HVAC contract is DPC Specification No. CNS-1211.00-05, "Heating, Ventilating and Air Conditioning for

Catawba Nuclear Station." Quality assurance requirements for this contract are implemented through policies delineated in Bahnson's QA Manual. Quality control is implemented through procedures contained in the Bahnson's Quality Field Procedures (QAF) Manual.

The American Welding Society Structural Steel Code(s) D1.1 and D1.3 are applicable to fabrication and inspection of HVAC duct work and supports. Welders are qualified in accordance with § IX of the ASME Code. Other related commitments applicable by reference include Appendix B to 10 C.F.R. Part 50 and ANSI N45.2-1971, "Quality Assurance Program Requirements of Nuclear Power Plants." Surveillance of Bahnson is conducted by DPC-HQ Vendors Division. Prior to August 1981, surveillances were performed by the DPC site QA organization.

The Catawba HVAC system has been inspected at various times by Region II inspectors. These inspections have involved system hardware, interviews with contractor personnel, observation of work in progress and other areas such as purchase orders, QA/QC program implementation, QA surveillance, record review and evaluation.[1] Three violations, involving record discrepancies and inadequate QC procedures were identified. The resolution of two violations identified in Inspection Report 50-413/83-36 is still pending. These violations are considered to have minor safety significance. The licensee has submitted and the staff has reviewed the proposed actions for correcting and preventing the recurrence of the violations. Preliminarily, the proposed actions appear to be technically sound and appropriate. While the NRC staff has not yet performed the necessary followup inspection required to close out these items, inspections are scheduled and will be completed in accordance with programmatic requirements.

Review of Specific SIE Concerns Identified in the Petition

The following discussion addresses these SIE findings cited by the petitioner:

- No welder knew the weld procedure under which he was working. (CC.4-5A)
- All welders knew required weld size and location, but did not know how they acquired that information. (CC.4-5B)
- No process control was available to specify the welding procedure for plenum erection (from Drawing CN-1684-VA-OOOH, Rev. 0). (CC.4-5C)
- Welder was making welds without removing galvanizing material. (CC.4-5D)

[1] Details of these inspections are documented in NRC Inspection Report Nos. 50-413/80-06, 50-413/80-13, 50-413/82-13, 50-413/82-18, 50-413/82-21, and 50-413/83-36.

- HVAC support 2-H-VC-4999 had undercut in excess of that allowed by AWS D1.1 code. (CC.4-5E)

DPC's evaluations and corrective actions associated with the recommended improvements associated with the above SIE findings are contained in the SIE report appended to the petition. NRC inspection findings regarding DPC's evaluations and corrective actions are summarized in the following paragraphs.

NRC inspection activities at Catawba have included the review of performance qualification records of welders. Performance qualification records of welders, selected at random for review in accordance with NRC inspection procedures, were found to comply with applicable code requirements. The staff believes there is reasonable assurance that the welding on the HVAC system at Catawba was performed by qualified welders. This finding is consistent with the findings of the SIE report, Appendix A, at 167, § III.A.

The NRC has reviewed the finding that no welder knew the weld procedure under which he was working and that all welders knew the required weld size and location, but did not know how they acquired that information. This finding may be true and to some extent understandable when the nature of the fabrication of the HVAC system is taken into consideration. For the most part, the HVAC duct work is fabricated in the fabrication shop from 16-gauge, galvanized sheet steel. The material is formed into the desired shape and subsequently welded, inspected and then taken to the plant for installation. The above process is controlled by approved design drawings, specifications and procedures, consistent with applicable code requirements. This uniformity of material type, size and the repetitiveness of the product shape is almost identical to production-line-type welding where a single repetitive, routine welding process is used and the difficulty of joint fabrication is minimal. Under these circumstances it is not uncommon for a welder who is qualified to that single process, and uses it regularly, to not be fully informed about the procedure reference information. It is recognized that, ideally, each welder should be fully knowledgeable about the weld procedures he or she is working to help ensure that procedure process parameters are maintained.

The NRC staff has also reviewed the finding that a "welder was making welds without removing galvanizing material." This action did not conform to applicable specification requirements, but in the staff's view, it did not constitute a violation of applicable welding code requirements. On this latter point, § 4 of AWS D1.3 permits welding without the galvanize being removed; however, it is recognized that

removal of galvanizing material is the preferred process. Inspections performed by Region II staff found no evidence of welding being performed under the stated conditions. The staff believes that the SIE observation was an isolated case rather than a routine practice.

The NRC reviewed the concern that weld undercut in excess of that allowed by AWS D1.1 Code was found on HVAC support 2-H-VC-4997. This concern may be correct. DPC's evaluation of the concern for undercut shows that undercut is primarily related to fatigue considerations applicable to components and structures under high stress. Fatigue is not a concern in the HVAC duct support systems and stresses for all loading conditions, other than seismic, are relatively low in the HVAC system. DPC's evaluation on this concern was issued by memorandum dated October 29, 1982, by the DPC Chief Engineer of Mechanical/Nuclear Division. Accordingly, the contractor has revised the applicable welding specification for the HVAC supports to take into account the above information and remove overly restrictive undercut requirements.

The petitioner also cites the following SIE findings:

- There is no traceability of weld procedures to the finished weld. (QP-1)
- Procedures did not meet code requirements. (QP-1)
- Welder/supervisor picks welding procedure from all available welding procedures. Supervisor indicates welding procedure(s) used on a support after the support is complete. (CC.4-5F)

The NRC has reviewed the finding that "welder/supervisor picks welding procedure(s) from all available welding procedures and indicates procedure(s) used on a support after welding is completed." The weld foreman maintains up-to-date lists of qualified welders, which are used to assign welders to work. Assignment of weld procedures for duct work fabrication is controlled by instructions on Bahnson Drawing No. 2682-8-20, "Typical Duct Details," and for seismic support/hanger fabrication by Procedure AFP-CNS-5.001, Revision 5. Most of the material used on safety-related duct work is on the order of 16-gauge or 0.0635-inch-thick, galvanized sheet steel. The material used on seismic hangers/supports is also limited in thickness range, i.e., ¼-inch to ½-inch thick, ASTM, A36 or A500 GrB mild steel. Most of the duct work is welded in sections in the site fabrication shop with the gas metal arc process while the seismic supports are welded in the field with the shielded metal arc process. Having this information, the foreman selects one or several welders qualified to fabricate the required welds, and communicates to them the information necessary to perform their assignment.

The requirement and responsibility for preparing and maintaining records subsequent to work completion is established by applicable code

requirements and standards. Also, regarding the matter of no traceability of weld procedures to the finished weld of HVAC supports and duct work, the applicable Code, AWS D1.1-77, does not require such information to be retained after weld completion and/or weld acceptance. Hence, the contractor's practice is consistent with Code requirements.

Beyond the issue raised in the petition, the staff has been pursuing concerns with Bahnson-supplied equipment at a number of nuclear plants, including Catawba. NRC Region II was informed of Bahnson equipment problems through the NRC vendor inspection program. *See* Inspection Reports 99900791/82-01 and 50-400/84-05. From these inspections, it was determined that Bahnson manufactured two safety-related HVAC air-handling units that were supplied to the Catawba plant. A special Region II inspection was performed on these two units. *See* Inspection Reports 50-413/84-28 and 50-414/84-16. Bahnson was performing a reinspection, at the plant, of these air-handling units at the time of the NRC special inspection. Welding discrepancies, similar to those identified in previous NRC vendor inspections, were identified on the Catawba units by both Bahnson and Region II inspectors. DPC has since reported that the identified weld deficiencies have been evaluated and represent no safety problem. DPC has determined that the units are to be used in the "as-is" condition. Region II identified one violation involving failure to establish adequate procurement controls. The resolution of the violation identified in inspection report 50-413/84-28 and 50-414/84-16 is still pending. The licensee has submitted and the Region II staff has reviewed the proposed actions for correcting and preventing the recurrence of this violation. The submittal appears to be technically sound and appropriate. While the Regional staff has not yet performed the necessary followup inspection required to close this item, those inspections are scheduled and will be completed in accordance with programmatic requirements.

Conclusions

The results of Region II inspections indicate that there is no substantial evidence to support the contention of an inadequate quality assurance program for vendors which could preclude the system from performing its intended function and thus compromise plant safety.

The results of NRC inspections performed between the years 1980 and 1983 show that the HVAC contractor is fabricating, inspecting and erecting the HVAC system consistent with applicable code and specification requirements and NRC commitments. Although certain deficiencies have been identified in the area of QC inspections and QA/QC records,

these appeared to be isolated cases. These inspections found no evidence of unqualified welders fabricating safety-related welds or flawed welding procedures being used to perform this work. The staff finds no basis for requiring additional measures other than those planned during implementation of the routine NRC inspection program.

Based on review of the NRC staff inspection program findings, review of the SIE report and subsequent review of the petitioner's identified SIE findings, the staff concludes that DPC has developed and implemented an acceptable vendor control program.

Cite as 20 NRC 226 (1984) **DD-84-17**

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

OFFICE OF INSPECTION AND ENFORCEMENT

Richard C. DeYoung, Director

In the Matter of **Docket Nos. 50-329**
50-330
(10 C.F.R. § 2.206)

CONSUMERS POWER COMPANY
(Midland Plant, Units 1 and 2) **July 24, 1984**

The Director of the Office of Inspection and Enforcement denies a request by Billie Pirner Garde of the Government Accountability Project on behalf of the Lone Tree Council and others requesting that the Commission take action with respect to the Midland Plant.

TECHNICAL ISSUE DISCUSSED: QUALITY ASSURANCE PROGRAM

The Commission requires all licensees to develop and implement a quality assurance program to be applied to the design, fabrication, construction and testing of the structures, systems and components of its facility.

TECHNICAL ISSUE DISCUSSED: REMEDIAL PROGRAMS

The requirements imposed on licensees by Appendix B, together with the licensee's own quality assurance program, are usually sufficient to ensure that a power reactor is constructed in accordance with NRC requirements. However, in certain cases, construction quality weaknesses have been of such magnitude that the NRC has found that it needs to impose additional controls to ensure that the facility is being constructed in a quality manner. Under such circumstances, the NRC has required

licensees to undertake a remedial program to ensure that the construction of the facility is in accordance with NRC requirements.

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

By letter to the Commissioners dated February 10, 1984, Billie Pirner Garde of the Government Accountability Project, on behalf of the Lone Tree Council and others (hereinafter referred to as the petitioners), requested that the Commission take three actions with respect to the Midland Plant.[1] The petitioners asked that the Commission: (1) require all ongoing work at Midland, including the soils work, be included in the Construction Completion Plan (CCP) required by the Confirmatory Order for Modification of Construction Permits issued on October 6, 1983; (2) remove the Midland licensee, Consumers Power Company, from managerial responsibility for quality assurance and quality control at Midland, to be replaced by an independent third party reporting simultaneously to the NRC and Consumers; and (3) increase the staffing for the Midland Section of the NRC Region III Office of Special Cases.[2] The Commission has referred the petitioners' letter of February 10, 1984 to the staff for treatment as a request for action pursuant to § 2.206 of the Commission's regulations.

The petitioners' present request is similar to relief they sought in a petition submitted on June 13, 1983. I issued two Director's Decisions with respect to that petition which granted in part and denied in part the

---

[1] While this decision was in final preparation, Consumers Power Company announced that the Midland project would be shut down. Thus it may be that this matter is now moot. However, since the construction permits are still in effect for the plant, it is appropriate to complete action on this petition.

[2] The petitioners initially requested that the staff of the Midland Section of the Office of Special Cases be increased in a petition filed with the Commission on June 13, 1983. In my decision on that petition, DD-83-16, 18 NRC 1123 (1983), I noted that the petitioners' request to increase the number of NRC personnel assigned to the Midland Section did not fall within the scope of requests contemplated by 10 C.F.R. § 2.206, as the request related to a matter of internal Commission organization and staffing. Likewise, I will not consider the renewed request in this decision. Section 2.206 of the Commission's regulations permits any member of the public to petition directly to the Directors of Nuclear Reactor Regulation, Nuclear Material Safety and Safeguards, or Inspection and Enforcement, as appropriate, to institute a proceeding "to modify, revoke or suspend a license, or for such other action as may be proper." In essence, § 2.206 permits interested members of the public to request initiation of a proceeding, as contemplated by 10 C.F.R. § 2.206(a). Requests to augment regional inspection personnel, however meritorious, do not fall within that class of requests for relief provided for under § 2.206(a). In any event, I am satisfied that, given agency resources, sufficient inspection effort is being expended on the Midland project. It should be noted that the Office of Special Cases was dissolved by Region III in March 1984. The Midland Section was transferred intact to the Division of Projects and Resident Programs and reports to the Construction Branch Chief in that division. The Midland Section consists of a Section Chief, a project inspector, a soils inspector, a resident site supervisor, a senior resident inspector and a resident inspector. In addition, other Region-based inspectors and consultants from national laboratories provide technical assistance to the Midland Section as necessary.

requested relief. *See* DD-83-16, 18 NRC 1123 (1983), *supplemented in* DD-84-2, 19 NRC 478 (1984). Issued concurrently with each decision was a confirmatory order, the first permitting the licensee to continue construction only in accordance with its construction completion program (*see* 48 Fed. Reg. 46,673 (1983)), and the second requiring the licensee to obtain an independent evaluation of its management of the Midland project (*see* 49 Fed. Reg. 2562 (1984)). To support their present request, the petitioners have "updated" the factual bases of their previous petition. The petitioners point to "a series of financial, construction, legal and regulatory setbacks" at Midland in recent months which are offered in support of the requested relief. These setbacks include (1) litigation brought against Consumers Power related to the cancellation by Dow Chemical Company (Dow) of a contract to provide steam; (2) stockholder suits against the licensee; (3) slippage of the scheduled completion date for Midland; (4) results of a Brookhaven National Laboratory study of the Midland diesel generator building; (5) failure of the licensee to "map" all cracks in the Midland Auxiliary Building; and (6) the licensee's violation of the Midland construction permits in excavating soil from a deep-Q duct bank without prior NRC authorization. Although this new information appears to have little bearing on the relief requested in the petition, the staff has nevertheless carefully considered the information in the course of its review. However, the information, which is well known to the staff, is not of sufficient weight to persuade me to grant the requested relief.

The first and second developments cited by petitioners relate to allegations made by various parties in litigation against the licensee. Among these allegations is the assertion that Consumers Power representatives "made fraudulent misrepresentations and nondisclosures" to Dow, made false statements, and omitted and concealed information regarding the cost and completion schedule of the Midland Plant which deceived potential investors about the stability of the project. *See* Petition at 2-3. As acknowledged by petitioners, these allegations are the subject of ongoing litigation to which the licensee is a party. It would be inappropriate at this time for the staff to take action on the basis of allegations raised but as yet unproven with respect to the licensee's representations to Dow. It should also be noted that the Midland Atomic Safety and Licensing Board has admitted two contentions based on Dow's complaint into its proceeding. The first contention concerns whether the licensee misrepresented its time schedule for completion of Midland to the NRC, including the NRC staff and the Licensing Board. The second contention goes to whether the licensee relied on test results it knew to be invalid to fulfill NRC regulatory requirements. The Board also denied a

motion without prejudice by one of the intervenors to hold open the record pending completion of the Dow lawsuit to enable renewal of the motion to supplement or reopen the record should the Dow lawsuit uncover information of significance to that proceeding not otherwise developed in the record. *See Consumers Power Co.* (Midland Plant, Units 1 and 2), LBP-84-20, 19 NRC 1285 (1984). Likewise, should information be developed in the course of the Dow litigation which might bear on the licensee's ability to construct a nuclear facility in accordance with NRC regulations, the NRC staff would evaluate such information and take appropriate enforcement action at that time.

The petitioners call attention to an incident they term as "the Caseload Forecast Panel Controversy" as further support for their request. Of concern to the petitioners was the timing of the staff's release in December 1983 of its estimate of September 1986 as the planning date for completion of the Midland Unit 2 licensing review process. In addition to accusing the staff of "impropriety . . . in withholding significant information regarding the incredulity of CPCo's completion schedule estimates . . . ," petitioners argue that, had the staff's Caseload Forecast Panel disclosed its estimate earlier, particularly in May 1983, the licensee would not have been able to "portray false and misleading information to potential investors." Petitioners also allege that the licensee had knowledge of the Caseload Forecast Panel's May estimate and "successfully managed to get NRC release of the information quashed." *See* Petition at 3-4.

Preparation of forecasts by the Caseload Forecast Panel is used by the NRC as a method of internal resource allocation. The Midland Licensing Board has stated that: "Scheduling *per se* is not an issue in the [Midland] proceeding. Nor, standing alone, would it properly be an issue. It has neither safety nor environmental significance." *Consumers Power Co.* (Midland Plant, Units 1 and 2), unpublished Memorandum and Order (May 25, 1984). The staff takes a similar view with respect to this issue in considering whether to grant the requested relief. Scheduling, in and of itself, has no safety or environmental significance, and petitioners have not set forth any facts which would indicate that scheduling has safety or environmental significance such that the requested relief should be granted.

The petitioners also point out that, subsequent to the submission of their June petition, a Brookhaven National Laboratory study, conducted at the request of the NRC concerning the structural integrity of the Midland diesel generator building, concluded that "the DGB could not meet federal regulatory standards for the Midland project, but it would probably be acceptable." Petition at 4. The petitioners also note that there ap-

pears to be a "seemingly unresolvable controversy between numerous professionals" as to the conclusion of the Brookhaven study. *Id.*

The structural integrity of the Midland diesel generator building has been the subject of extensive litigation before the Atomic Safety and Licensing Board. Currently pending before the Licensing Board is a motion to reopen the record based upon the results of the Brookhaven review. *Consumers Power Co.*, Nos. 50-329/50-330-OM/OL, Transcript at 22,679 (December 3, 1983). The adequacy of the diesel generator building is a matter which bears on the decision to grant an operating license for the Midland facility. Accordingly, the issue is more appropriately addressed in the ongoing operating license proceeding and not as a request for enforcement action under 10 C.F.R. § 2.206. *Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), CLI-81-6, 13 NRC 443, 446 (1981). *Cf. Rockford League of Women Voters v. NRC*, 679 F.2d 1218, 1222 (7th Cir. 1982). It should be noted that while the Board does not have the authority to take enforcement action against the licensee, it does have the ability to deny Consumers Power an operating license for the Midland plant.[3] Should testimony be developed which would indicate that enforcement action might be appropriate, the staff would consider such action at that time.

The petitioners call the staff's attention to the licensee's failure to "map" all of the cracks in the Auxiliary Building as new information which would support petitioners' present request. *See* Petition at 5. Inadequate compaction of soil at the Midland site has caused a problem with the settlement of soil, and cracks have been observed in several buildings on site, including the Auxiliary Building. The licensee became aware of the cracking several years ago, and undertook a program to chart or "map" those cracks in order to evaluate the condition of, among other things, the Auxiliary Building. Accordingly, the licensee committed to develop a monitoring plan to detect differential settlement of the structure and the propagation and enlargement of new and existing cracks, along with an independent evaluation of conditions exceeding predetermined limits as set by the staff and a crack monitoring program acceptable to the staff. *See* Safety Evaluation Report, Midland Plant, Units 1 and 2, NUREG-0793, Supp. No. 2, ¶ 3.8.3.5 (October 1982).

Discussions between the staff and licensee in late 1983 and earlier this year indicated that the licensee had not undertaken the extensive crack mapping that NRC staff members had understood would occur for the

---

[3] *See Consumers Power Co.* (Midland Plant, Units 1 and 2), ALAB-674, 15 NRC 1101, 1102-03 (1982).

Auxiliary Building. Instead, the licensee had only mapped cracks located in the calculated high-stress areas of the Auxiliary Building. An agreement was reached between the staff and licensee wherein the licensee would expand its crack-mapping program based upon a survey of the entire Auxiliary Building. *See* Letter to J.J. Harrison, NRC Region III from J.A. Mooney, Consumers Power Co. (February 8, 1984). Unlike petitioners, who characterize the licensee's failure as demonstrating a lack of regulatory responsibility, the NRC staff considers the crack-mapping episode to be the result of a miscommunication between the staff and licensee as to a difficult technical issue for which enforcement action would be inappropriate.

The sixth development the petitioners view as supporting their request concerns the enforcement action taken against the licensee for violating its construction permits by allowing excavation of a deep-Q duct bank without prior approval from the staff. Petition at 5-6. Rather than imposing a civil penalty for the violation, as petitioners would have preferred, the licensee was ordered to obtain an independent appraisal of its site and corporate management organizations for the Midland project. *See* 49 Fed. Reg. 2562 (1984). The choice of a remedy for a violation is "within the sound judgment of the Commission, and not foreordained." *See Petition for Emergency and Remedial Action,* CLI-78-6, 7 NRC 400, 406 (1978). The NRC Enforcement Policy describes the Enforcement sanctions available to the Commission and specifies the conditions under which each may be used. Among the available sanctions are both civil penalties and orders. *See* 49 Fed. Reg. 8583 (1984). To have imposed a civil penalty for the construction permit violation at Midland may have avoided a possible underlying problem involving the adequacy of the project's management. By requiring an independent management appraisal, the licensee is subjected to a critical evaluation of its project and may, depending on the findings, be required to implement appropriate changes to its management system. It is to be noted that although the staff considered the possibility of a civil penalty, I determined, on balance, that a management appraisal would more readily address the root causes of the violation and achieve the corrective action needed to prevent similar violations at Midland in the future. This decision certainly did not undermine NRC Region III, as petitioners infer, and the Regional Administrator for Region III concurred fully in the management appraisal order. Although petitioners may not agree with my judgment in this regard, no factual basis has been provided for concluding that I

abused my discretion in issuing the order requiring the licensee to conduct an independent management appraisal.[4]

Beyond these six factual developments, the petitioners also set forth additional information in support of their specific requests for relief. In this regard, petitioners contend that occurrences at the Midland site subsequent to issuance of the October 1983 Director's Decision demonstrate that the position taken by the staff in the decision with respect to the CCP was premature and that the scope of the CCP should include "all ongoing activity" at the Midland site. Petition at 6-7. The petitioners also contend that the results of two NRC investigations completed subsequent to the submittal of their June petition provide justification for removal of the licensee from managerial responsibility for quality assurance activities at Midland. *See id.* at 7-8. However, none of the information cited by the petitioners in support of their present request provides the staff with substantially new information such that institution of the relief is warranted. Accordingly, for the reasons set forth below, the petitioners' specific requests are denied.

INCLUSION OF ALL ONGOING ACTIVITY AT MIDLAND UNDER CONSTRUCTION COMPLETION PROGRAM

On October 6, 1983, a Confirmatory Order for Modification of Construction Permits was issued for the Midland Plant which required the licensee to complete construction of the Midland facility in accordance with its Construction Completion Program (CCP), dated August 26, 1983. *See* 48 Fed. Reg. 46,673 (1983). The CCP was prompted by the discovery of construction deficiencies in equipment and components within the Midland diesel generator building in conjunction with earlier quality implementation problems in which corrective actions had raised expectations of performance improvements. Accordingly, the CCP was developed to address the deficiencies in those areas of the Midland facility for which the Bechtel Power Corporation, the Midland architect-engineer and constructor, exercised quality control and quality assurance responsibility. *See* DD-83-16, *supra,* 18 NRC at 1127. The CCP requires, with the exception of four principal areas, reinspection and necessary work or rework of the Midland facility. *Id.* at 1126-28. Petitioners

[4] Nor are petitioners aggrieved by the decision against issuance of a civil penalty. In fact, the petitioners' representative has encouraged the staff to identify the underlying causes of the problems at the Midland project. *See, e.g.*, Statement of Billie Pirner Garde (submitted at NRC Commission Meeting, Washington, D.C., April 25, 1984) at 4.

now request that "all ongoing activity" at Midland, including the remedial "soils work," be included in the CCP. *See* Petition at 6.

In support of their request that the CCP be expanded to include all ongoing activity at the site, petitioners point to the following factors:

> - "recent disclosures and identified problems (such as the identification of cracks in the Aux[iliary] Building)" which allegedly indicate that the licensee cannot be taken at its word;
> - information supplied to GAP [the Government Accountability Project] but not yet provided to the NRC, which allegedly indicates that the licensee actively "covered up" problems with installation of the HVAC system instead of repairing the items; and
> - failure of the pipe hanger and electrical inspections to disclose information given to the NRC by other sources including several GAP witnesses.

Id. at 7.

From the examples cited in support of their request, it appears that petitioners view the CCP as a defect reporting program. While some of the deficiencies discovered at Midland may indeed be reportable to the NRC under 10 C.F.R. § 50.55(e) or other applicable reporting requirements, the primary purpose of the CCP is to ensure the licensee applies sufficient attention to the quality of past and future construction at the Midland site. The Commission requires all licensees to develop and implement a quality assurance program to be applied to the design, fabrication, construction and testing of the structures, systems and components of its facility. *See* 10 C.F.R. Part 50, Appendix B. The Commission defines quality assurance as:

> all those planned and systematic actions necessary to provide adequate confidence that a structure, system, or component will perform satisfactorily in service. Quality assurance includes quality control, which comprises those quality assurance actions related to the physical characteristics of a material, structure, component or system which provide a means to control the quality of the material, structure, component, or system to predetermined requirements.

10 C.F.R. Part 50, Appendix B, *Introduction.*

The requirements imposed on licensees by Appendix B, together with the licensee's own quality assurance program, are usually sufficient to ensure that a power reactor is constructed in accordance with NRC requirements. However, in certain cases, construction quality weaknesses have been of such magnitude that the NRC has found it needs to impose additional controls to ensure that the facility is being constructed in a quality manner. Under such circumstances, the NRC has required

licensees to undertake a remedial program to ensure that construction of the facility is in accordance with NRC requirements. *See, e.g., Cincinnati Gas & Electric Co.* (William H. Zimmer Nuclear Power Station), CLI-82-33, 16 NRC 1489 (1982); *Public Service Co. of Indiana* (Marble Hill Nuclear Generating Station, Units 1 and 2), CLI-80-10, 11 NRC 438, 442-43 (1980).

Because the problems discovered with the Midland diesel generator building indicated a significant breakdown in the quality assurance programs of Consumers Power Company and Bechtel, the NRC strongly suggested that the licensee develop a remedial program to verify the adequacy of Bechtel's past work, and ensure that any necessary rework, as well as new work, meets the Commission's quality assurance standards. The licensee agreed to develop such a program. The CCP is an extraordinary remedy meant to give the NRC additional assurance that adequate remedial action is being taken to identify existing problems in past construction and to ensure that future construction conforms to Commission requirements. The CCP does not relieve the licensee from responsibility for implementing the quality assurance program the licensee was required to develop in accordance with Appendix B. The licensee's approved quality assurance program remains in effect for all work, including Bechtel activities,[5] undertaken at Midland.

Of the work presently in progress at Midland, four principal areas are unaffected in whole or in part by the CCP: (1) installation of the nuclear steam supply system (NSSS), (2) installation of the heating, ventilation and air-conditioning (HVAC) system, (3) performance of the remedial soils work, and (4) reinspections of pipe hangers and electrical cable. As explained in my earlier decision, separate remedial programs had been developed for the soils work and reinspections of pipe hangers and electrical cable. *See* DD-83-16, *supra,* 18 NRC at 1127. The diesel generator building inspection findings, which prompted development of the CCP, were not applicable to other principal areas of ongoing activity at Midland, such as the installation of the NSSS and HVAC systems. *See id.* at 1127-28. The petitioners have not provided additional information which would persuade me to broaden the CCP beyond its present scope as a program to remedy the quality assurance deficiencies of the licensee and Bechtel. Each of the excluded systems, and the reasons for this determination, are more fully described below.

Petitioners have not provided the staff with information which would demonstrate such serious problems in the HVAC area to require imple-

---

[5] The Bechtel quality assurance program has been integrated into the licensee's quality assurance program.

mentation of an extraordinary remedial program such as the CCP. As a result of problems found in the HVAC area in 1980, the licensee assumed the HVAC quality control inspection function from the HVAC contractor. Subsequently, the staff has generally been satisfied with the licensee's performance in this area. In addition, a special safety inspection was performed by members of the Region III staff and the NRC Office of Nuclear Reactor Regulation from May 10, 1983 through February 19, 1984, to evaluate technical allegations relating to HVAC design and construction activities at Midland. *See* Inspection Reports 50-329/83-08; 50-330/83-08 (March 7, 1984). Consumers Power Company provided an adequate response to the NRC on June 8, 1984. Assuming that the corrective action associated with the identified violations is effective, the NRC will be able to conclude that the installed HVAC systems and components at Midland are acceptable and that an adequate quality assurance program is being implemented with regard to ongoing HVAC activities.

Petitioners also state, without further amplification, that the pipe hanger and electrical cable inspections, currently in progress have failed to identify construction deficiencies reported to petitioners by their "sources." *See* Petition at 7. As explained in the previous Director's Decision, reinspection of pipe hangers and electrical cable were not included in the reverification phase of the CCP because reinspection was being accomplished under a separate commitment to the NRC. DD-83-16, *supra*, 18 NRC at 1127. In October 1982, the licensee began to reinspect all previously installed Class 1E cables. The electrical cable reinspections were performed by Midland quality control personnel who had completed training on all aspects of cable pulling. An anonymous allegation made in a television interview was also taken into account in planning the reinspections. As a result, additional inspection criteria relating to cable coding were added. All personnel assigned to participate in the reinspections received training on the additional reinspection criteria relating to cable coding. On May 19, 1983, the licensee completed the reinspections of all previously installed Class 1E cables. To date, deficiencies identified as a result of the cable reinspection program have been documented and will be remedied by the licensee. Since petitioners have not identified those elements of the cable reinspection program they view as inadequate and, based upon NRC inspections, the program appears to be working, inclusion of electrical cable reinspection in the CCP is not necessary at this time.

The pipe hanger reinspections are still in progress with approximately 30% having undergone reinspection. The licensee has developed a special quality control instruction which is being used by quality assurance

personnel who have received training pertaining to that instruction. To date, no deficiencies in the hanger reinspection program have been identified which would warrant reinspection of the hangers beyond that required by the current reinspection program, and petitioners have not identified any aspects of the reinspection that they view to be inadequate. Since the existing reinspection program appears to be accomplishing the same results as it would if included in the CCP, no benefit would be gained by including the pipe hanger reinspections in the reverification portion of the CCP. In any event, the NRC plans to perform followup inspections to assess the adequacy of the hanger, as well as cable reinspection programs. All repairs, modifications, and new work involving safety-related electrical cables and pipe hangers will, however, be accomplished in accordance with the second or construction phase of the CCP.

The remedial soils program, which prohibits the licensee from performing certain specified activities without explicit prior approval from the NRC staff, was incorporated into the Midland construction permits by amendment dated May 26, 1982 in accordance with an order of the Atomic Safety and Licensing Board. *See Consumers Power Co.* (Midland Plant, Units 1 and 2), LBP-82-35, 15 NRC 1060, 1072-73 (1982); 47 Fed. Reg. 23,999 (1982). Successful implementation of both the CCP and the remedial soils program are conditions of the Midland license. Accordingly, enforcement action can be taken for violation of either program. The remedial soils program implements the philosophy behind quality assurance in ensuring that soils work activities are identified and well documented, that training has been provided to the personnel involved in implementing the program, that inspections of all work have been accomplished by trained personnel, and that ongoing work is controlled by written procedures and instructions. Since both the soils program and the CCP are programs closely monitored by the NRC, no substantial purpose would be served by including the remedial soils work as part of the CCP.

Nuclear steam supply system installation was initially excluded from the CCP because there had been no indication from NRC inspections that significant quality assurance problems existed with those systems. *See* DD-83-16, *supra*, 18 NRC at 1127. The NSSS was designed and constructed by Babcock and Wilcox pursuant to its own quality assurance and quality control programs. NRC inspections of the NSSS have not identified problems that would indicate Babcock and Wilcox's work

should be reinspected and petitioners have raised no facts in their present petition to support inclusion of this system in the CCP.[6]

Upon a consideration of the bases stated by petitioners, I find no reason to require that the CCP be expanded to include those ongoing activities at Midland not presently encompassed within the program.

REMOVAL OF THE LICENSEE FROM MANAGERIAL RESPONSIBILITY FOR QUALITY ASSURANCE AND QUALITY CONTROL

In response to the discovery of implementation weaknesses, the licensee has restructured its quality assurance program over the past several years. In 1980, the licensee reorganized its quality assurance department into the Midland Project Quality Assurance Department (MPQAD) and increased the involvement of high-level Consumers Power Company management in onsite quality activities. MPQAD took over the quality control function for HVAC installation from the Zack Company following the identification of Zack quality problems in 1980 and NRC's issuance of a civil penalty for the Zack quality problems. In September 1982 the quality control functions of Bechtel were integrated into MPQAD at the suggestion of the NRC. More recently, the licensee has instituted the CCP, which includes an extensive reinspection of construction work to verify the quality of the work. These changes have increased the licensee's involvement in assuring the quality of plant construction.

The petitioners continue to be skeptical of the licensee's ability to manage the Midland quality assurance and quality control programs. As a result, petitioners renew a request raised in their June 1983 petition to

---

[6] During the review process for my previous decision, it was noted that a QC Activities Hold was placed on the CPCo Hanger Reinspection Program on June 29, 1983, because of problems detected with the Bechtel drawing and design change control system. As a result of this problem, a nonconformance report was later issued that directly impacted Babcock and Wilcox NSSS construction activities, causing them to be stopped. Also, concurrent with issuance of my decision a similar problem was identified on October 5, 1983, and a Stop-Work Order was issued by Consumers Power Company regarding Bechtel drawing and design change documents. Again the Babcock and Wilcox construction activities were affected and construction was halted. *See* Board Notification 83-162. Subsequent to my decision, an additional Stop-Work Order was issued on October 22, 1983, that halted *all* site construction work because of additional problems that were found relating to the Bechtel design documentation system. As a result of the Stop-Work Order Babcock and Wilcox work again had to be discontinued. *See* Board Notification 83-167 and 84-083. Problems were properly identified and adequate corrective actions were taken. The NRC and the independent third-party overviewer (Stone & Webster) reviewed the problem identification and corrective action. The portion of the Stop-Work Order pertaining to Babcock and Wilcox construction activities was released on February 8, 1984. The Babcock and Wilcox NSSS construction work resumed shortly thereafter. This Stop-Work Order was totally lifted on March 23, 1984.

remove the licensee from responsibility for the quality assurance program at Midland, to be replaced by an independent third party which would report simultaneously to the licensee and the NRC. In support of their present request, petitioners reference the results of two investigations. The first investigation[7] concerned whether false statements were made by an employee of Bechtel to the NRC staff during a meeting and in a subsequent telephone call. *See* Petition at 8. A second investigation, conducted by the NRC Office of Investigations (OI) into the events surrounding digging below a deep-Q duct bank without prior NRC authorization, concluded that the licensee had violated its construction permits. The petitioners rely on these investigations, and an ongoing OI investigation into an allegation that information concerning soils settlement was withheld from the NRC, as well as the licensee's lack of knowledge as to the extent of the cracks in the Auxiliary Building, and the litigation the licensee is presently involved in as further justification for removal of the licensee from quality assurance responsibilities. *Id.*

The first investigation "failed to provide conclusive evidence that a material false statement was made . . ." and no enforcement action was taken. *See* Letter to J.W. Cook, Consumers Power Co. from J.G. Keppler, NRC (January 18, 1983); Inspection Report Nos. 50-329/82-13, 50-330/82-13. The Regional Administrator did, however, urge the licensee to emphasize to its personnel and contractor personnel the importance of providing accurate information to the NRC and indicated that strong enforcement action would be taken should a material false statement be established. The staff has not identified any pattern of this type of conduct on the part of the licensee and does not consider this incident of such significance to warrant removal of the licensee from managerial responsibility for the Midland quality assurance program.

In view of the history of quality assurance problems at the Midland site and the results of the deep-Q duct bank investigation referenced by petitioners, a Confirmatory Order was issued on January 12, 1984 which found that the licensee had not met the terms of its construction permits. The order requires the licensee to obtain an independent appraisal of site and corporate management organizations and functions at Midland. The appraisal is to evaluate the licensee's current organizational responsibilities, management controls, communications systems and

[7] Petitioners refer to the investigation as one conducted by the Office of Investigations (OI). The investigation was actually conducted by Region III's enforcement and investigation staff, since OI had not been created at the time the investigation was commenced.

practices, both on site and between the licensee's corporate offices and the site. The appraisal will also include a review of the licensee's site and corporate construction management involved in the Midland project to determine their capability and competency for managing construction activities consistent with regulatory requirements. The appraisal is also expected to develop recommendations where necessary for improvements in management communications, controls and oversight. 49 Fed. Reg. 2562 (1984). The licensee's appraisal plan was recently reviewed by the staff and approved by the Regional Administrator of NRC Region III.[8]

The Midland management appraisal is expected to identify any organizational deficiencies which need to be corrected. Upon receipt of the results of the appraisal, the Confirmatory Order required the licensee to consider the appraisal's recommendations, if any, and provide to the Region III Administrator an analysis of each recommendation, the action to be taken in response to each recommendation and a schedule for accomplishing such actions. The management appraisal should address the concern raised by petitioners.

At the time the petitioners' request was filed, the NRC staff had not yet completed its special inspection into allegations regarding the implementation of the quality assurance program with respect to the Zack Company's work on the Midland HVAC system. That special inspection, which involved five Region III inspectors, three representatives of the Office of Nuclear Reactor Regulation, and 1142 total inspector-hours, has now been completed. Of particular concern to the petitioners was the licensee's failure to notify the NRC of deficiencies in Zack's material certification records. The NRC inspection team concluded that inadequate procedures for the identification and evaluation of deficiencies to determine reportability under 10 C.F.R. § 50.55(e) very likely contributed to the licensee's failure to report the deficiencies. *See* Inspection Report Nos. 50-329/83-08 and 50-330/83-08, at 8. Enforcement action was taken against the licensee through issuance of a Notice of Violation for failure to report Zack deficiencies under 10 C.F.R. § 50.55(e). *See* Letter to J.W. Cook, Consumers Power Co., from J.G. Keppler, NRC Region III (March 7, 1984). The licensee has instituted corrective action. Major revisions have been made by the licensee to its program for identifying and evaluating conditions for reportability under § 50.55(e). Region III will continue to evaluate the licensee's performance to determine the adequacy of the revised procedures. In view of

[8] *See* Letter to J.G. Keppler, NRC Region III, from J.W. Cook, Consumers Power Co. (March 7, 1984) (enclosing Independent Management Appraisal Plan of Cresap, McCormick, and Paget and TERA); Letter from J.G. Keppler (May 11, 1984) (approving management plans of Cresap, McCormick, and Paget and TERA).

the licensee's actions, and the relatively less serious safety implications of the HVAC systems, the violation is not of such significance as to warrant removal of the licensee from responsibility for its quality assurance program.

Petitioners also point to the "multiple" investigations conducted into the activities of the licensee at Midland as justification for requiring the licensee to retain an outside organization to manage the quality assurance program. As precedent for their request, petitioners reference the staff's action with regard to H.J. Kaiser at the Zimmer plant. The two situations, are not, however, comparable. At Zimmer, the question before the staff was whether to approve a proposed Course of Action for verification of the quality of construction and for completion of construction should Kaiser continue as constructor of the plant. Based upon investigative information, the staff advised Cincinnati Gas & Electric Company that the staff would not approve the Course of Action should Kaiser be retained as constructor.[9] In Zimmer, retention of the constructor, not the licensee, as in Midland, was at issue. At no time was serious consideration given to removing the licensee, Cincinnati Gas & Electric Company, from responsibility for the Zimmer quality assurance program. Strong action was taken at Zimmer as deemed necessary. Similarly strong action, albeit different from Zimmer, in the form of the CCP, has been taken at Midland.

The staff has observed that the licensee's performance at Midland has improved in recent months. Following the NRC's identification of problems within the diesel generator building in late 1982, the licensee took positive management action to resolve NRC concerns and to strengthen its management to improve its capability to assure the quality of construction of the Midland facility. Work was stopped in most areas, personnel changes were made, additional staff were hired, and inspectors were retrained. Through implementation of the CCP, work is being reinspected, and future construction work will be overviewed by an independent third party. Moreover, an independent party, the TERA Corporation, is conducting a design verification program. The licensee is making progress in the remedial soils area and the soils overview group has expressed satisfaction and confidence in the soils work being accomplished. Likewise, the NRC has not identified recent quality problems in the soils area. Despite this improved performance, intense overview of the soils work will continue. The staff's close inspection scrutiny will

[9] *See* Letter to W.H. Dickhoner, Cincinnati Gas & Electric Co., from J.G. Keppler, NRC (November 21, 1983).

continue until confidence in the licensee's abilities to implement its quality assurance program are fully restored.[10]

Should their request to remove the licensee from quality assurance control responsibilities be denied, petitioners argue that there is an immediate need for removal of the licensee from managerial responsibility for the quality verification portion of the CCP pending the completion of the management appraisal. *See* Petition at 9. The petitioners base this request on the preliminary findings of nonconformances by the Stone & Webster Engineering Company, the third party retained to overview the implementation of construction under the CCP. The staff has reviewed the Stone & Webster Nonconformance Identification Reports which document identified nonconformances in the quality verification portion of the CCP. Based on this review, the staff has concluded that the nonconformances identified to date do not support the petitioner's statements that there is an immediate need for removal of the licensee from managerial responsibility of the CCP. Indeed, a properly planned and executed, independent third-party overview program will and should identify a certain amount of problems. In all events, a properly planned and executed quality assurance program will and should identify most, if not all, problems. *See Union Electric Co.* (Callaway Plant, Unit 1), ALAB-740, 18 NRC 343, 346 (1983). The success of a quality assurance program lies with the program's ability to promptly identify and correct conditions adverse to quality. *See* 10 C.F.R. Part 50, Appendix B, Criterion XVI.

The CCP is designed to remedy the licensee's past problems with implementation of its quality assurance program. The management appraisal is designed to identify weaknesses in management. Additional actions may be taken based upon the recommendations of the independent management appraisal. The expansion of the licensee's responsibilities by MPQAD and the employment of an overviewer to monitor implementation of the CCP actions have improved the licensee's capabilities in the quality assurance area. In view of the remedial programs currently

---

[10] The following example is indicative of the licensee's improved performance in the area of quality assurance, and provides evidence that the licensee's program is working. On October 22, 1983, Consumers Power Company's audit program identified problems with the control of design changes. The licensee issued nine stop-work orders halting nearly all safety-related work. The licensee's corrective actions included an in-depth review of all Field Change Requests, Field Change Notices, document control registers, and affected drawings and specifications. Controlling procedures were also revised and each control station was then updated with the most recent revision of controlled documents. The entire process was reviewed by MPQAD. Stone & Webster Engineering Company, the CCP overviewer, also audited the process to assure that proper problem identification, resolution, and corrective action was taken. Although the NRC has not inspected this work, the licensee reported that the nonconformances identified during the document review have no significant impact on hardware. The stop-work orders were lifted between January 19 and March 23, 1984, and work has resumed on site.

in place at the Midland Plant, removal of the licensee from quality assurance responsibilities is not necessary to ensure safe construction of the facility. Accordingly, removal of the licensee from any of its quality responsibilities is not warranted at this time.

Should Consumers Power Company fail to rehabilitate itself under the CCP and the management appraisal, it may face revocation of its construction permit and denial of an operating license.

CONCLUSION

Based upon the staff's review of the matters set forth in the Lone Tree Council's petition, I find that there is no adequate basis at this time to expand the scope of the CCP to include all ongoing work at Midland or to remove the licensee from managerial responsibility for quality assurance activities. The petitioners' request is therefore 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).

Richard C. DeYoung, Director
Office of Inspection and
Enforcement

Dated at Bethesda, Maryland,
this 24th day of July 1984.

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

INTRODUCTION

On May 30, 1984, the City of Harrisburg, Pennsylvania (Petitioner) filed a Petition pursuant to 10 C.F.R. § 2.206 requesting the institution of proceedings pursuant to 10 C.F.R. § 2.202 to suspend indefinitely the license of GPU Nuclear to operate the Three Mile Island Nuclear Station, Unit No. 1 (TMI-1) facility.[1] The Petition was based upon alleged inadequacies in the emergency evacuation plan for the City of Harrisburg, specifically, a concern that the emergency evacuation plan did not adequately provide for the evacuation of the City of Harrisburg in the event of an incident at the TMI-1 facility. The Petitioner further requested that the TMI-1 facility not be permitted to restart unless and until all municipalities located in the counties surrounding the facility have adopted and approved emergency plans. For the reasons given below, I decline to grant the relief requested and deny the Petition.

DISCUSSION

At the outset, it must be said that Petitioner's compliance with 10 C.F.R. § 2.206, the provision of the Commission's regulations under which the Petition was submitted, is questionable. That regulation requires that requests made pursuant to it shall "set forth the facts that constitute the basis for the request." *See* 10 C.F.R. § 2.206(a). *See also Public Service Co. of New Hampshire* (Seabrook Station, Unit 2), CLI-84-6, 19 NRC 975, 979 (1984). The Petition is essentially devoid of any factual information other than that the radiological emergency response plan (referred to by the Petitioner as the emergency evacuation plan) currently in place with respect to the TMI-1 facility for the City of Harrisburg has been rejected by the City Council in Resolution No. 59-1984 passed on March 6, 1984. The only suggestion in the Resolution itself regarding a deficiency with respect to emergency planning for the City of Harrisburg is the allegation that, in December 1981, the State emergency planning agency, presumably the Pennsylvania Emergency Management Agency (PEMA), revised its plan for future evacuation of Harrisburg to eliminate 85% of the City's population from the emergency plan. It is this allegation that comprises the sum and substance of Petitioner's request.

[1] GPU Nuclear is the successor in interest to Metropolitan Edison Company, *et al.*, the former operator of the TMI-1 facility.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

OFFICE OF INSPECTION AND ENFORCEMENT

Richard C. DeYoung, Director

In the Matter of

Docket No. 50-289
(10 C.F.R. § 2.206)

METROPOLITAN EDISON COMPANY,
et al.
(Three Mile Island Nuclear Station, Unit 1)

July 27, 1984

The Director of the Office of Inspection and Enforcement denies a petition filed by the City of Harrisburg, Pennsylvania requesting the institution of proceedings pursuant to 10 C.F.R. § 2.202 to suspend indefinitely the license of GPU Nuclear to operate the Three Mile Island Nuclear Station, Unit No. 1.

LOW POPULATION ZONE: SIZE

Petitioner's request pursuant to 10 C.F.R. § 2.206 is denied in the absence of any substantive information calling into question the adequacy of the plume exposure pathway Emergency Planning Zone (EPZ) as currently configured or the emergency evacuation planning efforts within the EPZ.

EMERGENCY PLAN: CONTENT

To the extent that various municipalities located in counties involved with emergency planning have not adopted and approved emergency plans, such action on their part is not necessary for and does not constitute an impediment to adequate emergency planning.

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

INTRODUCTION

On May 30, 1984, the City of Harrisburg, Pennsylvania (Petitioner) filed a Petition pursuant to 10 C.F.R. § 2.206 requesting the institution of proceedings pursuant to 10 C.F.R. § 2.202 to suspend indefinitely the license of GPU Nuclear to operate the Three Mile Island Nuclear Station, Unit No. 1 (TMI-1) facility.[1] The Petition was based upon alleged inadequacies in the emergency evacuation plan for the City of Harrisburg, specifically, a concern that the emergency evacuation plan did not adequately provide for the evacuation of the City of Harrisburg in the event of an incident at the TMI-1 facility. The Petitioner further requested that the TMI-1 facility not be permitted to restart unless and until all municipalities located in the counties surrounding the facility have adopted and approved emergency plans. For the reasons given below, I decline to grant the relief requested and deny the Petition.

DISCUSSION

At the outset, it must be said that Petitioner's compliance with 10 C.F.R. § 2.206, the provision of the Commission's regulations under which the Petition was submitted, is questionable. That regulation requires that requests made pursuant to it shall "set forth the facts that constitute the basis for the request." *See* 10 C.F.R. § 2.206(a). *See also Public Service Co. of New Hampshire* (Seabrook Station, Unit 2), CLI-84-6, 19 NRC 975, 979 (1984). The Petition is essentially devoid of any factual information other than that the radiological emergency response plan (referred to by the Petitioner as the emergency evacuation plan) currently in place with respect to the TMI-1 facility for the City of Harrisburg has been rejected by the City Council in Resolution No. 59-1984 passed on March 6, 1984. The only suggestion in the Resolution itself regarding a deficiency with respect to emergency planning for the City of Harrisburg is the allegation that, in December 1981, the State emergency planning agency, presumably the Pennsylvania Emergency Management Agency (PEMA), revised its plan for future evacuation of Harrisburg to eliminate 85% of the City's population from the emergency plan. It is this allegation that comprises the sum and substance of Petitioner's request.

---

[1] GPU Nuclear is the successor in interest to Metropolitan Edison Company, *et al.*, the former operator of the TMI-1 facility.

In essence, the Petitioner questions the adequacy of the plume exposure pathway Emergency Planning Zone (hereinafter referred to as the plume exposure pathway EPZ or EPZ) required by the Commission's regulations and for which evacuation planning is required. *See* 10 C.F.R. § 50.47(c)(2) and Appendix E to Part 50. The Commission's regulations require generally that the plume exposure pathway EPZ for nuclear power plants shall consist of an area about 10 miles in radius, with the exact size and configuration of the EPZ to be determined in relation to local emergency response needs and capabilities as they are affected by such conditions as demography, topography, land characteristics, access routes and jurisdictional boundaries. It appears from the Petition that the City of Harrisburg is discontent with the EPZ currently incorporated in the radiological emergency response plans associated with the TMI-1 facility in that the EPZ does not include all of the City.[2]

The adequacy of the EPZ for the TMI-1 facility has already been determined by this agency. The EPZ for the TMI-1 facility was litigated before an Atomic Safety and Licensing Board in the restart proceeding.[3] There the Board considered a number of issues related to the adequacy of the EPZ adopted for use around TMI-1. Among the issues considered by the Board was a contention seeking to extend the size of the EPZ boundary to include the cities of Harrisburg and York and the urbanized areas surrounding those cities.[4] In its decision, the Licensing Board recognized that the EPZ for TMI had been defined by the Pennsylvania Emergency Management Agency, the agency responsible for assuring emergency preparedness for the Commonwealth of Pennsylvania. The Board found no evidentiary basis for disagreeing with the judgments reached by PEMA in this regard.[5]

These findings by the Licensing Board have been affirmed on appeal[6] and these determinations were not disturbed by the Commission.[7] Since those determinations were reached, no significant new information has developed which would call them into question. The Commonwealth of

---

[2] Emergency planning for the TMI-1 facility is an integrated effort involving an onsite utility-developed radiological emergency response plan and offsite emergency plans including the Commonwealth of Pennsylvania emergency response plan and supporting county and municipal plans.

[3] *Metropolitan Edison Co.* (Three Mile Island Nuclear Station, Unit 1), LBP-81-59, 14 NRC 1211, 1553-69 (1981).

[4] *Id.* at 1557.

[5] *Ibid.*

[6] *Metropolitan Edison Co.* (Three Mile Island Nuclear Station, Unit 1), ALAB-697, 16 NRC 1265 (1982); *Metropolitan Edison Co.* (Three Mile Island Nuclear Station, Unit 1), ALAB-698, 16 NRC 1290 (1982).

[7] The Commission declined to review ALAB-697 and its review of ALAB-698 did not encompass the adequacy of the EPZ for the TMI-1 facility. *See Metropolitan Edison Co.* (Three Mile Island Nuclear Station, Unit 1), CLI-83-22, 18 NRC 299 (1983).

Pennsylvania has submitted the State radiological emergency plan and supporting county and municipal plans to the Federal Emergency Management Agency (FEMA) for review and formal administrative approval under 44 C.F.R. Part 350 of FEMA's rules. FEMA's review to date as well as the testing of the plans during emergency preparedness exercises has not resulted in any negative finding regarding the appropriateness and adequacy of the plume exposure pathway EPZ for TMI-1.[8]

Consequently, based on the above, I have concluded that the Petitioner has failed to present any substantive information calling into question the adequacy of the plume exposure pathway EPZ as currently configured for TMI-1 of the emergency evacuation planning efforts within the EPZ undertaken by the Commonwealth of Pennsylvania and the affected counties and municipalities. To the extent that various municipalities located in counties involved with emergency planning for TMI-1 have not adopted and approved emergency plans, such action on their part is not necessary for and does not constitute an impediment to adequate emergency planning for TMI-1. The municipal plans have been incorporated into the State and county plans for TMI-1. The submission of the plans to FEMA for review and administrative approval under 44 C.F.R. Part 350 of FEMA's rules indicates that the Commonwealth of Pennsylvania believes that the municipal plans in concert with the State and county plans are adequate to protect the health and safety of the public in the event of a radiological incident at TMI-1. Neither the regulations nor the guidance criteria[9] applicable to emergency planning require that local plans be adopted and approved by local governing bodies as a condition for a finding of adequacy.

Notwithstanding the above, there has been movement to address the concerns of the City Council of Harrisburg. It is my understanding that discussions have been held between representatives of PEMA, Dauphin County and the City of Harrisburg regarding the development of an "all-hazards" emergency plan for Harrisburg which would provide protection for a variety of natural and man-made emergency situations, and that favorable progress toward this end has been made.

---

[8] As a result of the full-scale emergency preparedness exercise conducted on November 16, 1983, FEMA did identify four deficiencies which require correction in order for FEMA to provide NRC with an acceptable finding on offsite preparedness. Three of these concerned communications in Dauphin and Lancaster Counties and the fourth concerned staffing of the Dauphin County Emergency Operations Center. PEMA has developed a schedule of corrective actions including remedial drills to demonstrate that the identified deficiencies have been corrected. FEMA will observe these drills and report its findings to the NRC. None of the deficiencies are related to the issue raised in the City of Harrisburg petition, namely, that the emergency plan has been revised to exclude a large portion of the City.

[9] Principally, NUREG-0654/FEMA-REP-1, Revision 1, "Criteria of Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," November 1980.

CONCLUSION

In summary, the plume exposure pathway EPZ for the TMI-1 facility has been given close review by the affected Pennsylvania counties, PEMA, the NRC, and FEMA. The EPZ associated with the TMI-1 facility has been found acceptable by these entities. Consequently, I conclude that the currently configured plume exposure pathway EPZ is in conformance with emergency planning requirements and is adequate to provide a basis for emergency response efforts including evacuation in the event of an emergency at the TMI-1 facility.

Accordingly, Petitioner's request for action pursuant to 10 C.F.R. § 2.206 has been denied for the reasons described in this decision.

As provided by 10 C.F.R. § 2.206(c), a copy of this decision will be filed with the Secretary for the Commission's review.

Richard C. DeYoung, Director
Office of Inspection and
Enforcement

Dated at Bethesda, Maryland,
this 27th day of July 1984.