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NUCLEAR REGULATORY COMMISSION ISSUANCES

April 1984

U.S. NUCLEAR REGULATORY COMMISSION

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Vol. 19, No. 4
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NUCLEAR REGULATORY COMMISSION ISSUANCES

April 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)

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Nunzio J. Palladino, Chairman
Victor Gilinsky
Thomas M. Roberts
James K. Asselstine
Frederick M. Bernthal

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COMMISSION

Cite as 19 NRC 937 (1984) CLI-84-4

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

COMMISSIONERS:

Nunzio J. Palladino, Chairman
Victor Gilinsky
Thomas M. Roberts
James K. Asselstine
Frederick M. Bernthal

In the Matter of **Docket Nos. 50-275**
50-323

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

April 3, 1984

The Commission requests the views of the parties on a series of specific questions relating to the need to consider the complicating effects of earthquakes on emergency planning for the Diablo Canyon nuclear plant because of its location in an area of relatively high seismicity. Additionally, the Commission determines that consideration of the issue is unnecessary with respect to low-power operation because it pertains primarily to offsite emergency planning requirements which are not essential to low-power licensing decisions.

EMERGENCY PLANNING: EARTHQUAKES (IMPACT ON)

Current regulations do not require the consideration of the impacts on emergency planning of earthquakes which cause or occur during an accidental radiological release. *Southern California Edison Co.* (San Onofre Nuclear Generating Station, Units 2 and 3), CLI-81-33, 14 NRC 1091, 1091-92 (1981).

ORDER

This order concerns the issue of the consideration of complicating effects of earthquakes on emergency planning in the Diablo Canyon licensing proceedings.

In the *San Onofre* proceeding, the Commission declared that

> current regulations do not require consideration of the impacts on emergency planning of earthquakes which cause or occur during an accidental radiological release. Whether or not emergency planning requirements should be amended to include these considerations is a question to be addressed on a generic, as opposed to a case-by-case, basis.

Southern California Edison Co. (San Onofre Nuclear Generating Station, Units 2 and 3), CLI-81-33, 14 NRC 1091, 1091-92 (1981). In the interim, the Commission precluded consideration of this issue in individual licensing adjudications. Thus, the boards have properly excluded this issue from this adjudication.

In response to the Commission's *San Onofre* decision, the NRC staff reported its view that generic consideration was neither necessary nor appropriate, but appears to believe that some specific consideration of the effects of seismic events on emergency planning may be warranted for plants located in areas of relatively high seismicity. *See* NRC staff memoranda, dated June 22, 1982 and January 13, 1984, attached hereto.

In view of this development, the Commission has decided to address whether to allow such consideration under the circumstances in this case. With respect to low-power operation, however, the Commission is satisfied that, pursuant to 10 C.F.R. § 50.47(d), this issue need not be reviewed further because it pertains primarily to offsite emergency planning requirements which are not essential to low-power license decisions.

To help the Commission with its consideration of this issue, the parties are requested to provide their views on the following issues no later than 30 days after the date of this Order.

Issues:

1. whether NRC emergency planning regulations can and should be read to require some review of the complicating effects of earthquakes on emergency planning for Diablo Canyon;
2. if the answer to question (1) is no, should such a review be performed for Diablo Canyon on the ground that it presents special circumstances under 10 C.F.R. § 2.758. If so, what are the special circumstances that would permit consideration of

the effects of earthquakes on emergency planning for Diablo Canyon?

3. if the answer to (1) or (2) is yes, then the following information should be provided:
   (a) The specific aspects of emergency planning at Diablo Canyon on which the impacts of earthquakes should be considered.
   (b) The specific deficiencies in the consideration already given to the impacts of earthquakes on emergency plans for Diablo Canyon. In this regard the NRC staff is directed to serve on the parties to the proceeding a copy of the Licensee's submittal regarding effects of earthquake on emergency planning. However, the Commission is not requesting the filing of contentions in response to this order. The matter of contentions will be handled by a Licensing Board if a proceeding is to be held.
   (c) The appropriateness of limiting to the Safe Shutdown Earthquake the magnitude of the largest earthquake to be considered.
   (d) The substantive criteria for reviewing the effects of earthquakes on emergency planning.
   (e) The necessity for litigation of this matter, including the general scope of (i) proceedings, if any, that should be held, and (ii) issues that should be litigated.

The Commission notes that it is not now deciding whether any requirement for further hearings would require that interim operation of the plant be stayed. The stay determination, if and when it is presented, will be a matter for the equitable discretion of the Commission or Appeal Board. *See, e.g., Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), CLI-77-8, 5 NRC 503 (1977). Parties need not address the stay question at this time.

Commissioner Gilinsky abstained from this decision.

It is so ORDERED.

For the Commission*

SAMUEL J. CHILK
Secretary of the Commission

Dated at Washington, D.C.,
this 3d day of April 1984.

ATTACHMENT 1 TO CLI-84-4

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555

June 22, 1982

MEMORANDUM FOR: Chairman Palladino
Commissioner Gilinsky
Commissioner Ahearne
Commissioner Roberts
Commissioner Asselstine

FROM: William J. Dircks
Executive Director for Operations

SUBJECT: EMERGENCY PLANNING AND NATURAL HAZARDS

By memorandum dated March 1, 1982, the Secretary of the Commission requested the staff to consider several questions with regard to emergency planning.

1. Should the emergency planning activities of NRC licensees include consideration of the possible effects on emergency plans of a very large earthquake?

*Commissioner Asselstine was not present when this Order was affirmed, but had previously indicated his approval.

It is the judgment of the staff that for most sites earthquakes need not be explicitly considered for emergency planning purposes because of the very low likelihood that an earthquake severe enough to disturb onsite or offsite planned responses will occur concurrently with or cause a reactor accident. Planning for earthquakes which might have implications for response actions or initiate occurrences of the "Unusual Event" or "Alert" classes in areas where the seismic risk of earthquakes to offsite structures is relatively high may be appropriate (*e.g.*, for California sites and other areas of relatively high seismic hazard in the Western U.S.).

2. If NRC requirements are to include this consideration, then what criteria should be applied in evaluating the adequacy of such plans in this respect?

In view of the staff response to question 1, current review criteria are considered adequate. Also the staff does not believe that rulemaking is necessary with regard to this issue based on the analysis conducted. The Hearing Boards have read the Commission ruling in the *San Onofre* case (CLI-81-33) to eliminate consideration of all earthquakes at California sites.* The interaction of earthquakes less than the SSE with emergency preparedness was considered in the staff SER for San Onofre and ultimately was not a matter in contention in the *San Onofre* proceeding.

Commissioner Ahearne requested several actions be taken by the staff and these requests were also transmitted in the March 1, 1982, memorandum from the Secretary of the Commission. These are addressed below.

1. The staff should, in conjunction with FEMA, develop an approach for checking the ability of emergency plans to cope with natural phenomena which would be expected to occur during the life of the plant. Examples are: earthquakes, blizzards, tornadoes, hurricanes, tsunamis, and floods that might be expected once every 40 years. FEMA and the staff should develop guidelines for examining plans for flexibility and should identify measures which can be used to assure flexibility.

As stated in the enclosure, a site emergency plan is expected to address all the site characteristics which may require an emergency response. Adverse conditions, which generally correspond to once in 20 to 40 year events, are considered in the evacuation time estimates called for in

*For example, *Pacific Gas & Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), Memorandum and Order, December 23, 1981 (unpublished), directed certification denied by Commission Order dated March 5, 1982.

staff guidance (Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants, NUREG-0654/FEMA-REP-1) which was developed jointly by the staff and FEMA. The evacuation time estimates are used in the optimization of evacuation and shelter plans as well as being available to decisionmakers in emergency conditions. Continuing review of plans to assure flexibility is already provided by 10 C.F.R. Part 50, Appendix E and 10 C.F.R. § 50.54(t).

2. The staff should develop a list of the once in a lifetime natural disasters most likely for each plant either holding an operating license or in the OL process.

Because of the relatively high risk, current practice calls for California licensees and applicants to consider the effects of earthquakes in their emergency planning and for the Trojan plant to consider the consequences of a Mt. St. Helens eruption in its plan. Other plants do consider adverse conditions in developing evacuation time estimates as discussed above but a consolidated listing does not appear to warrant the effort.

3. Existing emergency plans should be examined to determine whether adequate flexibility is present.

The emergency plan reviews and the onsite implementation appraisals which the staff has been conducting include examinations of the overall flexibility of a licensee's emergency response capability and the adequacy of evacuation time estimates, which include the consideration of adverse conditions. Therefore, no further review is believed to be necessary by NRC.

William J. Dircks
Executive Director for Operations

Enclosure: Staff Analysis

cc: OPE
OGC
SECY

ENCLOSURE

BASIS FOR CONSIDERATION OF NATURAL HAZARDS IN EMERGENCY PLANNING

A fundamental premise in the approach to emergency planning utilized by the Federal Emergency Management Agency (FEMA) and the Commission is that the emergency planning basis must be capable of responding to a wide spectrum of accidents. This was the conclusion reached by the Task Force which authored NUREG-0396 (Planning Basis for the Development of State and Local Government Radiological Emergency Response Plans in Support of Light Water Nuclear Power Plants). That Task Force report was subsequently endorsed by the Commission in its Policy Statement with respect to the Planning Basis for Emergency Responses to Nuclear Power Reactor Accidents (Policy Statement). 44 Fed. Reg. 61,123 (October 23, 1979). The concept is reiterated in NUREG-0654 (Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants). Consequently, as a single specific accident sequence for a light water reactor nuclear power plant could not be identified as a planning basis, both NUREG-0396 and NUREG-0654 emphasized that the most important element of any planning basis is the distance from the nuclear facility which defines the area over which planning for predetermined action should be carried out. Not only is this area, termed the Emergency Planning Zone or EPZ, crucial but the *characteristics* of the EPZ are significant.

> The need for specification of areas for major exposure pathways is evident. The location of the population for whom protective measures may be needed, responsible authorities who would carry out protective actions and the means of communication to these authorities and to the population are all dependent on the *characteristics of the planning areas.* (Emphasis supplied) NUREG-0654, p. 8.

It is, therefore, inherent in the planning approach utilized by FEMA and the Commission, *i.e.*, the Emergency Planning Zone concept, that the characteristics of the Emergency Planning Zones themselves must be factored into emergency planning considerations. For example, if an EPZ is an area with singular adverse weather attributes, those attributes must be considered in emergency planning. This reasoning would extend to all attributes that might adversely affect an Emergency Planning Zone. Although neither 10 C.F.R. 50.47 nor Appendix E explicitly state that the emergency plans must account for adverse weather conditions or adverse site characteristics, such conditions are covered by

NUREG-0654, which the Commission has adopted to provide guidance in developing plans for coping with emergencies. NUREG-0654 calls for required evacuation time estimates to consider adverse conditions which might reasonably be expected to occur during the plant lifetime at a particular site and be severe enough to affect the time estimates for a particular event.

> Two conditions – normal and adverse – are considered in the analyses. *Adverse conditions would depend on the characteristics of a specific site and could include flooding, snow, ice, fog or rain.* (Emphasis supplied). NUREG-0654, pp. 4-6.

Thus, adverse site characteristics of a particular Emergency Planning Zone must be taken into account to satisfactorily implement the Commission's emergency planning regulations.

Explicit planning for emergency preparedness provides a base capability which can be expanded or contracted to address an actual emergency. Backup communications and feedback of damage estimates regarding transportation routes to decisionmakers after an earthquake would be generally available with or without specific advance planning. The general planning base would allow decisionmakers to choose specific actions from among available alternatives for a spectrum of events.

There is no explicit guidance in 10 C.F.R. 50.47 or in Appendix E to Part 50 nor in NUREG-0654 as to the extent to which adverse earthquake conditions are to be taken into account in emergency planning at particular sites. The staff, however, believes the answer to this question is dependent upon the nature of the risk and the nature of the remedy to deal with the risk. Except in California and other areas of relatively high seismic hazard in the Western U.S., the staff's judgment is that the nature of the seismic risk is such that no explicit consideration of earthquake effects is needed in emergency planning. (This judgment is not based on a quantitative analysis but rather on qualitative observations of the relatively lower seismic risk to roads, bridges and communications facilities in the east versus the west.) The occurrence of earthquakes of a nature that could have implications for onsite or offsite response actions or initiate occurrences of the "Unusual Event" or "Alert" class is an adverse characteristic of the type discussed above. The NRC staff made requests to California facilities to consider earthquake effects in their emergency planning, and the NRC staff also requested FEMA to consider earthquake effects in its evaluation of offsite plans. On the other hand, the staff concluded that additional requirements such as the design of additional facilities, structures and systems to specifically withstand earthquakes was not necessary for the reasons discussed above. In

particular, no special seismic design of public notification systems, environmental monitoring capability or communications equipment is contemplated. Also, explicit consideration need not be given to a seismic event coincident with a significant accident at the plant from another cause because of the very low likelihood of such a coincidence.

With respect to offsite effects at California sites, the FEMA Radiological Emergency Preparedness staff believes there should be assurance of continued communication between the plant and outside agencies. In addition, the Emergency Operations Centers (EOCs) of each of the jurisdictions involved in the emergency planning effort for a specific nuclear facility should have suitably distant backup facilities to permit continued functioning of a jurisdiction's emergency response given the possible failure of its primary EOC.

In addition, for California sites the capability should exist to obtain damage estimates both to the plant and to transportation and communication facilities offsite to provide a data base to factor into the decision-making process. Finally, California licensees should have available a range of recommendations to offsite authorities, taking into account the degree of damage to the plant caused by the earthquake and to transportation and communication facilities offsite.

Given an earthquake of magnitude less than or equal to the SSE, while the earthquake could have impacts upon communications and transportation as a consequence of the earthquake, the plant would likely not pose an immediate radiological hazard. If, however, an earthquake substantially in excess of the SSE were to occur, then the potential exists for a radiological hazard complicated by the nonradiological impacts posed by a major earthquake. In the view of the NRC staff, such a contingency does not warrant specific emergency planning efforts because of the general planning base capabilities discussed above. We conclude that this general planning base is adequate because of the remote likelihood of an earthquake substantially in excess of the SSE. In addition, the characteristics of an accident which could theoretically be created by an earthquake substantially larger than the SSE would not be outside the spectrum of accident consequences considered in NUREG-0396 upon which the judgment on planning zone sizes and other planning elements was based. This unlikely sequence would not be unlike the case of a severe accident (not generated by an earthquake) occurring after a winter storm at a site in the northern U.S. Evacuation may not be a feasible option in such a circumstance. It also should be noted that to provide for a preplanned emergency response in all remote circumstances could

require a commitment of substantial societal resources, *e.g.*, to assure that houses and bridges would withstand very large earthquakes.

ATTACHMENT 2 TO CLI-84-4

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555

January 13, 1984

MEMORANDUM FOR: Chairman Palladino

FROM: William J. Dircks
Executive Director for Operations

SUBJECT: EMERGENCY PLANNING AND NATURAL HAZARDS

On September 9, 1983, a meeting was held with you to discuss the Staff's views on the need for and extent of consideration of the potentially complicating effects of earthquakes in the context of emergency preparedness. Please recall that this issue emanates from the Commission's Memorandum and Order in the *San Onofre* proceeding, CLI-81-33 [14 NRC 1091], issued in December 1981, in which the Commission determined that "its current regulations do not require consideration of the impacts on emergency planning of earthquakes which cause or occur during an accidental radiological release."[1] The Commission further noted that it "will consider on a generic basis whether regulations

[1] In the *San Onofre* proceeding, the Licensing Board sought to raise, *sua sponte*, the issue of the effects of an earthquake exceeding the Safe Shutdown Earthquake on the applicants' and responding jurisdictions' abilities to carry out an evacuation in a timely manner and/or protect those in the EPZ pending evacuation. It had been the Staff's and FEMA's positions before the Licensing Board that in that proceeding, while consideration of the complicating effects of earthquakes *up to* the SSE was appropriate, consideration of the potential of earthquakes exceeding the SSE was not warranted. The Licensing Board rejected this view and instead affirmed its prior position calling for consideration of the potential effects of an earthquake exceeding the SSE. Thereafter, the Commission, as indicated above, reversed the Licensing Board's decision. Parenthetically, based on the Commission's *San Onofre* decision, the Licensing Board, in the *Diablo Canyon* proceeding rejected a contention regarding consideration of the effects of earthquakes on emergency preparedness. In an unpublished order issued on March 5, 1982, the Commission denied the Governor's request for interlocutory review of the Licensing Board's action. The Licensing Board's ruling was affirmed by the Appeal Board in ALAB-728, slip op. at 20-21 [17 NRC 792-93] (May 18, 1983) and review by the Commission was denied (CLI-83-32 [18 NRC 1309], December 9, 1983).

should be changed to address the potential impacts of a severe earthquake on emergency planning" and, a memorandum from the Secretary to the Executive Director for Operations, by memorandum of March 1, 1982, directed the Staff to undertake such consideration. By memorandum to the Commissioners dated June 22, 1982 (copy attached), the Executive Director responded to the questions posed in the Secretary's March 1 memorandum.[2]

After our September 9, 1983 meeting with you on this subject, you requested further technical discussion to provide a rationale for either including or not including specific emergency planning requirements for seismic events. The following thoughts are presented to respond to your request:

1. Offsite Damage Associated with Extreme Seismic Events

Offsite damage generated by earthquakes can significantly affect nuclear emergency response. The earthquake hazard and potential for such damage varies across the United States. Severe damage, such as the failure of buildings, bridges, and other engineered structures can typically be associated with large damaging earthquakes and their related ground motion levels. For a large part of the U.S. east of the Rocky Mountains, where most nuclear power plants are located, such ground motion levels would be well beyond the Safe Shutdown Earthquake (SSE). For areas associated with higher earthquake hazard, such as the West Coast, these ground motion levels could be at or even less than the SSE. Such high hazard areas may also exist in the east (for example, the New Madrid, Missouri, area), however, no nuclear power plants are presently sited within these areas in the east.

2. The Potential Impact of Offsite Damage on Emergency Response

The impact on emergency response capability from earthquakes is clearly site region dependent and is generally proportional to the degree of off-

[2] To very briefly summarize the Staff's position as expressed in its June 22nd response, the Staff concluded that the Commission's regulations do not require amendment since (1) for most sites there is only a very low likelihood that an earthquake severe enough to disturb onsite or offsite planned responses will occur concurrently with or cause a reactor accident, and (2) while planning for earthquakes which might have emergency preparedness implications may be warranted in areas where the seismic risk to offsite structures is relatively high (*e.g.*, California sites and other areas of the Western U.S.), current review criteria set forth in NUREG-0654 (which are derived from the Commission's regulations in 10 C.F.R. § 50.47) are considered adequate.

site damage. That is, the higher the intensity of the earthquake, the more extensive and severe is the damage it causes. For seismic events that result in significant and widespread damage to surrounding areas, the response capability would be degraded through extensive disruption of transportation and communication networks, and from the failure of major structures. In this instance the range of protective actions and the capability of the offsite jurisdictions to initiate and implement them could be drastically reduced. The degree of this reduction would vary based on conditions in the region around the site. For example, even with substantial damage to all bridges, a site might have so few bridges in its vicinity that blockage of roads would not be significant.

3. Plant Damage Associated with Seismic Events

When considering the possibilities of plant damage from seismic events, it is important to understand the severity of seismic events, their range of probabilities, and the potential for reactor accidents caused by seismic events. Three classes of seismic events are considered in this discussion. The first class includes earthquakes of relatively low ground motion, up to the Operating Basis Earthquake (OBE). The OBE ground motion depends on plant location. These accelerations vary in the range of about $0.05g$ to $0.10g$ (higher in areas of high seismicity). During an OBE all plant systems would be expected to remain operating.

The second class of events includes earthquakes with ground motion higher than the OBE but equal to or less than the Safe Shutdown Earthquakes (SSE); the ground motion of the SSE is typically about twice that of the OBE. Probabilities of occurrence for the SSE have typically been estimated to be on the order of one in a thousand or one in ten thousand per year. NRC regulations require that plants be designed to achieve a safe shutdown after an SSE. Given an SSE, all seismically qualified equipment would be expected to function to bring the plant to safe shutdown. An earthquake up to and including an SSE would be cause for an alert emergency action level classification. However, only in the event of a coincident failure of a safety function (safety systems are designed for the SSE) or some undiscovered common cause failure mechanism (such as a major design error) would there be a chance of an accident which would require offsite emergency response. The probability of these two events (SSE and safety function failure) occurring simultaneously is very much lower than the probability of either one, perhaps on the order of one in a million per reactor year or less.

The final class of events includes all earthquakes with ground motion levels above the SSE. Fragility analysis is used to estimate the probability of failure as a function of ground motion associated with these earthquakes. The Zion, Indian Point, and Limerick Probabilistic Risk Assessments estimated that, in general, ground motion on the order of $0.5g$ to $0.75g$ acceleration would be required to damage a nuclear power plant to the extent that significant release of radioactivity could occur. Of course, some plants, such as those in high seismic regions, are designed to withstand earthquakes with ground motion this high; they would resist damage to still higher levels of ground motion. The probability estimates for such ground accelerations are significantly less than the probability estimates for the SSE for these plants (the Zion, IP, and Limerick SSEs are $0.17g$, $0.15g$, and $0.15g$ respectively). The absolute probabilities for earthquakes at and beyond the SSE are extremely difficult to estimate and thus have large associated uncertainties.

4. Current Emergency Preparedness Considerations

Seismic events are considered and evaluated to a limited extent as part of our current emergency planning reviews. The following planning standards, some of which explicitly address seismic events, are addressed by the licensee, state and/or local emergency plans as explained in the following sections from NUREG-0654, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants."

II.D.4 Emergency Classification System

"Each State and local organization should have procedures in place that provide for emergency actions to be taken which are consistent with the emergency actions recommended by the nuclear facility licensee, taking into account *local offsite conditions* that exist at the time of the emergency." (Emphasis added)

II.H.5.a Emergency Facilities and Equipment

"Each licensee shall identify and establish onsite monitoring systems that are to be used to initiate emergency measures in accordance with Appendix 1, as well as those to be used for conducting assessment.

This equipment shall include:

a. geographical phenomena monitors, (*e.g.*, meteorological, hydrologic, seismic),"

II.H.6.a Emergency Facilities and Equipment

"Each licensee shall make provisions to acquire data from or for *emergency access* to *offsite* monitoring and analysis equipment including: (Emphasis added)

a. geographical phenomena monitors, (*e.g.*, meteorological, hydrologic, seismic);"

II.J.10.k Protective Response

"The organization's plans to implement protective measures for the plume exposure pathway shall include:

k. Identification of and means for dealing with potential impediments (*e.g.*, seasonal impassibility of roads) to use of evacuation routes, and contingency measures;"

For each of the emergency response classes given in Appendix 1 of NUREG-0654, severe natural phenomena (including seismic events) are included as part of the example initiating conditions. The seismic events specifically included in this appendix are the Operating Basis Earthquake, and the Safe Shutdown Earthquake as well as "any earthquake felt in-plant or detected on station seismic instrumentation."

The preceding show that seismic events are considered in emergency planning but, as is evident, these review criteria are not very clear and clarification of them could lead to some improvements in emergency preparedness, perhaps by leading to more refined analysis of potential road blockage, etc. However, it is not clear that such improvements would substantially reduce the impairment of emergency response caused by seismic damage offsite.

The Federal Emergency Management Agency (FEMA) reviews offsite radiological emergency planning and preparedness to insure the adequacy of Federal, State, and local capabilities in such areas as emergency organization, alert and notification, communications, measures to protect the public, accident assessment, public education and information, and medical support. Detailed, specific assessment of potential earthquake consequences and response are not part of this process related to radiological emergencies. FEMA does, however, have an active program of earthquake preparedness which includes estimates of damage and casualties, planning for Federal response to a major earthquake, and assistance to State and local governments in their earthquake planning and preparedness activities. FEMA believes that these separate activities would complement each other in the event that a concurrent response to a major earthquake and a serious accident at a nuclear power plant was required.

5. Risk Perspectives

Recent PRAs (*e.g.*, Zion, Indian Point) have indicated that very large earthquakes (much greater than the SSE) can dominate the risk from a nuclear power plant. Such earthquakes can cause massive plant damage leading to immediate offsite radiological hazards. In addition, massive offsite damage was assumed in these analyses which substantially degraded the emergency response.

Based upon the PRA results, the staff finds that for most earthquakes (including some earthquakes more severe than the SSE) the power plant would not be expected to pose an immediate offsite radiological hazard. For earthquakes which would cause plant damage leading to immediate offsite radiological hazards but for which there would be relatively minor offsite damage, emergency response capabilities around nuclear power plants would not be seriously affected. For earthquakes which cause more severe offsite damage, such as, for example, disabling a siren alerting system, the earthquake itself acts as an alerting system. For those risk dominant earthquakes which cause very severe damage to both the plant and the offsite area, emergency response would have marginal benefit because of its impairment by offsite damage. The expenditure of additional resources to cope with seismically caused offsite damage is of doubtful value considering the modest benefit in overall risk reduction which could be obtained.

6. Summary

Based on the preceding discussion the following summary points can be made:

a. In general, earthquakes up to and including the SSE are not expected to pose an immediate offsite radiological hazard.
b. Earthquakes beyond the SSE may cause plant damage and radioactive release under conditions where offsite damage impairs emergency response.
c. Further clarification or refinement of current requirements and guidance might reduce the impairment of emergency re-

sponse indicated in b. above, but the value of such reduction is uncertain.

William J. Dircks
Executive Director for Operations

Attachment: As stated

cc: Commissioner Gilinsky
Commissioner Roberts
Commissioner Asselstine
Commissioner Bernthal
OGC
OPE
OCA

Cite as 19 NRC 953 (1984) CLI-84-5

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

COMMISSIONERS:

Nunzio J. Palladino, Chairman
Victor Gilinsky
Thomas M. Roberts
James K. Asselstine
Frederick M. Bernthal

In the Matter of **Docket Nos. 50-275-OL**
50-323-OL

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

April 13, 1984

The Commission reinstates the low-power license for Unit 1 of the Diablo Canyon facility that authorizes the licensee to conduct tests at up to 5% of rated power, following the successful completion of programs established to verify the design of the plant, and the NRC staff's determination that there are no outstanding safety considerations warranting a delay in low-power operation. Intervenors' request for a stay of license reinstatement is denied by the Commission.

RULES OF PRACTICE: STAY OF AGENCY ACTION (LICENSING)

Speculation about a nuclear accident does not, as a matter of law, constitute the imminent, irreparable injury required for staying a licensing decision. *New York v. NRC*, 550 F.2d 745, 756-57 (2d Cir. 1977); *Virginia Sunshine Alliance v. Hendrie*, 477 F. Supp. 68, 70 (D.D.C. 1979).

MEMORANDUM AND ORDER

This decision completes the Nuclear Regulatory Commission's ("NRC" or "Commission") reinstatement of Pacific Gas and Electric Company's ("PG&E" or "licensee") Facility Operating License No. DPR-76 ("low-power license") to conduct low-power tests (at up to 5% of rated power) at the Diablo Canyon Nuclear Power Plant, Unit 1 ("Diablo Canyon"). The events leading up to the Commission's suspension of this license and subsequent steps to reinstate the license in part have been described in several prior orders of the Commission.[1] Accordingly, this Order focuses on events which have occurred since the Commission's last order and refers back to previous events only as necessary.

SAFETY REVIEW

A Commission condition for reinstatement of Diablo Canyon's low-power license was the successful completion of an Independent Design Verification Program (IDVP). CLI-81-30, 14 NRC 950 (1981).[2] The IDVP was conducted by organizations and individuals not associated with PG&E and was managed by Teledyne Engineering Services (TES). PG&E conducted a separate design verification effort called the internal technical program (ITP) which was performed by PG&E's Diablo Canyon Project ("DCP"), a joint organization of PG&E and Bechtel. Then, the NRC staff, with the help of its consultant, Brookhaven National Laboratory, conducted its own analysis.

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[1] The low-power license was issued on September 22, 1981. *See* CLI-81-22, 14 NRC 598 (1981). It was suspended on November 19, 1981. *See* CLI-81-30, 14 NRC 950 (1981). Following substantial review and reanalysis of the design and construction of Diablo Canyon, and public meetings at which all interested parties participated, the Commission reinstated the low-power license in part to authorize PG&E to load fuel and conduct pre-criticality tests (operational modes 6 and 5). CLI-83-27, 18 NRC 1146 (1983). Subsequently, the U.S. Court of Appeals for the District of Columbia Circuit denied a motion to stay the Commission's authorization to PG&E. On January 16, 1984, the Commission denied Joint Intervenors' motion for a stay of fuel loading and pre-criticality testing at Diablo Canyon, finding that these activities did not present significant health and safety risks and would not prejudice subsequent Commission decisions or foreclose modifications, if necessary, of the plant. CLI-84-1, 19 NRC 1 (1984). On January 25, 1984, the Commission reinstated another part of PG&E's low-power license by authorizing pre-critical hot system testing (operational modes 4 and 3). CLI-84-2, 19 NRC 3 (1984). As a separate matter, the Commission declined to review the Atomic Safety and Licensing Appeal Board's decision in ALAB-728, 17 NRC 777 (1983) which affirmed a decision by the Atomic Safety and Licensing Board on all issues other than quality assurance related to PG&E's application for a license to load fuel and conduct low-power testing.

[2] The Commission's Order required an IDVP of seismic, service-related contract activities prior to 1978. In addition, the NRC staff required an IDVP of non-seismic, service-related contract activities, PG&E internal design activities and post-1978 seismic service-related contract activities. In addition to design verification, the IDVP also reviewed some construction activities.

The scope of the IDVP and ITP, and the relation between them, is explained in detail in ALAB-763, 19 NRC 571 (1984). Essentially all of Diablo Canyon's safety-related seismic design was reviewed: the ITP reanalyzed all of the seismic design for safety-related structures, systems and components, while the IDVP oversaw and verified selected portions of the work in accordance with the program approved by the Commission. The review of non-seismic safety-related design was not as comprehensive. The IDVP reviewed three safety-related systems and two areas of safety-related analysis applicable to many other systems. Items of concern identified by the IDVP as potentially generic were addressed by the ITP for all systems designed by PG&E. In turn, the ITP verification work was sampled by the IDVP and the results reported in an Interim Technical Report (ITR). The ITP independently reviewed other non-seismic systems. As a result of this interaction between the ITP and IDVP, the IDVP obtained a broad and comprehensive understanding of the non-seismic design of Diablo Canyon.

The IDVP was completed in October 1983; PG&E's ITP is still ongoing. The NRC staff's review of the IDVP Final Report is contained in Supplements 18, 19 and 20 to the Safety Evaluation Report (SER) for Diablo Canyon, Unit 1. Supplements 18 and 19, PG&E's ITP, and physical modifications to the plant were the basis of the staff's recommendation of the partial reinstatement of PG&E's low-power license to load fuel and perform pre-criticality testing at Diablo Canyon. CLI-83-27, 18 NRC 1146 (1983). At that time there were still several open items and follow-up items which the staff believed required resolution prior to reinstatement of the rest of the low-power license.

The staff has updated its progress on open items in Supplement 20 to the Safety Evaluation Report (SSER 20). The staff considered information in the seismic monthly reports from the IDVP and PG&E, the IDVP Final Report, the PG&E final reports, and the Interim Technical Reports.[3] SSER 20 presents the staff's safety evaluation of open items and follow-up items that in the staff's view, must be satisfactorily resolved prior to the Commission's reinstatement of PG&E's authority to achieve criticality and perform low-power testing, *i.e.*, reinstatement of the low-power license for Diablo Canyon, Unit 1. SSER 20 reports that many of the open items and follow-up items previously identified in SSERs 18 and 19 have been resolved. On March 27, 1984, the NRC's Director of Licensing reported that in his view, all open and follow-up

[3] The Interim Technical Reports (ITR) are called interim because they were issued before completion of the IDVP. The ITRs document the completion of technical issues.

items identified in SSER 20 had been resolved satisfactorily for reinstatement of the low-power license for Diablo Canyon, Unit 1. He also stated that: (1) he knew of no new information since the completion of SSER 20 which would affect the staff's conclusions or judgments in SSER 20; and (2) that any other issues not addressed in SSERs 18, 19, and 20 had been satisfactorily addressed for the purposes of low-power operation.

The Commission also heard from Mr. Isa Yin, an NRC inspector at Diablo Canyon. Mr. Yin reported that he had found inadequate compliance with the quality assurance program for designing supports for small-bore and large-bore piping. He also stated that reinspection following modification of the pipe suspensions would be rendered more difficult by the environmental conditions in the plant after operation at low power. Accordingly, he requested that the Commission defer granting a low-power license until PG&E had remedied the deficiencies in pipe supporting systems and those changes had been reinspected by the NRC.

The Commission voted to defer reinstatement of the low-power license for Diablo Canyon until the disparity between Mr. Yin's views and those of the rest of the technical staff had been considered by the Advisory Committee on Reactor Safeguards ("ACRS") – a statutorily created advisory committee comprised of experts in various disciplines including nuclear engineering, nuclear physics, and radiation health physics.

The ACRS met in public session on April 6, 1984 and heard from Mr. Yin, other members of the NRC staff, and Mr. Charles Stokes, a previous employee at Diablo Canyon who had made allegations regarding the adequacy of the quality assurance program for the design of supports for small-bore pipes. Mr. Yin had found that some of Mr. Stokes' allegations were correct.

The NRC staff informed the ACRS that, on March 29, 1984 the NRC had convened a peer review panel of technical experts to review Mr. Yin's concerns. The panel met with Mr. Yin, and later with representatives of PG&E and some of the contractors involved in the IDVP. The peer review panel also visited Diablo Canyon to examine in detail some of the specific items identified as deficient by Mr. Yin. After the visit, the peer review panel met with Mr. Stokes, and somewhat later met again with Mr. Yin to discuss the panel's proposed findings. The panel concluded that Mr. Yin's concerns did not warrant delaying low-power operation of Diablo Canyon, but did require resolution prior to going to full power.

Mr. Yin also addressed the ACRS. He stated that "while several reverification and corrective action programs should be completed by PG&E

prior to NRC issuance of a full power operation license, there will be no apparent risk to the public health and safety to allow the reactor testing up to five percent power at the present." On questioning by members of the ACRS, Mr. Yin reiterated his position in spite of his acknowledgement of some residual differences with the rest of the NRC staff.

On April 9, 1984 the ACRS reported on its consideration of Mr. Yin's concerns. Based on the presentations by Mr. Yin and other members of the NRC staff and supporting documentary material, the ACRS found:

> We agree that it is acceptable to permit low power operation at this time. We believe that such operation will not compromise corrective actions that may be required.

In view of the statements by the ACRS and Mr. Yin, the Commission concludes that the concerns previously expressed by Mr. Yin have been resolved satisfactorily and do not warrant deferring the reinstatement of the low-power operating license for Diablo Canyon.

QUALITY ASSURANCE

The Joint Intervenors and the Governor of California raised issues related to design quality assurance and to construction quality assurance at Diablo Canyon. Their motion to reopen the record on the design quality assurance (DQA) program at Diablo Canyon was granted, and resulted in an adjudicatory proceeding before the Atomic Safety and Licensing Appeal Board at which the adequacy of the IDVP was a central issue. On March 20, 1984, the Appeal Board issued a 63-page decision in which it found:

> [T]he scope and the execution of the applicant's verification programs have been sufficient to establish that Diablo Canyon Unit 1 design adequately meets its licensing criteria. The applicant's verification efforts provide adequate confidence that the Unit 1 safety-related structures, systems and components are designed to perform satisfactorily in service and that any significant design deficiencies in that facility resulting from defects in the applicant's design quality assurance program have been remedied. Accordingly, we conclude that there is reasonable assurance that the facility can be operated without endangering the health and safety of the public.

ALAB-763, 19 NRC at 618-19.

Additional motions filed by the Joint Intervenors and Governor of California to reopen the record on DQA are still pending before the Appeal Board.

The Joint Intervenors and the Governor of California also sought reopening of the record on construction quality assurance (CQA). That

motion was denied by the Appeal Board in ALAB-756, 18 NRC 1340 (1983). Petitions for review of that decision are now pending before the Commission, and petitions to reopen the record are also pending before the Appeal Board.

In view of the pendency of the petitions for review of ALAB-756 (on construction QA), and of the fact that the time for filing petitions for review of ALAB-763 (on design QA) has not elapsed, we express no opinion as to the correctness of the two Appeal Board decisions. Nevertheless, we consider it worthy of note that there is nothing in the Appeal Board's decisions on construction quality assurance or design quality assurance to suggest that PG&E's low-power license should not be reinstated.

ALLEGATIONS

Since 1982, the NRC staff has received numerous allegations and concerns about the design, construction, and operation of the Diablo Canyon Nuclear Power Plant (Diablo Canyon) and the management of these activities by Pacific Gas and Electric Company (PG&E).[4] As the IDVP neared completion and the target date for a Commission decision on reinstatement of the license approached, the flow of allegations became a deluge and the NRC staff, with Commission concurrence, established a special Diablo Canyon Allegation Management Program ("DCAMP") to pursue the allegations and concerns to resolution.

The DCAMP is described in Supplement 21 to the Safety Evaluation Report for Diablo Canyon (SSER 21). The procedures for handling allegations under DCAMP included confirmation of the allegation by contacting the alleger whenever possible, site inspections of construction or documentation, independent measurements and evaluations where appropriate, technical reviews, interviews with site personnel, public meetings on significant technical issues, discussions between the alleger and staff on staff's findings and reports to the Commission. So far, allegation management has involved more than forty members of the NRC

[4] In early 1981, the staff received allegations regarding the design and operation of the component cooling water system (CCWS) for Diablo Canyon, Unit 1. The staff's evaluation of the allegations is described in Supplement No. 16 to the Safety Evaluation Report (SSER 16). On the basis of that evaluation, the staff concluded that the CCWS satisfied most design requirements, that the only deviation was acceptable on the basis of PG&E's satisfactory demonstration of design capability in this area, and that the allegations regarding the CCWS had no generic implications. In ALAB-763, the Appeal Board instructed the Director, Nuclear Reactor Regulation, to ensure that PG&E's proposed technical specification on CCWS is incorporated into the plant technical specifications before permitting operation. The order of reinstatement of PG&E's low-power license is contingent on the Director's completion of that action.

technical staff and contractor personnel and required 18,000 person-hours. The staff's review of an allegation was not limited to the allegation itself, but included all necessary related issues.

On January 4, 1984, the staff reported to the Commission on the investigation into 103 allegations using the procedure described above. SECY-84-3, SSER 21 Howeve., additional allegations continued to be received and the DCAMP has attempted to keep up with them. Staff provided an updated written review of the allegations on February 6, 1984 (SECY-84-61) and reported on them to the Commission in public meetings held on January 23, February 10, and March 19, 1984. By mid-March, the total number of allegations was approximately 400. On March 20, 1984, staff issued SSER 22, which addressed 219 of the allegations, including the ones addressed previously. Staff reported that it had examined 188 allegations in detail and determined that 31 other allegations did not warrant detailed review because they raised issues similar to those already considered or were not related to significant safety issues.

In mid-March, the Commission gave public notice that it hoped to be able to make a decision on reinstatement of the license for criticality and low-power operation on March 26, 1984. In the weeks before March 26, scores of new allegations were filed. One group, the Government Accountability Project, filed allegations that were received by the Commission only hours before the scheduled meeting. Approximately 500 allegations have now been filed. Needless to say, this flood of last-minute alleged new information, years after the adjudicatory proceedings began, has strained the Commission's resources.

As noted above, the first 200 of the recent allegations have been reviewed in detail under DCAMP. No license, not even a low-power license, can be issued without adequate protection to the public health and safety. However, special considerations apply to low-power operation. Most importantly, the possible consequences of an accident during low-power operation are limited to a very small fraction of those possible at full power. Low-power operation would generate between one-hundredth and one-tenth of the radioactive fission products which would be generated by full-power operation. Thus, any consequences of accidents would be significantly less than those determined by the safety evaluation for Diablo Canyon. Accident consequences would be further reduced by the lower quantity and rate of production of decay heat produced at low power as compared to that produced at full power. However, the energy required to damage a reactor, the capacity of the heat removal systems, and safety features are not reduced by low-power operation. Therefore, accidents involving failures of these systems at

low-power operation would evolve over longer periods than at full-power operation and could be contained by equipment operating at only a few percent of capacity.

With the above in mind, all of the allegations have been reviewed under one basic safety criterion: is there significant new information which suggests that some safety-related structure, system or component necessary for safe low-power operation will not perform its safety function, or that there are such weaknesses in licensee's management or quality assurance that plant safety is called into serious question. For the first 200 allegations, the results of the review are documented in SSER 21 and the transcripts of the public Commission meetings in January, February, and March. For the approximately 300 more-recent allegations, the Commission was faced with a choice of decision delay, while the review could be carefully documented, or reliance on a preliminary review and staff expert judgment without the more detailed documentation. The Commission has deliberately chosen the latter course. There is every reason to believe that more allegations will be filed, and delay to provide written documentation will lead to paralysis in Commission decisionmaking.

All of the allegations received on or before April 13, 1984, have been reviewed under the criterion specified above and those necessary to be resolved prior to license reinstatement have been resolved. As a result, none of these allegations warrant a delay in the reinstatement of the low-power license. Work under DCAMP will continue, both to document the reviews completed to date and to address those matters that need to be resolved prior to licensing at higher power levels.

OPERATOR EXPERIENCE

The Commission has also considered the circumstance that the regular operating staff for Diablo Canyon has a limited amount of experience with operating similar facilities. The Commission was briefed on the issue by PG&E as part of its comments at the public meeting of February 10, 1984. PG&E has forty-three holders of senior operator licenses and sixteen holders of reactor operator licenses at Diablo Canyon. A typical licensee has successfully completed: (1) a 30-month program on power plant fundamentals, equipment, systems, radiation protection and administrative controls including time on-shift at the facility; and (2) an approximately year-long licensing program. Several license holders have participated in pre-operational testing programs, hot functional testing programs, on-going testing, maintenance, surveillance and modification programs. Licensed operators have also each had from 200 hours to 300

hours of hands-on simulator training. However, because the operators have not had actual plant operational experience, additional experienced personnel will be on hand to assist with start-up operations. This extensive training of PG&E's operators and PG&E's commitment to provide additional trained personnel during start-up have led the Commission to find that PG&E has an adequate operating staff for Diablo Canyon.[5]

SEISMIC LICENSE CONDITION

The Commission has also considered recent developments regarding the characterization of the Hosgri Fault. At the public meeting of March 26, 1984, the staff reported that it had received a preprint of an article by certain petroleum geologists who have used previously unavailable information developed during petroleum exploration to determine that Hosgri Fault is a thrust fault and not a strike/slip fault as previously believed. In view of this development, the staff proposed that PG&E should conduct further seismic and geologic studies of the Hosgri Fault. Mr. James F. Devine, a geologist with the United States Geological Survey also discussed the new findings with the Commission. In Mr. Devine's view, this new information was not startling but more in the nature of a refinement in the understanding of the overall faulting pattern in the region around Diablo Canyon. Mr. Devine supported the NRC staff's proposals for further study. He also stated that, in his view, the new report did not warrant any change in the magnitude of the Safe Shutdown Earthquake for Diablo Canyon.

The Commission has determined that this new information does not affect its low-power decision. There is no indication that the new information undercuts the seismic design basis for Diablo Canyon. However, the Commission has asked the ACRS to review the new information

[5] The Commission notes that a literal reading of 10 C.F.R. § 55.25(b), which was adopted in 1963, would have required candidates for operator license examinations, at facilities that have yet to go critical, to have had "extensive actual operational experience" before taking the operator license examination. Since 1967, the NRC has taken the position, in publicly available documents, that completion of NRC-approved training that utilizes simulators can, together with other nuclear reactor activities, constitute adequate experience. Operators at Diablo Canyon and four other plants were licensed on this basis. Because this long-standing interpretation of the rule does not match the literal language of the rule, although it satisfies the rule's purpose and does not diminish safety, the Commission will shortly initiate a rulemaking proceeding to conform the language of the rule to this long-standing practice. In the interim, the Commission sees no reason to revoke or suspend existing operator licenses, including those held by the operators at Diablo Canyon. The sophistication of current simulator training provides a suitable basis for operator licensing, and similar training in lieu of operational experience constitutes no diminution of safety. Under these circumstances, the Commission finds no reason to grant Joint Intervenors' April 10, 1984 motion for a stay based on the operator license issue.

prior to any full-power decision and to comment on a draft license condition which would require PG&E to reassess by 1988 the seismic design basis for Diablo Canyon.

ADDITIONAL MATTERS

The staff has denied Joint Intervenors' petition for enforcement action under 10 C.F.R. § 2.206. DD-84-8, 19 NRC 924 (1984). Joint Intervenors contended that PG&E's failure to provide to the Commission a 1977 audit performed by Nuclear Services Corporation on the quality assurance program by Pullman Power Products, a PG&E contractor, required continued suspension of the low-power license. The Director, Inspection and Enforcement found that PG&E made a material false statement by failing in 1978 to provide the audit to the Licensing Board considering quality assurance. However, the Director also found that under the circumstances, the material false statement was a violation of the lowest severity level and, as such, warranted only a Notice of Violation. That Director's decision is still pending before the Commission for its determination of whether to review it. 10 C.F.R. § 2.206(c)(1). Under these circumstances, the Commission expresses no opinion on the correctness of the Director's decision. However, the Commission finds noteworthy that nothing in the decision suggests that PG&E's low-power license should not be reinstated.

On April 12, 1984, the Government Accountability Project (GAP) petitioned the Commission pursuant to 10 C.F.R. § 2.206 to direct the Office of Inspector and Auditor (OIA) to initiate an investigation into alleged false statements by PG&E and the NRC staff regarding the resolution of allegations of deficiencies in design and construction quality assurance at Diablo Canyon. GAP also requested an opportunity to address the Commission on April 13, 1984 on the alleged false statements and suggested that the Commission defer any decision on reinstituting PG&E's low-power license for Diablo Canyon until this matter is resolved. In addition, GAP requested the Commission to direct the Office of Investigations (OI) to release transcripts of interviews with allegers to the Board considering design and construction quality assurance.

GAP's request was supported by affidavits from Mr. Steven Lockert and Mr. Charles Stokes. Both have provided allegations to the Commission on several previous occasions; most recently, Mr. Stokes addressed the Advisory Committee on Reactor Safeguards (ACRS). Mr. Lockert's affidavit refers to some welds, made in 1974 and corrected in 1977 for which, in some instances, documentation was not provided until 1982.

Deficiencies in welds and the quality assurance program for documenting repairs to welds have been the subject of many other allegations investigated by the staff. Similarly, Mr. Stokes' affidavit contains allegations of the type already extensively considered by the staff. Mr. Stokes' affidavit also draws legal conclusions based on his opinions of various actions taken at Diablo Canyon.

For the most part, GAP's allegations of false statements by the NRC staff and PG&E are based on its own interpretation of the implications of various allegations regarding conditions at Diablo Canyon. Others of GAP's allegations are based on GAP's differences of opinion with various statements by members of the NRC staff. To the extent that GAP relies on statements by Mr. Yin, GAP's conclusions are not supported by Mr. Yin's statements to the ACRS and a Member of Congress. As for staff's implementation of its policy of reinterviewing allegers, the Commission notes that staff's policy was announced before GAP imposed additional procedural burdens on access to allegers. Finally, regarding statements addressing compliance with 10 C.F.R. Part 50, Appendix B, that issue is pending before the Commission in the context of its review of ALAB-756 and ALAB-763. Because those reviews are still pending, the Commission expresses no opinion on this issue. However, the Commission notes that the Appeal Board found that PG&E had complied with Appendix B.

Under these circumstances, the Commission finds that nothing in GAP's recent submittal requires the Commission to delay consideration of reinstatement of PG&E's low-power license. However, the Commission has asked its Office of Investigations to consider GAP's request for the protected release of transcripts of interviews to the Board and has requested its Office of Inspector and Auditor to review the petition and to take whatever actions it deems necessary.

MOTION FOR STAY

Joint Intervenors have requested the Commission to stay the effectiveness of any reinstatement of PG&E's authority to operate Diablo Canyon Unit 1 at low power until the completion of all pending administrative matters and the conclusion of any judicial review of the Commission's decisions underlying such reinstatement of authority. In the alternative, Joint Intervenors have requested the Commission to stay for several days any reinstatement of PG&E's low-power license to permit them to apply to the United States Court of Appeals for the District of Columbia Circuit for an emergency stay pending appeal. Joint In-

tervenors base their request on three factors: (1) the issues raised in their stay request of October 31, 1983; (2) pending allegations of design and construction deficiencies at Diablo Canyon and motions based on those allegations; and (3) an affidavit by Dr. Michio Kaku. The Commission believes there is no warrant to stay the effectiveness of the reinstatement of PG&E's low-power license until all administrative and legal appeals are exhausted. However, the Commission will delay the effectiveness of this decision until noon, April 19, 1984 (Eastern Time) to give Joint Intervenors an opportunity to read the decision and determine whether to pursue judicial review.

Nothing has happened since October 31, 1983, which would cause the Commission to change its mind about Joint Intervenor's previous motion for a stay. As for recent developments based on allegations, the progress on resolving these allegations indicates that they do not support a motion for stay. Finally, the generic nature of Dr. Kaku's affidavit reveals a lack of specific knowledge of the Diablo Canyon plant and, in particular, the activities to be undertaken during start-up and low-power testing. The affidavit does not describe any specific aspect of low-power operation of Diablo Canyon which would create an undue risk to public health and safety or to the plant personnel. Rather, the affidavit is based on general and well-known considerations, some of which are irrelevant to Diablo Canyon, and hypothetical accident scenarios without any indication of their likelihood of occurrence during low-power operation at Diablo Canyon. It is well-established that speculation about a nuclear accident does not, as a matter of law, constitute the imminent, irreparable injury required for staying a licensing decision. *New York v. NRC*, 550 F.2d 745, 756-57 (2d Cir. 1977); *Virginia Sunshine Alliance v. Hendrie*, 477 F. Supp. 68, 70 (D.D.C. 1979). Under these circumstances, the Commission sees nothing in Dr. Kaku's affidavit which contradicts the extensive technical reviews of Diablo Canyon. For these reasons, the Commission denies Joint Intervenors' request for a stay.

CONCLUSION

The Commission has determined that the concerns which led it to suspend PG&E's low-power license have been resolved to the point where that license can now be reinstated in its entirety.[6]

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[6] Still pending before the Commission is PG&E's request for an extension of the expiration date of the original low-power license. As the Commission has previously stated, PG&E's extension request is sub-
(Continued)

Commissioner Gilinsky dissents from this order. The separate views of Chairman Palladino and Commissioners Gilinsky and Bernthal are attached.

It is so ORDERED.

For the Commission

SAMUEL J. CHILK
Secretary of the Commission

Dated at Washington, D.C.,
this 13th day of April 1984.

CHAIRMAN PALLADINO'S SEPARATE VIEWS

I believe that it is important to put in context Commissioner Gilinsky's statements about reactor operator experience.

The Commission did not "disregard a vital safeguard"; it has simply applied the same standards to Diablo Canyon that have been applied to other commercial power plants over the last 17 years. I see no reason to impose different standards on this plant than on the others which have preceded it.

Each applicant for a reactor license is required to develop and implement an NRC-approved training program for its reactor operator candidates. It has been NRC practice to accept satisfactory completion of an NRC-approved training program as fulfilling the prerequisite for an operator candidate to take an NRC reactor operator examination.

As pointed out by the staff in SECY-84-152:

> There are three phases of an NRC approved cold license training program. Phase I includes basic fundamentals and operation of a research reactor during which the trainee performs at least 10 reactor startups. The time normally required to cover

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sumed within the proceeding on PG&E's application for a full-power operating license. The staff safety evaluations, testimony and views of the parties, and adjudicatory proceedings that have been held in this proceeding are all applicable, to the extent relevant, to PG&E's extension request. The Commission finds that the previous adjudicatory hearings that have been held satisfy the hearing requests that have been filed with regard to PG&E's extension request and that, because PG&E's extension request does not raise any health, safety or environmental issues that have not been resolved previously, that extension request should be granted.

Phase I is 12 weeks. Phase II includes participatory observation of the day-to-day operation of a nuclear power plant. This observation includes normal operation, surveillance testing and radiation procedures. Also included in this phase is the operation of a nuclear power plant simulator similar in design to the facility for which the trainee will be seeking a license. The duration of Phase II training varies from four to six months. Phase III is the plant specific design lecture series which covers the features of trainee's facility and normally takes six weeks to complete.

Reactor simulators have become sophisticated devices which provide the opportunity to expose a reactor operator candidate to a variety of plant operating conditions which is not generally possible on an actual plant.

It is also important to note that actual operating experience has a number of components in which reactor operators are involved. These include such activities as learning about systems during construction — a particularly good time to learn about the plant.

I also want to comment on Commissioner Gilinsky's statement that "[a]dvisors with questionable qualifications may be positively dangerous." I categorically reject the implication that advisors at Diablo Canyon, or at any plant for that matter, are "positively dangerous." Each advisor has previously had an operator license at another commercial nuclear power plant and has undergone training and examination on specifics of the plant at which they are to advise. The debate that took place relative to Diablo Canyon was not about questionable qualifications. Rather, it was about whether the NRC itself administers the examinations for these advisors or whether the NRC audits the examinations administered by the utility. The Commission has decided on the latter course of action, but neither course of action results in advisors who are positively dangerous.

ADDITIONAL SEPARATE VIEW OF COMMISSIONER GILINSKY ON REINSTATEMENT OF LOW-POWER OPERATING LICENSE AT DIABLO CANYON (4/13/84)

Attached are the separate views which I distributed two weeks ago when the Commission last discussed the reinstatement of the Diablo Canyon low-power license. At that time I withheld approval because of the lack of actual operating experience on the plant's operating crews and the absence of adequate compensating measures. The situation has

not changed since then. None of the licensed operators at the plant has actual operating experience at a comparable commercial reactor.

The Commission has decided to require that the operators be backed up by experienced advisors. The critical difference between myself and the other Commissioners is over how to certify the advisors' knowledge of the plant. Advisors with questionable qualifications may be positively dangerous. I want the NRC to administer the examinations they will be given. The Commission is satisfied with company-administered examinations. The view has been expressed that it makes no difference who does the examining. I regard this as naive.

Since the Commission's last meeting on this subject a legal bar to low-power operations at Diablo Canyon has surfaced. I have discovered that the NRC's regulations require operators whose license examination is conducted on a simulator, rather than on an operating plant, to have had "extensive actual operating experience at a comparable reactor." None of the Diablo Canyon operators meet this standard. Their licenses are therefore invalid until such time as they either meet this test or the Commission decides to exempt them from this requirement on the basis of the factors enumerated in the regulations.

After receiving a memorandum from the General Counsel stating that the course followed in this case is inconsistent with the plain meaning of the regulations, the Commission decided this morning to ignore its regulations and simply assert that the licenses are valid. The effect is to disregard a vital safeguard which ensures that some degree of experience is available on a plant's staff. Had the regulations been followed, Diablo Canyon would not now find itself without any experienced operators. The operators are the most important safety feature in the plant since they have the discretion to undo all the other safety features in the plant. It is hard to think of a more important safety issue than the competence and experience of the operators.

SEPARATE VIEW OF COMMISSIONER GILINSKY REINSTATEMENT OF LOW-POWER OPERATING LICENSE AT DIABLO CANYON (3/27/84)

I am withholding my approval of the reinstatement of the Diablo Canyon low-power license because I am not satisfied with the readiness of the plant for operation. I am especially concerned by the absence of commercial experience on the operating crews and the failure to compensate adequately for this.

There are two other aspects of this case – seismic design and construction quality assurance – which, while not disabling from the point of view of low-power operation, do not cast the NRC's own review in a particularly favorable light.

Operating Staff Experience

I regard the operator experience question as the most important one in this case. Seismic issues have received a great deal of attention, as they should, but it is well to remember that seismic protection is designed against unlikely contingencies. We rely on the operators for ensuring safety 24 hours a day, every day.

Diablo Canyon does not have a single operator who has had actual operating experience on a commercial nuclear power plant of comparable size. Four operators previously operated the Company's Humboldt Bay plant, a very small boiling water reactor – one-twentieth the size of each Diablo Canyon unit – which has been shut down for 8 years, hardly relevant experience. Much has been made of the fact of simulator training. This is valuable, but it does not compensate for the complete lack of relevant commercial experience. It is worth noting also that Diablo Canyon does not have a site-specific simulator.

This problem should have been resolved a long time ago. At this point, there seems to be no alternative to supplementing the shift crews with experienced advisors for the initial period of operation. The difficulty with the way this has been done is that there is no assurance that they have the site-specific training and knowledge needed for safe operation. I would approve plant operation at low power if the advisor on each shift previously held a senior operator license on a large commercial plant, and if he has passed the site-specific portion of the senior operator license examination for Diablo Canyon. The Commission has instead chosen to allow the Company itself to decide whether the advisors are qualified and to require such advisors only above 5% power.

Seismic Design Standard

I continue to be concerned by the issue of seismic design standards. The root of the difficulty is that although PG&E and the NRC staff accepted a standard based on a Richter scale magnitude 7.5 earthquake for the purposes of the licensing hearing, after the Hosgri Fault was discovered, they did not accept that standard in practice. Apparently in order to avoid having to make significant modifications to the design, PG&E and the NRC staff decided on a number of changes in the way

the post-Hosgri standard was applied. These had the effect of shaving safety margins to the maximum extent. In at least one respect, which involved a substantial reduction in safety margin, they resorted to a highly dubious technique. This reduction, referred to as the tau effect, was accepted by two Licensing Boards which thought that they, and the expert witnesses, understood the technical basis. As it turns out, there is hardly any technical basis for the reductions.

I asked the Commission to take review of this question long ago. There was plenty of time to do a review before the plant was ready for operation but at each point the concern that plant operations might be held up persuaded the Commission to ignore the problem. What I find particularly disturbing is that it was clear to me that the Commission declined to take review not because it understood the seismic design and thought it to be acceptable, but because it looked like a can of worms, and the Commission feared the consequences of reopening the issue.

The ACRS recently told the Commission that "we do not believe that scientific or engineering analyses exist today that could be used to calculate the specific quantitative reductions in free-field seismic spectra [the tau effect] that he [Dr. Newmark] recommended for the Diablo Canyon Nuclear Power Plant." Had the Committee stated this view years ago when it originally reviewed the seismic design standard, I doubt that the Boards would have accepted the standard.

The most favorable statement that the ACRS could ultimately make about the seismic standard was that the Committee continued to feel that overall "the use of the staff approach leads to an acceptable level of safety in this instance." This does not address the tau reductions or whether the safety regulations have been satisfied. What I take the Committee to mean is that the earthquake chosen to determine the seismic standard is too large and that the plant's design is adequate for a smaller earthquake. No doubt the Committee also took into consideration the fact that Diablo Canyon is a relatively isolated site. The ACRS did remind the Commission that it had earlier recommended that a thorough review of the entire seismic design be undertaken, to be completed about 1988.

At yesterday's meeting, the Commission learned that a paper which is to be delivered at the Scripps Institute in April raises new questions about the interpretation of the nature of the faults near Diablo Canyon. This new information reinforces the need for a thorough review of the entire seismic design, as proposed by the ACRS. The Commission has now agreed in principle to such a study. I wish this had been done earlier but I am prepared to accept this approach as a way of dealing with the seismic issue.

Construction Quality Assurance

The NRC has received hundreds of allegations concerning the Diablo Canyon plant. Because one of the allegations was sent to me directly, I felt that I should look into how they were resolved. I chose the audit of the Pullman Power Products, the prime piping contractor from 1971 to 1977, done by the Nuclear Services Corporation (now Quadrex). An important conclusion of that audit report was that the Pullman quality assurance system had been inadequate — among other things, that "there is no confidence that welding done prior to early 1974 was performed in accordance with welding specification requirements." Most of the piping had been installed by 1974. The NRC staff initially dismissed this concern on the basis of its discussions with PG&E and a review of the staff's own audit records for the period between 1971 and 1977.

The NRC staff subsequently decided to look into the allegation more closely, apparently because of the Regional Administrator's feeling that more needed to be done. In December 1983, the staff issued a supplementary Safety Evaluation Report stating that it had found "no evidence to conclude that there was a programmatic breakdown in Pullman Power Products QA program . . ." and that "[t]he details of the staff review are documents in Inspection Report 50/275/83-37."

When I asked to see the inspection report three months later, the inspector initially refused to supply it to me. As it turns out, only notes existed at the time that the staff wrote the SSER. So far as I can tell, the inspection report only began to be written at about the time I asked to see it. An explanation and correction of the reference to the inspection report was subsequently submitted by the staff to the Commission.

It now appears that the NRC staff called the leader of the NSC audit only in February and, when that person said that he could not remember much about the audit, did not pursue this further. More could readily have been done, and should have been done earlier.

I would have more confidence in this review if the NRC had first contacted the people who worked on NSC's audit, had then completed the inspection report, subsequently written the SSER, and had only then informed the Board and the Commission of its conclusions.

VIEWS OF COMMISSIONER BERNTHAL ON REINSTATEMENT OF LOW-POWER OPERATING LICENSE AT DIABLO CANYON

Having gone through 2½ years and literally hundreds of allegations, thousands of hours of inspections, reinspections, analysis, and investigation, we can often lose sight of the 98% that is done, since it is frequently the job of the Commission and especially the NRC staff to focus on the 2% that remains undone.

I would therefore like to state for the record the effort that has gone into the long, painstaking, and sometimes just plain painful period of reevaluation and modification of the Diablo Canyon power plant. During this period the licensee, through its primary contractor, has spent some 2,000,000 hours of professional effort to address the problems raised in the fall of 1981 and thereafter; other firms have carried out independent evaluations to the tune of 250,000 hours; the staff of the NRC has devoted 70,000 hours to the technical issues, and another 18,000 hours to evaluating allegations. Diablo Canyon is almost certainly the most inspected plant ever built.

All this is not to imply, of course, that legitimate questions cannot or should not still be asked. I would like to focus on one or two such broad, and I believe legitimate, considerations that remain with respect the Diablo Canyon power plant beginning operations. But first let me note what is *not* reasonable or legitimate to expect in any such massive endeavor. What is not reasonable to expect is perfection. It is not reasonable to expect all things to be perfect at any multibillion dollar construction project, a project involving thousands of workers and millions of independent steps leading to completion, over a period of some 15 years. And, as might have been expected, Diablo Canyon was not perfect. What was not expected, was that it wasn't even just good enough, 2½ years ago, when this second construction, as it were, began.

In my judgment, two important and legitimate issues deserve special mention here today. One question, and perhaps the most fundamentally important because it is unique to Diablo Canyon, is that of the seismic design adequacy of the Diablo Canyon facility. It should be understood that the science of geology, and especially the study and forecasting of seismic events is an inexact science, as is the engineering of structures to withstand seismic events of a given magnitude. But the best experts available in the field today have offered reasonable and sufficient assurance that the design basis and construction of this plant is adequate to withstand the maximum probable earthquake in the geologic region of the Diablo Canyon plant. I have supported, and the ACRS has

recommended, a continuing review and evaluation of the state of the seismic art and science as it develops and relates to Diablo Canyon over the next several years.

In particular, I would note that the recent scientific paper, discussed in some detail at the last meeting of the Commission, apparently indicates that, although the Hosgri Fault may be somewhat closer than previously thought to the Diablo Canyon site, the probability is that a large, 7.5 Richter-magnitude quake would, under this latest hypothesis, be less frequent than previously thought. I therefore find no reason, based on this latest of what I am sure will be many more papers on California geology and seismology, to change my position on the seismic adequacy of the Diablo Canyon plant. I have reached that conclusion on the basis of my personal inspection of the plant, the recommendation of the ACRS, and the consensus of expert opinion.

Another important issue is that Commissioner Gilinsky raises in respect to operator qualifications. No one questions the legitimacy of that issue, and indeed, the Commission is currently considering the question of how best to achieve not just adequacy, but excellence at all levels in nuclear power plant operating staff qualifications. But the question here is not how PG&E and other utilities will achieve uniform excellence in the months and years ahead, but whether PG&E in its Diablo Canyon operations today has achieved a standard that is, beyond a reasonable doubt, adequate to protect the public health and safety. I believe it has achieved that standard. What they have achieved is good, if not perfect. I would add that, consistent with the strong expressed desires of Commissioner Gilinsky, I believe the Commission does owe this licensee, as it does all our licensees, a clear statement, and soon, of those further steps to be taken along the road to excellence in the operator corps as this licensee prepares for full-power operation.

It must be emphasized in this context that the Commission meeting this morning was not intended to address, nor is there any specific or implied need to address for low-power operations at Diablo Canyon, the question of the Commission's long-standing regulation, 10 C.F.R. § 55.25, and the definition and practical application of that regulation in satisfying the literal requirement for "extensive actual operating experience at a comparable reactor."

The fact is, the Commission has either implicitly or explicitly concurred in the evolving application of § 55.25 since its promulgation more than 20 years ago. The fact is, § 55.25 was promulgated at a time when reactor simulators were not generally available. The fact is, in a 1967 memorandum, the General Counsel's office explicitly concurred in the criteria which the staff were then applying in determining whether

§ 55.25 was satisfied or not. The fact is, the Commission participated in the development of the ANSI standard which provided that simulator training was an acceptable means of acquiring necessary experience. The regulatory guides which endorsed that ANSI standard as a method of complying with the requirements of § 55.25 were published in their final form only after solicitation and consideration of public comments. Further, the Commission was explicitly informed by the staff of the planned issuance of NUREG-0094 in June 1976.

It is both understandable and eminently reasonable that the prerequisites for operator licensing should change as the state of the art in operator training techniques changes. Indeed, there are good reasons to rely heavily on simulator training as a prerequisite for operator licensing, not the least of which reasons is that in many respects the use of a simulator is superior to experience gained actually sitting at the controls of a power plant. Given the background of operator licensing criteria applied by this agency for the past 20 years and the implicit, if not explicit, concurrence of the Commission in the application of those criteria, the suggestion that any near-term operating license applicant should have a license denied or delayed because the Commission has suddenly changed its mind about what constitutes adequate operator qualification would be irresponsible, and would violate fundamental principles of fairness. The Commission has known exactly what it has been doing for 20 years, what it is doing today, and what it intends to do with regard to operator training. The operators at Diablo Canyon meet Commission standards today, and will be required to meet what may well be upgraded standards yet to be adopted by the Commission in future regulations or regulatory guidance.

Finally, I would address the concerns raised by Mr. Yin at the last meeting of the Commission, and seemingly resolved during the intervening two weeks. I do not interpret Mr. Yin's carefully considered position to reflect total agreement with his colleagues on all technical issues. I would be surprised, and frankly a little concerned, if there were ever total agreement within our staff on such issues. But I do understand that there is now essential agreement on an action plan and timetable for resolution of the remaining questions, and more importantly, agreement that those remaining questions and differences should not preclude criticality and 5% operation. I would caution that we are never entirely out of the woods in such matters, but I believe we have made significant progress, sufficient to act affirmatively to reinstate the suspended license of Diablo Canyon.

There has been a worthwhile and necessary process underway during the two weeks spent resolving Mr. Yin's questions, with the help of the

expert third-party oversight of the ACRS. I doubt, incidentally, that Mr. Yin considers himself, as some have characterized him, a "whistleblower." Rather, he is a professional member of the NRC's own technical staff who has openly expressed several times over the last four months, his professional disagreement with other staff on a number of technical issues. That is as it should be. But although the issues had been on the table for months, and had been discussed extensively, they apparently had not been discussed sufficiently prior to the Commission's March 27 meeting. So if I may proffer one plea, to put it kindly, to our staff and especially to the senior staff, it would be that in future, when such professional disagreements exist among staff, if the Commission is expected to resolve them in a meeting, then the Commission must have the benefit of an active debate. Such a debate cannot occur when intra-staff communications have been poor, and when there is not even agreement on what the disagreements are.

Cite as 19 NRC 975 (1984) CLI-84-6

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

COMMISSIONERS:

Nunzio J. Palladino, Chairman
Victor Gilinsky
Thomas M. Roberts
James K. Asselstine
Frederick M. Bernthal

In the Matter of **Docket No. 50-444**

PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE, *et al.*
(Seabrook Station, Unit 2) **March 29, 1984**

The Commission denies a request of the Connecticut Division of Consumer Counsel to intervene in the construction permit extension proceeding for Unit 2 of the Seabrook facility on the ground that the proffered contentions of the petitioner fall outside the scope of the proceeding.

RULES OF PRACTICE: STANDING TO INTERVENE

An intervention petitioner in an NRC licensing proceeding must have an interest that will be affected and proffer specific contentions within the scope of the proceeding. 10 C.F.R. § 2.714; *BPI v. AEC*, 502 F.2d 424 (D.C. Cir. 1974); *see generally, Bellotti v. NRC*, 725 F.2d 1380 (D.C. Cir. 1983).

RULES OF PRACTICE: INTERVENTION PETITION (INTEREST)

The zone of interests which must be affected to give a petitioner standing to intervene in an NRC licensing proceeding does not include

general economic considerations. *See, e.g., Detroit Edison Co.* (Enrico Fermi Atomic Power Plant, Unit 2), ALAB-470, 7 NRC 473 (1978).

RULES OF PRACTICE: INTERVENTION PETITION (PLEADING REQUIREMENTS)

The contention of a proposed intervenor in an NRC licensing proceeding must relate directly to the subject of the proceeding and not to immaterial or generic problems.

CONSTRUCTION PERMIT EXTENSION PROCEEDINGS: SCOPE

Under Section 185 of the Atomic Energy Act and 10 C.F.R. § 50.55, the scope of a construction permit extension proceeding is limited to direct challenges to the permit holder's asserted reasons that show "good cause" justification for the delay. *Washington Public Power Supply System* (WPPSS Nuclear Project Nos. 1 & 2), CLI-82-29, 16 NRC 1221, 1229 (1982). To be admissible in such a proceeding, a contention must either challenge the permit holder's reason for delay or show that other reasons, not constituting good cause, are the principal basis for the delay. *Id.* at 1230.

CONSTRUCTION PERMIT EXTENSION PROCEEDINGS: SCOPE (CONTENTIONS)

The two-pronged test for determining whether a contention is within the scope of a construction permit extension proceeding is: The construction delays at issue have to be traceable to the permit holder and they must be dilatory. If both prongs are met, the delay is without good cause. *Washington Public Power Supply System* (WPPSS Nuclear Project No. 2), ALAB-722, 17 NRC 546, 551 (1983).

ORDER

On October 26, 1983, the Connecticut Division of Consumer Counsel (DCC) filed with the Commission a document entitled "Request of Connecticut Division of Consumer Counsel to Deny Renewal of Construction Permit for Seabrook 2" (Petition). Because the petition states that DCC "respectfully intervenes in" (the Seabrook construction

permit renewal proceeding) (Petition at 1) and states "grounds for denial of renewal of construction permit" which are framed in the manner of contentions (Petition at 3-6), we construe the petition as a request to intervene with respect to the Seabrook 2 construction permit extension application filed pursuant to 10 C.F.R. § 50.55(b).

Staff and applicants replied to the petition on November 30, 1983 and December 9, 1983, respectively, interpreting it as a request for intervention and urging that it be denied. The Seacoast Anti-Pollution League (SAPL), an intervenor in the Seabrook operating license proceeding, filed a motion dated January 4, 1984, joining DCC's petition.[1] On January 17, 1984, applicants filed a response to SAPL's motion urging that it be denied.

Construction permits for Seabrook Units 1 and 2 were issued on July 7, 1976, and were set to expire on June 30, 1983 (Unit 1) and October 31, 1984 (Unit 2). On May 26, 1983, applicants Public Service Company of New Hampshire filed a request for extension of completion dates for Units 1 and 2 to June 30, 1986 and October 31, 1988 respectively. Applicants asserted that under 10 C.F.R. § 50.55(b), "good cause" existed for the extensions for the following reasons:

(1) A three-year procedural delay after issuance of the original construction permit;

(2) changes in the scope of the project necessitated by regulatory requirements promulgated after the TMI accident;

(3) construction delays; and

(4) construction slowdowns necessitated by state regulatory actions.

Letter from W.P. Johnson to H. Denton, May 26, 1983, at 1-2. The extension requests are currently pending before the NRC staff, and by law the existing permits remain in effect. 5 U.S.C. § 558, 10 C.F.R. § 2.109.

DCC's petition alleges thirteen grounds in support of its petition to intervene to urge denial of the permit extension for Unit 2. These grounds are based on an investigation conducted by the Connecticut Department of Public Utility Control (DPUC), which attacked the costs of and need for the Seabrook project, the projected completion date, and the plant's projected efficiency. According to DCC, the DPUC concluded that Connecticut electric utilities should either withdraw from participation in the

[1] On March 6, 1984, DCC filed before the Atomic Safety and Licensing Board a notice of withdrawal from the construction permit and operating license proceedings for Seabrook Unit No. 2, effectively withdrawing its petition. Because SAPL's joinder of the petition was not withdrawn, however, the Commission is considering the petition on the merits. In doing so, the Commission expresses no opinion as to the procedural validity of SAPL's motion for joinder.

construction of Seabrook 2 or work towards its cancellation. The DCC also alleged that the continued building of Seabrook 2 would jeopardize the completion of Seabrook 1 and would adversely affect customer utility rates. Petition at 3-6.

It is well settled that a petitioner will be heard if there is a showing of the requisite interest that will be affected and of specific contentions within the scope of the intended proceeding. 10 C.F.R. § 2.714; *BPI v. AEC*, 502 F.2d 424 (D.C. Cir. 1974); *see generally, Bellotti v. NRC*, 725 F.2d 1380 (D.C. Cir. 1983). The zone of interests affected does not include general economic considerations. *See, e.g., Detroit Edison Co.* (Enrico Fermi Atomic Power Plant, Unit 2), ALAB-470, 7 NRC 473 (1978). Those kinds of issues are best directed to the state regulatory bodies in charge of rate setting and similar matters. In addition, the contentions must relate directly to the subject matter of the proposed proceeding and not to immaterial or generic problems. Putting aside whether DCC can show the requisite interest, a matter not free from doubt, we find that DCC's proffered contentions fall outside the scope of the proceeding on the extension of the Seabrook 2 construction permit.

The Commission addressed the proper standard for raising contentions in a construction permit extension proceeding in *Washington Public Power Supply System* (WPPSS Nuclear Project Nos. 1 & 2), CLI-82-29, 16 NRC 1221 (1982), holding that, under Section 185 of the Atomic Energy Act and 10 C.F.R. § 50.55, the scope of a construction permit extension proceeding is limited to direct challenges to the permit holder's asserted reasons that show "good cause" justification for the delay. 16 NRC at 1229. To be admissible, a contention must either challenge applicants' reason for delay or show that other reasons, not constituting good cause, are the principal basis for the delay. *Id.* at 1230.

The *WPPSS* decision has been refined by the Atomic Safety and Licensing Appeal Board into a two-pronged test for determining whether a contention is within the scope of a construction permit extension proceeding: "First, the construction delays at issue have to be traceable to the applicant. Second, the delays must be 'dilatory.' If both prongs are met, the delay is without 'good cause.' " *Washington Public Power Supply System* (WPPSS Nuclear Project No. 2), ALAB-722, 17 NRC 546, 551 (1983). In other words, the proponent of the contention must articulate some basis to show that the applicant is responsible for the delay and has acted intentionally and without a valid business purpose. *Id.* at 553.

Under this standard, DCC's contentions present no adequate basis for relief. DCC's allegations do not attack the sufficiency of applicants' asserted reasons for the delay. Rather, they raise questions about the need

for power, cost of completion and financial consequences to both the utility and to the ratepayers. These questions are far beyond the scope of a construction permit extension proceeding, which is confined to the factual basis asserted for the delay.[2]

In denying its request to intervene in this proceeding, we do not now rule that DCC is without any remedy for its concerns before NRC. If DCC has concerns specifically related to the proposal to permit Seabrook to operate, those concerns should be addressed, under 10 C.F.R. § 2.714, to the presiding Atomic Safety and Licensing Board. *Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), CLI-81-6, 13 NRC 443 (1981). Moreover, we pointed out in *WPPSS* that 10 C.F.R. § 2.206 thereafter allows any person to seek the institution of a show-cause proceeding under 10 C.F.R. § 2.202. The staff must consider and respond to such requests for regulatory action where the request specifies the action requested and sets forth the facts that constitute the basis for the request. At this point, the Commission expresses no opinion on the issue of whether or not the concerns of DCC, if pursued, are legally cognizable and provide a basis for relief either in the Seabrook OL proceeding or under 10 C.F.R. § 2.206.

Connecticut Division of Consumer Counsel's petition to intervene in the construction permit renewal proceeding for Seabrook Unit 2 is denied. Seacoast Anti-Pollution League's motion for joinder is moot.

It is so ORDERED.[3]

For the Commission

SAMUEL J. CHILK
Secretary of the Commission

Dated at Washington, D.C.,
this 29th day of March 1984.

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[2] The only contentions that give pause under this standard are DCC's allegations that construction of Seabrook 2 has been "scaled down dramatically" and that "the only money being spent on Seabrook 2 is not for the purpose of completing construction, but rather for the purpose of not losing Seabrook 2's construction permit" (Petition at 405). Under the Appeal Board test, delay for financial reasons constitutes delay for a valid business purpose, and is therefore not considered "dilatory." *WPPSS*, *supra*, 17 NRC at 552 n.6.

[3] Commissioner Gilinsky was not present when this order was affirmed, but had previously indicated his approval.

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:

Gary J. Edles, Chairman
Dr. John H. Buck

In the Matter of **Docket No. 50-289-SP (Emergency Planning)**

METROPOLITAN EDISON COMPANY, *et al.*
(Three Mile Island Nuclear Station, Unit No. 1)

April 2, 1984

The Appeal Board declines, for lack of jurisdiction, to reconsider ALAB-697, its decision in this special restart proceeding affirming the Licensing Board's finding that certain emergency plans for the nuclear reactor are adequate.

APPEAL BOARD: JURISDICTION

Under settled principles of finality of adjudicatory action, once an appeal board has finally determined a discrete issue in a proceeding, its jurisdiction is terminated with respect to that issue, absent a remand order. *Virginia Electric and Power Co.* (North Anna Nuclear Power Station, Units 1 and 2), ALAB-551, 9 NRC 704, 708-09 (1979); *Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), ALAB-513, 8 NRC 694, 695 (1978).

APPEAL BOARD: JURISDICTION

When the Commission declines to review an appeal board decision, a final agency determination has been made resulting in the termination of appeal board jurisdiction. *Seabrook, supra,* 8 NRC at 695.

APPEAL BOARD: JURISDICTION

Appeal Board jurisdiction over previously determined issues is not necessarily preserved by the pendency before it of other issues in a proceeding. *North Anna, supra,* 9 NRC at 708-09; *Seabrook, supra,* 8 NRC at 695-96.

MEMORANDUM AND ORDER

On October 22, 1982, we affirmed a Licensing Board decision dealing with those aspects of emergency planning for Three Mile Island Nuclear Station, Unit 1, that were challenged by intervenors Norman and Marjorie Aamodt in this special proceeding to determine whether Unit 1 may resume operation.[1] We approved the Licensing Board's determination that the emergency plans under attack were adequate, subject to the condition that before restart the Commonwealth of Pennsylvania's agricultural information brochure, containing emergency information, must be distributed to all farmers located within a 10-mile radius of the plant.[2] We also made specific recommendations for improvement of that brochure.[3] The Commission indicated in February 1983 that it would not review our decision.[4]

A revised brochure was subsequently prepared and distributed on June 29, 1983. Dissatisfied with the new publication, the Aamodts ask us to reconsider our determination that emergency planning for farmers is adequate.[5] The licensee opposes the Aamodts' motion on the grounds that we no longer retain jurisdiction and the motion presents no new

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[1] ALAB-697, 16 NRC 1265 (1982). The Aamodts questioned the Licensing Board's findings in four areas: information transmittal, public education, emergency plans for farmers and the ingestion exposure pathway. *Id.* at 1269.

[2] *Id.* at 1289.

[3] *Id.* at 1279-80.

[4] *See* Memorandum from S.J. Chilk, Secretary to the Commission, to the Appeal Board and Parties (February 3, 1983).

[5] Aamodt Motion for Reconsideration of ALAB-697 in View of New Information Concerning Emergency Planning for Farmers (March 7, 1984).

arguments.[6] Because we agree that jurisdiction over the matter has been lost, we must decline the invitation to reconsider ALAB-697.

Under settled principles of finality of adjudicatory action, once we have finally determined discrete issues in a proceeding, our jurisdiction is terminated with respect to those issues, absent a remand order by the Commission or a court issued during the course of its review of our decision. *Virginia Electric and Power Co.* (North Anna Nuclear Power Station, Units 1 and 2), ALAB-551, 9 NRC 704, 708-09 (1979); *Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), ALAB-513, 8 NRC 694, 695 (1978). As mentioned, we determined the Aamodts' emergency planning issues in October 1982. Indeed, we issued a companion decision on the same day resolving all other emergency planning issues.[7] It is clear that where, as here, the Commission declines to review our decision, a final agency determination has been made resulting in the termination of our jurisdiction.[8]

To be sure, issues related to management capability in this proceeding are still before us. That we may yet be considering some issues in a proceeding, however, does not preserve our jurisdiction over issues previously determined.[9] We are constrained by lack of jurisdiction, therefore, to dismiss intervenors' request for reconsideration.

The motion to reconsider ALAB-697 is *dismissed.*
It is so ORDERED.

FOR THE APPEAL BOARD

C. Jean Shoemaker
Secretary to the
Appeal Board

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[6] Licensee's Opposition to Aamodt Motion for Reconsideration of ALAB-697 (March 23, 1984) at 1-3. Our practice set forth in *Maine Yankee Atomic Power Co.* (Maine Yankee Atomic Power Station), ALAB-166, 6 AEC 1148, 1150 n.7 (1973), and reiterated in *Houston Lighting and Power Co.* (Allens Creek Nuclear Generating Station, Unit 1), ALAB-544, 9 NRC 630, 631 (1979), is that parties need not respond to a motion for reconsideration unless we request them to do so. No such request was made here and the NRC staff notified us of its intention not to respond. Letter from J.R. Gray to the Appeal Board (March 22, 1984).

[7] *See* ALAB-698, 16 NRC 1290 (1982).

[8] *See* ALAB-513, *supra*, 8 NRC at 695.

[9] *North Anna, supra*, 9 NRC at 708-09; *Seabrook, supra*, 8 NRC at 695-96 (footnote omitted).

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. 50-508-OL**

WASHINGTON PUBLIC POWER SUPPLY SYSTEM, *et al.*
(WPPSS Nuclear Project No. 3) **April 10, 1984**

The Appeal Board affirms the Licensing Board determination made on remand that an untimely petitioner for intervention in this operating license proceeding has made an adequate showing under 10 C.F.R. 2.714(a)(1) that it "may reasonably be expected to assist in developing a sound record," in support of the Licensing Board's previous grant of late intervention.

RULES OF PRACTICE: UNTIMELY INTERVENTION

A late petitioner can establish that its participation may reasonably be expected to assist in developing a sound record by (1) identifying specifically at least one witness it intends to present; and (2) providing sufficient detail respecting that witness' proposed testimony to permit the Board to reach a reasoned conclusion on the likely worth of that testimony on one or more of its contentions. *Washington Public Power Supply System* (WPPSS Nuclear Project No. 3), ALAB-747, 18 NRC 1167, 1181 (1983).

APPEARANCES

Nicholas S. Reynolds and **Sanford L. Hartman,** Washington, D.C., for the applicant, Washington Public Power Supply System.

Nina Bell, Portland, Oregon, for the petitioner, Coalition for Safe Power.

Donald F. Hassell for the Nuclear Regulatory Commission staff.

DECISION

After the prescribed period for doing so had expired, the Coalition for Safe Power (Coalition) filed a petition for leave to intervene in this operating license proceeding involving the WPPSS Nuclear Project No. 3. Last November, on the appeal of the Washington Public Power Supply System (applicant),[1] we vacated the Licensing Board's grant of intervention and remanded the matter to that Board for "the purpose of requiring the Coalition to make a further showing with regard to the extent to which its participation in the proceeding 'may reasonably be expected to assist in developing a sound record.' "[2] The Board complied with that directive, determined that the Coalition's further showing was adequate, and accordingly reinstated its prior admission of the Coalition to the proceeding.[3] The applicant appeals once again.[4] Persuaded that it has not come even close to providing the requisite "clear demonstration of an unmistakable abuse of discretion on the Licensing Board's part,"[5] we affirm.

A late petitioner can establish that its participation may reasonably be expected to assist in developing a sound record by "(1) identify[ing] specifically at least one witness [it] intends to present, and (2) provid[ing] sufficient detail respecting [that] witness' proposed testimony to permit the Board to reach a reasoned conclusion on the likely worth of that testimony on one or more [of the] contentions."[6] On the remand here, the

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[1] The System's co-applicants did not join in the appeal.

[2] ALAB-747, 18 NRC 1167, 1170-71 (1983). This is the third of the five factors set forth in 10 C.F.R. 2.714(a)(1) that govern the acceptance of a belated intervention petition.

[3] March 2, 1984 memorandum and order (unpublished).

[4] Both the Coalition and the NRC staff oppose the appeal.

[5] ALAB-747, *supra*, 18 NRC at 1181.

[6] *Ibid.*

Coalition informed the Licensing Board that it intended to present Jack Smith, PhD, in support of its admitted Contention 16, which asserts that the applicant has underestimated the effects of WPPSS-3 operation on the aquatic biota in the Chehalis River. We are told by the applicant, however, that the Coalition did not supply sufficient detail with respect to Dr. Smith's qualifications and the substance of his testimony. Thus, the applicant would have it, the Licensing Board was not in a position to make a reasoned judgment with regard to the Coalition's potential contribution on Contention 16.

Insofar as Dr. Smith's qualifications are concerned, the Coalition represented him to be "an aquatic toxicologist with graduate degrees from Harvard University [and] broad experience with analysis of discharges into waterways, the control of chemical pollutants and [their] ecological impacts."[7] If these representations are founded in fact, there can be little doubt that Dr. Smith is qualified to give expert testimony on Contention 16. And had the applicant wished to verify their accuracy, it could have called upon the Coalition to provide further information pertaining to Dr. Smith's educational and vocational background. The record does not disclose that any such request was ever made. That being so, the applicant is foreclosed from now asserting that the Coalition's representations were not adequately developed and that the Licensing Board therefore was not entitled to rely upon them.

The Coalition additionally furnished the Licensing Board with a summary of Dr. Smith's analysis of the portions of the applicant's Environmental Report concerned with aquatic impacts.[8] The summary is thereafter referred to by the Coalition as Dr. Smith's "testimony."[9] On the strength of that material, the Licensing Board could reasonably

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[7] Intervenor's Further Supplement to Petition for Leave to Intervene (January 10, 1984) at 2.
[8] *Id.* at 3.
[9] *Ibid.*

conclude, as it did, that the Coalition has the ability to assist in developing a sound record on Contention 16.[10]

Affirmed.[11]

It is so ORDERED.

FOR THE APPEAL BOARD

C. Jean Shoemaker
Secretary to the
Appeal Board

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[10] March 2, 1984 memorandum and order at 9-10.

[11] The Licensing Board still has before it the question of the extent to which the Coalition will be allowed to litigate issues apart from Contention 16. *See* Applicant's Motion for Reconsideration and/or Referral or Certification (March 20, 1984) at 3-14. Needless to say, we now intimate no opinion respecting that question.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Administrative Judges:

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

In the Matter of **Docket Nos. 50-413**
50-414

DUKE POWER COMPANY, *et al.*
(Catawba Nuclear Station,
Units 1 and 2) **April 17, 1984**

The Appeal Board dismisses a referral by the Licensing Board of a ruling rejecting portions of an untimely contention advanced by intervenors in this operating license proceeding. The Appeal Board finds that the Licensing Board ruling can await appeal from that Board's final decision without causing truly exceptional delay or expense, and that Appeal Board involvement in the proceeding at this time is not compelled by any public interest.

PLANT DESIGN: GENERAL CRITERIA

All nuclear power facilities are required to have an onsite electric power system to permit the functioning of structures, systems, and components important to safety in the event that the facility's offsite electric power system is inoperative. 10 C.F.R. Part 50, Appendix A, General Design Criterion 17.

RULES OF PRACTICE: INTERLOCUTORY APPEAL

Interlocutory review of licensing board action on specific contentions, whether in admitting or rejecting them, is generally disfavored. *See Duke Power Co.* (Catawba Nuclear Station, Units 1 and 2), ALAB-687, 16 NRC 460, 465 (1982), *rev'd in part on other grounds,* CLI-83-19, 17 NRC 1041 (1983).

RULES OF PRACTICE: INTERLOCUTORY APPEAL

An intervenor aggrieved by threshold licensing board action on one of its contentions customarily must await the board's initial decision before seeking appeal board review. On appeal from an initial decision under 10 C.F.R. 2.762(a), an intervenor can assert that a licensing board ruling on the admissibility of a contention was erroneous. *See, e.g., Texas Utilities Generating Co.* (Comanche Peak Steam Electric Station, Units 1 and 2), ALAB-599, 12 NRC 1, 2 n.1 (1980), and cases cited.

RULES OF PRACTICE: INTERLOCUTORY APPEAL

In the absence of a potential of truly exceptional delay or expense, the risk that a licensing board's interlocutory ruling may eventually be found to have been erroneous, and that because of the error further proceedings may have to be held, is one which must be assumed by that board and the parties to the proceeding. *Commonwealth Edison Co.* (Zion Station, Units 1 and 2), ALAB-116, 6 AEC 258, 259 (1973).

APPEARANCES

Robert Guild, Columbia, South Carolina, for the intervenor, Palmetto Alliance.

Jesse L. Riley, Charlotte, North Carolina, for the intervenor, Carolina Environmental Study Group.

J. Michael McGarry, III, and **Anne W. Cottingham,** Washington, D.C., and **Albert V. Carr, Jr.,** Charlotte, North Carolina, for the applicants, Duke Power Company, *et al.*

George E. Johnson for the Nuclear Regulatory Commission staff.

MEMORANDUM AND ORDER

This proceeding is pending before the Licensing Board on an application for operating licenses for the two units of the Catawba Nuclear Station. Before us is that Board's referral under 10 C.F.R. 2.730(f) of a ruling rejecting two segments of a three-part untimely contention advanced by intervenors Palmetto Alliance and the Carolina Environmental Study Group.[1] The referral is supported by the intervenors and opposed by the applicants and the NRC staff. For the reasons set forth below, we conclude that interlocutory appellate review of the ruling is not warranted.

A. All nuclear power facilities are required to have an onsite electric power system to permit the "functioning of structures, systems, and components important to safety" in the event that the facility's offsite electric power system is inoperative.[2] At Catawba, diesel generators manufactured by Transamerica Delaval Incorporated (TDI) are a key element of the onsite system.

Subsequent to the commencement of the evidentiary hearing in this proceeding, the NRC staff called attention to a number of problems associated with TDI diesel generators at other nuclear power plants.[3] This disclosure prompted the intervenors to seek orally the admission of a new contention addressed to the reliability of the Catawba generators.[4] As rephrased by the Licensing Board, the contention asserted that:

> The Applicants [Duke Power Company, *et al.*] have not demonstrated a reasonable assurance that the TDI emergency diesel generators at the Catawba Nuclear Station can perform their safety function in service because of:
>
> (1) inadequate design of the crankshafts;
>
> (2) deficiencies in quality assurance at TDI;
>
> (3) operating performance history of TDI generators at other nuclear facilities.[5]

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[1] February 23, 1984 Licensing Board Memorandum and Order (unpublished) (hereafter February 23 order).

[2] 10 C.F.R. Part 50, Appendix A, General Design Criterion 17.

[3] *See* Board Notifications 83-160 and 83-160A dated October 21 and November 17, 1983, respectively.

[4] Tr. 9620-25.

[5] February 23 order at 4; Tr. 12,437-42.

In determining whether to allow the contention, the Licensing Board applied the five factors set forth in 10 C.F.R. 2.714(a).[6] It concluded that that portion of the contention pertaining to the adequacy of the crankshaft's design should be conditionally admitted.[7] The remainder (concerned with quality assurance at the TDI factory and operating experience with TDI diesel generators at other nuclear facilities) was rejected. As the Licensing Board saw it, those portions of the contention could not as a practical matter be "litigated and adjudicated in the next few months" and thus the delay factor came into play.[8] Further, the Board thought the quality assurance and operating experience issues to be more complex than the accepted crankshaft issue and apparently entertained doubt as to the ability of the intervenors to contribute to the development of a sound record on them.[9] Finally, the Board had this to say:

> In addition, we were also strongly influenced by the fact that the TDI quality assurance and operational performance issues are generic in the sense that [they] may potentially affect some fifteen different facilities. Contentions having apparent generic application have already been admitted in the pending *Shoreham, Perry* and *Comanche Peak* operating license cases, and it appears likely that such contentions will be put forward in other cases as well. (*See Long Island Lighting Company* (Shoreham Station), Docket No. 50-322-OL, Tr. 21,611-22,617; *Cleveland Electric Illuminating Company* (Perry Plant), Memorandum and Order of December 23, 1983; *Texas Utilities Generating Company* (Comanche Peak Station), Memorandum of January 31, 1984. It seems to us, therefore, that consideration should be given to some procedural mechanism whereby these generic issues could be litigated in a single proceeding, by a lead-case approach, a special proceeding with multi-party participation, or possibly by some other vehicle. Such a mechanism would promote concentration of resources and an expeditious and thorough ventilation of these issues. But it makes no sense to us that these generic issues be litigated simultaneously and piecemeal in several individual licensing proceedings like this one.[10]

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[6] Those factors are:

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

In an earlier decision in this proceeding, the Commission held that all five factors must be considered in passing upon whether to admit a late contention. CLI-83-19, 17 NRC 1041 (1983).

[7] The Board imposed the condition that the intervenors submit by April 2, 1984 the names of the expert witnesses who will testify for them on the crankshaft design matter, a statement of their qualifications and a summary of their proposed testimony (Tr. 12,548). *See Mississippi Power & Light Co.* (Grand Gulf Nuclear Station, Units 1 and 2), ALAB-704, 16 NRC 1725, 1730 (1982).

[8] The fifth Section 2.714(a) factor, *see* note 6, *supra*.

[9] The third Section 2.714(a) factor, *see* note 6, *supra*.

[10] February 23 order at 7.

As the basis for referring the rejection to us, the Licensing Board expressed the opinion that

> early appellate guidance "is necessary to prevent detriment to the public interest or unusual delay or expense." 10 C.F.R. § 2.730(f). *See* [*Public Service Co. of Indiana* (Marble Hill Nuclear Generating Station, Units 1 and 2), ALAB-405, 5 NRC 1190, 1192 (1977)]. There might well be unusual delay and expense for the Applicants in this case should our exclusion rulings turn out to be wrong. But the compelling case for referral is the potential impact of the generic diesel generator issues on a number of pending cases. In the absence of some early appellate consideration and coordination of those issues, the resulting delays, expenses and detriments to the public interest could be considerable.[11]

B. At a prior stage of this proceeding, we took note of "our general policy disfavoring interlocutory review of licensing board action on specific contentions."[12] Although the allusion was in the context of the Licensing Board's conditional *admission* of certain contentions, the policy applies equally to licensing board *rejection* of contentions in circumstances where, as here, the rejection does not operate to deny party status to their proponent. As we have often observed, an intervenor aggrieved by threshold Licensing Board action on one of its contentions customarily must await the rendition of the Board's initial decision before seeking our intercession. If dissatisfied with the initial decision, on an appeal from it under 10 C.F.R. 2.762(a) the intervenor can assert, *inter alia*, that the Board's ruling on the admissibility of the contention was erroneous.[13] To be sure, should the assertion carry the day, the almost inevitable result would be a remand to the Licensing Board for further proceedings on the improperly excluded contention(s). Over a decade ago, however, we stressed (in the course of dismissing a Licensing Board referral of an interlocutory ruling) that

> in the absence (as here) of a potential of truly exceptional delay or expense, the risk that a licensing board's interlocutory ruling may eventually be found to have been erroneous, and that because of the error further proceedings may have to be held, is one which must be assumed by that board and the parties to the proceeding.[14]

With due respect for the contrary view of the Board below, we cannot agree that a potential of *truly exceptional* delay or expense would attend

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[11] *Id.* at 8-9.

[12] ALAB-687, 16 NRC 460, 465 (1982), *rev'd in part on other grounds*, CLI-83-19, *supra* note 6.

[13] *See, e.g., Texas Utilities Generating Co.* (Comanche Peak Steam Electric Station, Units 1 and 2), ALAB-599, 12 NRC 1, 2 n.1 (1980), and cases cited.

[14] *Commonwealth Edison Co.* (Zion Station, Units 1 and 2), ALAB-116, 6 AEC 258, 259 (1973).

upon our leaving its referred ruling for review (if necessary) at the conclusion of the case. Indeed, on that score we see no important distinction between this case and the innumerable others in which, for one reason or another, some (albeit not all) of an intervenor's contentions are not accepted for litigation.

That being so, what remains for consideration is whether, as the Licensing Board also concluded, a compelling public interest dictates our involvement in the TDI diesel generator matter at this time. On this score as well, we are unable to concur with the Board.

As seen, at the root of the referral is the Board's belief that the TDI quality assurance and operational performance issues are generic in character and, as such, if possible should be litigated in a single proceeding. What the Board seemingly has in mind is something akin to the lead case procedure we adopted several years ago in dealing with the issue — potentially arising in *every* reactor licensing proceeding — of the environmental effects associated with the release of radioactive radon gas (radon-222) to the atmosphere as a result of the mining and milling of uranium for reactor fuel.[15] How practical that approach turned out to be in the radon proceeding is open to legitimate question.[16] Be that as it may, however, we have been given no reason to think that any measure of success it might have achieved in facilitating the resolution of the radon issue would be repeated here.

Among other things, unlike the radon issue, the issues concerning the reliability of the TDI diesel generators do not appear to be wholly generic. We can take official notice that at least four different models of TDI diesel generators have been supplied to nuclear power facilities; in this regard, Catawba has DSRV 16 generators, while those at Shoreham (one of the other reactors referred to by the Licensing Board) are of Model DSR 48.[17] Moreover, insofar as we are aware, the limited operating history of the various generators has not been precisely the same.

In these circumstances, it is far from clear that any substantial advantage would be gained by removing some of the TDI diesel generator issues from assorted individual licensing proceedings and consolidating them in one existing (or special) lead proceeding. Accordingly, we see

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[15] *See Philadelphia Electric Co.* (Peach Bottom Atomic Power Station, Units 2 and 3), ALAB-480, 7 NRC 796 (1978).

[16] For the tortuous subsequent history of the adjudication of the radon issue on a lead case basis, *see* ALAB-640, 13 NRC 487 (1981), and ALAB-701, 16 NRC 1517 (1982). And the final curtain has not as yet fallen. *See* CLI-83-14, 17 NRC 745 (1983), deferring the decision as to possible Commission review of ALAB-701.

[17] *See* February 15, 1984 letter from R.E. Boyer, Manager, Quality Assurance, Transamerica Delaval, to the Director of the NRC Office of Inspection and Enforcement. That letter was supplied to the parties to the present proceeding as part of Board Notification 84-044 (February 29, 1984).

no public interest to be served in employing the Licensing Board's partial rejection of the intervenors' diesel generator contention as a springboard for our pursuit of the Board's proposal in that regard.[18]

The referral contained in the Licensing Board's February 23, 1984 order is *dismissed.*

It is so ORDERED.

FOR THE APPEAL BOARD

Barbara A. Tompkins
Secretary to the
Appeal Board

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[18] Although they do not crucially bear upon our determination respecting the referral, we note in passing three developments since the issuance of the Licensing Board's February 23 order. First, on February 27, the Board entered an order in which it posed on its own motion an additional issue related to the TDI diesel generators. Specifically, the Board referred to a February 17, 1984 letter from the Duke Power Company that identified four specific problems encountered with the Catawba generators and asked whether, notwithstanding those problems, there is reasonable assurance that the generators can perform their function and provide reliable service. Second, on March 23, the intervenors filed a motion to amend and supplement the conditionally admitted crankshaft design contention or, alternatively, to admit a new contention. Third, on April 13, the Licensing Board dismissed the conditionally admitted crankshaft design contention on the ground that the intervenors had not met the imposed condition. *See* note 7, *supra.*

Cite as 19 NRC 995 (1984) **ALAB-769**

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**

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

April 23, 1984

The Appeal Board certifies to the Commission questions concerning the terms "important to safety" and "safety-related" as used in the Commission's quality assurance regulations, and another question concerning the need for additional environmental evaluation under the National Environmental Policy Act prior to the issuance of a license for low-power operation of the Shoreham plant.

PLANT DESIGN: GENERAL CRITERIA

The General Design Criteria (GDC) establish minimum standards for those structures, systems and components considered important to safety, *i.e.*, those that "provide reasonable assurance that the facility can be operated without undue risk to the health and safety of the public." 10 C.F.R. Part 50, Appendix A, Introduction.

QUALITY ASSURANCE/QUALITY CONTROL: REGULATORY REQUIREMENTS (APPLICABILITY)

Appendix B to 10 C.F.R. Part 50 delineates the quality assurance requirements for the design, construction and operation of various structures, systems and components of a nuclear power reactor. These quality assurance requirements apply to all activities affecting the safety-related functions of these structures, systems and components. 10 C.F.R. Part 50, Appendix B, Introduction.

RULES OF PRACTICE: INTERVENTION PETITIONS (LATE-FILED CONTENTIONS)

Licensing boards have discretion to admit late-filed contentions and appeal boards are not readily disposed to overturn such board determinations. *See Washington Public Power Supply System* (WPPSS Nuclear Project No. 3), ALAB-747, 18 NRC 1167, 1171 (1983).

MEMORANDUM AND CERTIFICATION TO THE COMMISSION

I. INTRODUCTION

1. A recurring issue in reactor operating license proceedings is whether the facility has been properly constructed. In most instances, the focus has been upon the development and execution of a quality assurance program designed to ensure proper construction and minimize the possibility that construction deficiencies of potential safety significance will go undetected and therefore unrectified.[1]

We have before us appeals in connection with the Licensing Board's partial initial decision in this operating license proceeding.[2] Among the matters resolved by the Board was the adequacy of the applicant's compliance with the quality assurance requirements of 10 C.F.R. Part 50. Specifically, intervenors Suffolk County, New York, and the Shoreham Opponents Coalition challenge the methodology used by the applicant Long Island Lighting Company (LILCO) in the classification and

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[1] *See generally Union Electric Co.* (Callaway Plant, Unit 1), ALAB-740, 18 NRC 343 (1983), *reconsideration denied*, ALAB-750, 18 NRC 1205 (1983), *as modified*, ALAB-750A, 18 NRC 1218 (1983).

[2] *See* LBP-83-57, 18 NRC 445 (1983).

qualification of plant structures, systems and components for the purpose of the quality assurance program, and the assessment of potential interactions among plant systems. Contention 7B, which the Board crafted from related contentions proffered by the intervenors, reads:

> LILCO and the Staff have not applied an adequate methodology to Shoreham to analyze the reliability of systems, taking into account systems interactions and the classification and qualification of systems important to safety, to determine which sequences of accidents should be considered within the design basis of the plant, and if so, whether the design basis of the plant in fact adequately protects against every such sequence. In particular, proper systematic methodology such as the fault-tree and event-tree logic approach of the IREP program or a systematic failure modes and effect analysis has not been applied to Shoreham. Absent such a methodological approach to defining the importance to safety of each piece of equipment, it is not possible to identify the items to which General Design Criteria 1, 2, 3, 4, 10, 13, 21, 22, 23, 24, 29, 35, 37 apply, and thus it is not possible to demonstrate compliance with these criteria.[3]

In short, the intervenors claimed that there must exist some quality assurance program for *all* structures, systems and components that are "important to safety" within the meaning of General Design Criterion (GDC) 1,[4] *i.e.*, those that play any role in assuring that the plant can be operated without undue risk to the health and safety of the public. In their view, LILCO has impermissibly restricted its quality assurance program to those items that are "safety-related" within the meaning of Appendix B to Part 50 and Appendix A to Part 100.

The applicant argued, to the contrary, that the term "safety-related" within the meaning of the quality assurance requirements of Appendix B to Part 50 is synonymous with the term "important to safety" contained in the Commission's General Design Criteria. It contended that it has in place a quality assurance program in total compliance with Part 50 for all safety-related items but also asserted that all nonsafety-related items have received quality assurance commensurate with their significance to the plant's safe and reliable operation.

The NRC staff maintained, as a threshold matter, that the contentions put forth by the intervenors did not meet the requirements of 10 C.F.R. § 2.714(a) for late filings or the specificity requirement of 10 C.F.R. § 2.714(b). Nevertheless, the staff supported the intervenors' substantive position that the term "important to safety" is broader in scope than the term "safety-related."

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[3] *See* LBP-82-19, 15 NRC 601, 611 (1982). *See generally id.* at 605-12.
[4] 10 C.F.R. Part 50, Appendix A.

Based on the evidence of record, the Licensing Board resolved in the applicant's favor all quality assurance issues that were litigated. It agreed that LILCO had applied quality assurance to every structure, system and component at Shoreham commensurate with each item's contribution to plant safety and reliability. In arriving at this determination, however, it concluded, in accordance with the views of the intervenors and the staff, that "the class of structures, systems, and components that is important to safety is larger than, and includes, the class of structures, systems, and components that is safety-related."[5] To ensure adherence to this definitional distinction, the Board imposed an operating license condition requiring LILCO to acknowledge and adopt a classification scheme under which the term "important to safety" is given a broader meaning than the term "safety-related."

On appeal, the parties maintain the positions taken below.[6] In this connection, the staff contends that the license condition is needed to ensure continued adherence by LILCO to the definitional distinction found by the Board.[7] Because of the importance and novelty of the question presented, we granted a request by the Utility Safety Classification Group, which is made up of 39 electric utility companies that own over half of the planned or operating commercial nuclear units in the country, to participate in the appeal as *amicus curiae*. The Group argues that the definitions advocated by the NRC staff, and adopted by the Board, are inconsistent with the historical interpretation of the term "important to safety" and are impermissibly broad and vague. It argues further that such a significant change affecting the entire industry should, in any event, be effected only through notice and comment rulemaking procedures.[8]

2. As a separate matter, Suffolk County asserted below, and reiterates on appeal, that the Commission must make a separate and independent assessment under the National Environmental Policy Act (NEPA) of the environmental effects of licensing the Shoreham plant for low power operation. Although full power operation is the subject of an environmental impact statement, the County claims that it is unlikely that offsite emergency preparedness plans will turn out to be satisfactory in view of the opposition of county and state officials, and thus there is no basis to believe that full power operation will ever occur. As a

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[5] LBP-83-57, *supra*, 18 NRC at 546.

[6] *See generally* Suffolk County Brief in Support of Appeal of Licensing Board Partial Initial Decision (December 23, 1983) at 5, 7-11; App. Tr. 33-34; LILCO's Brief on Appeal (December 23, 1983) at 1-6; LILCO's Reply Brief (March 2, 1984) at 4; NRC Staff's Brief in Opposition (March 9, 1984) at 4-5.

[7] NRC Staff's Brief at 61-68.

[8] Utility Safety Classification Group's Brief *Amicus Curiae* (December 23, 1983) at 1-4.

consequence, a further environmental assessment of the costs and benefits of low power operation is required. The Licensing Board rejected that claim. As we explain in more detail below, it found that such rejection was mandated by the Commission's disposition of an earlier Suffolk County request to defer consideration of low power licensing in view of the uncertainties associated with offsite emergency planning.

II. BACKGROUND

All nuclear power plants contain structures, systems and components that prevent or mitigate the consequences of postulated accidents and thus are necessary to ensure the safety of the plant. The General Design Criteria (GDC) establish minimum standards for those structures, systems and components considered important to safety, *i.e.*, those that "provide reasonable assurance that the facility can be operated without undue risk to the health and safety of the public."[9]

GDC 1 states, in part:

> *Structures, systems, and components important to safety* shall be designed, fabricated, erected, and tested to quality standards commensurate with the importance of the safety functions to be performed. . . . *A quality assurance program shall be established and implemented in order to provide adequate assurance that these structures, systems, and components will satisfactorily perform their safety functions.* [Emphasis added.]

GDC 2 requires that "structures, systems, and components important to safety" be designed to withstand the effects of natural phenomena such as earthquakes without loss of capability to perform their safety functions. In this connection, Appendix A to Part 100 of the Commission's regulations defines a "Safe Shutdown Earthquake" (the most severe seismic event analyzed for a nuclear power plant) and requires that certain items be designed to remain functional for that event. The items are those necessary to assure (1) the integrity of the reactor coolant pressure boundary; (2) the capability to shut down the reactor and maintain it in a safe shutdown condition; or (3) the capability to prevent or mitigate the consequences of accidents which could result in potential offsite exposures comparable to the guideline exposures of 10 C.F.R. Part 100.[10]

Appendix B to 10 C.F.R. Part 50 of the Commission's regulations delineates the quality assurance requirements for the design, construc-

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[9] 10 C.F.R. Part 50, Appendix A, Introduction.
[10] 10 C.F.R. Part 100, Appendix A, III(c).

tion and operation of various structures, systems and components. These quality assurance requirements apply *to all activities affecting the safety-related functions* of those structures, systems and components.[11] Those structures, systems, components or functions deemed "safety-related" are not defined in Part 50, but a definition is incorporated in Appendix A to Part 100, which implements GDC 2. That provision reads, in part:

> *The nuclear power plant shall be designed so that, if the Safe Shutdown Earthquake occurs, certain structures, systems, and components will remain functional. These structures, systems, and components are* those necessary to assure (i) the integrity of the reactor coolant pressure boundary, (ii) the capability to shut down the reactor and maintain it in a safe condition, or (iii) the capability to prevent or mitigate the consequences of accidents which could result in potential offsite exposures comparable to the guideline exposures of this part. In addition to seismic loads, including aftershocks, applicable concurrent functional and accident-induced loads shall be taken into account in the design of *these safety-related structures, systems, and components.*[12]

In short, safety-related items are those necessary to satisfy the tripartite test of Appendix A to Part 100.

III. CONCLUSION

We have decided to certify the question of the proper interpretation of the regulations to the Commission for disposition. As set out in more detail below, we find the existing regulations too varied and the historic industry and agency practice too diverse simply to set forth what we perceive to be the proper interpretation of the regulations. Furthermore, we are convinced that any disposition of this issue will have ramifications far beyond the current adjudication. As a consequence, we believe that it should be addressed in a more generic context. This can be accomplished by certifying the matter to the Commission, which may choose to employ its rulemaking powers if it deems them appropriate.[13]

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[11] 10 C.F.R. Part 50, Appendix B, Introduction (emphasis added).

[12] 10 C.F.R. Part 100, Appendix A, VI(a)(1) (emphasis added).

[13] As earlier noted, the staff claims that the contention should never have been litigated. In addition to the two arguments it raised below, it now claims that the Board's reformulation into a single broad and vague contention was inconsistent with procedures for the exercise of the Board's *sua sponte* authority under 10 C.F.R. § 2.760a. Our preliminary examination suggests that the Board's action was proper. In the first place, licensing boards have discretion to admit late-filed contentions and we are not readily disposed to overturn board determinations in that respect. *See Washington Public Power Supply System* (WPPSS Nuclear Project No. 3), ALAB-747, 18 NRC 1167, 1171 (1983). Moreover, despite any initial

(Continued)

We have also decided to refer to the Commission for disposition the question of the effect of its earlier decision on Suffolk County's claim that NEPA requires a separate evaluation of low power licensing. We discuss the quality assurance and environmental issues separately, and turn, first, to the issue of the construction of the Commission's quality assurance regulations.

IV. DISCUSSION

1. In our view, the Commission's regulations are too inconsistent to provide a ready answer to the definitional dispute. Although mere inconsistency does not ordinarily prevent an adjudicatory tribunal from interpreting regulations, such interpretation in the instant case would necessitate a wholesale rejection of one or more portions of the regulations in favor of others. We are reluctant to pursue such course.

Particularly when read in light of their administrative development, the regulations do not point definitively in one direction or the other. There is support in the regulations for the notion that "important to safety" is equivalent to "safety-related," as LILCO and the amicus argue. As originally proposed, the General Design Criteria did not employ the term "important to safety" at all; instead, GDC 1 described systems and components "essential" to the prevention or mitigation of accidents, while GDC 37 used the expression "engineered safety features." Such engineered safety features, as set forth in GDC 37, were those intended to assure further the safety provided by the core design, the reactor coolant pressure boundary, and their protection systems.[14] Thus, the term "engineered safety features" as originally employed is similar to the current terminology defining safety-related items as used in 10 C.F.R. Part 100. In the final rule, adopted more than three years later, the terms "essential" and "engineered safety features" were eliminated with only the following brief discussion:

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lack of specificity, it seems clear that the issue was amply particularized during the course of the litigation. We also note that 26 days of hearing were devoted to an issue of obvious and continuing importance, the Licensing Board and the parties have addressed it fully at the hearing stage and on appeal, and no party is prejudiced by its consideration at this time. Particularly in light of our determination that the substantive issue is best addressed by the Commission, we are not prepared either to dismiss the contention on procedural grounds or to remand the matter to the Licensing Board for a post hoc evaluation of its timeliness or specificity.

[14] *See* 32 Fed. Reg. 10,213, 10,215, 10,216-17 (1967).

> The term "engineered safety features" has been eliminated from the revised criteria and the requirements for "engineered safety features" incorporated in the criteria for individual systems.[15]

The term "important to safety" was introduced without explanation. Such lack of any specific explication for the change in language between the proposed and final rule lends credence to the LILCO claim that no substantive difference was intended between "engineered safety features" and items "important to safety."

Similarly, 10 C.F.R. Part 21, dealing with the ongoing requirement for reporting defects that could pose safety hazards, suggests an identity between items that are "safety-related" and those that are "important to safety." It defines a "basic component" by reference to the three elements used in Part 100 to describe safety-related components.[16] Yet the same regulation includes among basic components "design, inspection, testing, or consulting services important to safety that are associated with the component hardware. . . ."[17]

It is unquestioned, however, that, as the staff and intervenors point out, a recent Commission rulemaking effort resulted in a regulation that plainly distinguishes between the two terms. 10 C.F.R. § 50.49(b), dealing with environmental qualification of electric equipment, reads in part:

> Electric equipment *important to safety* covered by this section *is*:
>
> (1) *Safety-related electric equipment:* This equipment is that relied upon to remain functional during and following design basis events to ensure (i) the integrity of the reactor coolant pressure boundary, (ii) the capability to shut down the reactor and maintain it in a safe shutdown condition, and (iii) the capability to prevent or mitigate the consequences of accidents that could result in potential offsite exposures comparable to the 10 C.F.R. Part 100 guidelines. . . .
>
> (2) *Nonsafety-related electric equipment* whose failure under postulated environmental conditions could prevent satisfactory accomplishment of safety functions specified in subparagraphs (i) through (iii) of paragraph (b)(1) of this section by the safety-related equipment.
>
> (3) *Certain post accident monitoring equipment* [emphasis added, footnotes omitted].

While we have not undertaken an exhaustive examination of all Commission regulations, we are satisfied that they do not provide a consistent answer to the definitional dilemma.

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[15] 36 Fed. Reg. 3255, 3256-57 (1971).
[16] 10 C.F.R. § 21.3(a)(1).
[17] 10 C.F.R. § 21.3(a)(3).

Interpretation and practice over the years appear only to have increased the uncertainty concerning the meaning of these regulatory terms. As recently as July 1983, when proposing new rules governing the protection of employees who provide information, the Commission incorporated the definition of "basic component" found in Part 21, with the following observation:

> Since these definitions have been used in Part 21 for several years, the meaning of these terms and the scope of the posting requirement should be well understood.[18]

Yet the staff acknowledges that the language of Part 21 is "ambiguous" and that the "use of the terms has been confused over the years."[19]

When 10 C.F.R. § 50.72 was issued in 1980, it employed the term "important to safety."[20] The term was later dropped from § 50.72 and not included in the companion changes to 10 C.F.R. § 50.73 made effective the same day.[21] The staff explained this alteration as follows:

> I noticed that Section 50.73(a)(2)(v) uses the Part 100 definition of safety related systems. What about systems and components that may be classified as "important to safety." Are they included in the scope of the . . . rule?
>
> Answer: 50.72 and 50.73 use neither the phrase "safety-related" nor "important to safety" because of the varying interpretation associated with these terms. The definition of the systems included in the scope of these rules is provided in the rules.[22]

The staff's regulatory guides, which describe methods acceptable to the staff for implementing specific portions of the regulations, likewise appear inconsistent. In reviewing the definitions of "important to safety" and "safety-grade" in our *Three Mile Island R. start* decision last year, we cited Regulatory Guide 1.29 to reinforce our conclusion that equipment "important to safety" may include both safety-grade (*i.e.*, safety-related)[23] and non-safety-grade equipment.[24] LILCO and the Utility Group now point out that Regulatory Guide 1.105, in contrast, explic-

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[18] 48 Fed. Reg. 31,050, 31,051 (1983).
[19] NRC Staff's Brief at 26 n.28.
[20] 45 Fed. Reg. 13,434, 13,435 (1980).
[21] 48 Fed. Reg. 39,039, 39,046 (1983), *as corrected*, 48 Fed. Reg. 40,882 (1983).
[22] NUREG-1022, Supp. 1, "License Event Report System" (February 1984), at 10.
[23] *See* note 30, *infra*.
[24] *Metropolitan Edison Co.* (Three Mile Island Nuclear Station, Unit No. 1), ALAB-729, 17 NRC 814, 875-76 (1983).

itly defines systems important to safety by reference to the three definitional characteristics of safety-related items set out in Part 100.[25]

This lack of clarity is made manifest by efforts in 1981 and again this year to prescribe a uniform interpretation for use by all personnel of the Office of Nuclear Reactor Regulation (NRR). On November 20, 1981, Director Harold Denton issued a memorandum entitled "Standard Definitions for Commonly-Used Safety Classification Terms." By its terms, the memorandum purports simply to establish "consistency in the language used by all cognizant groups within NRR" and not "dictate new technical requirements . . . , modify existing technical requirements, or . . . broaden the existing scope of NRR licensing review." It seems clear, however, that at a minimum no such memorandum would have been necessary if the terms had historically been employed without ambiguity or inconsistency. Even more important, the memorandum was intended for use solely within NRR and, as the Licensing Board observed, there is no evidence that it was ever distributed outside NRR, let alone adopted by other staff components.[26]

In January of this year, Darrell G. Eisenhut, the Director of the Division of Licensing in the Office of Nuclear Reactor Regulation, sent a letter to all holders of operating licenses and construction permits, and applicants for operating licenses, discussing the use of the terms "important to safety" and "safety-related." The letter observed, in part:

> While previous staff licensing reviews were not specifically directed towards determining whether, in fact, permittees or licensees have developed quality assurance programs which adequately address all structures, systems and components important to safety, this was not because of any concern over the lack of regulatory requirements for this class of equipment. Rather, our practice was based upon the staff view that normal industry practice is generally acceptable for most equipment not covered by Appendix B within this class.[27]

The Licensing Board found that the record in this case reflects no doubt that there have been differences in the use and application of the terms by the staff and licensees.[28] We agree with that Board's observation.

We appreciate that, in reaching its substantive conclusion, the Licensing Board relied in substantial part on our determinations in *Three Mile*

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[25] Regulatory Guide 1.105, Rev. 1, "Instrument Setpoints" (November 1976).
[26] LBP-83-57, *supra*, 18 NRC at 558.
[27] Board Notification 84-011, "NRC Use of the Terms 'Important to Safety' and 'Safety Related'" (January 18, 1984), Enclosure 1.
[28] LBP-83-57, *supra*, 18 NRC at 558.

Island Restart.[29] And we cannot gainsay that those determinations lend support to the Board's conclusion. But our *Three Mile Island Restart* decision was narrowly focused on the reactor there under examination and applied explicitly to only design requirements as contrasted with quality assurance requirements. Moreover, we intended in terms to distinguish between the regulatory term "important to safety" and the non-regulatory term "safety-grade" only in the context of an assertion that all items that may cause, aggravate, or mitigate an accident must be required to meet safety-grade design criteria. We did not have presented to us, and thus did not consider, all implications of the relationship between items "important to safety" and those that are "safety-related."[30]

Recently, in the *Diablo Canyon* case, we concluded that the terms "important to safety" and "safety-related" had been used synonymously by the applicant and the NRC staff within the context of that operating license application.[31] We reached that conclusion in an oral ruling at a prehearing conference and thereby precluded the litigation of an issue raised by the intervenors. On the basis of conceded, serious flaws in the applicant's design quality assurance program, we granted the intervenors' motions to reopen the record on the issue of the adequacy of design quality assurance program for Diablo Canyon. The real issue in the reopened proceeding, however, quickly became the sufficiency of the applicant's design verification program, which was to substitute for the failed quality assurance program. The intervenors claimed that the applicant had no design quality assurance program for systems "important to safety" within the meaning of Appendix A, GDC 1. Thus, they sought, in effect, to litigate whether the applicant's design

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[29] *See id.* at 558-60, *citing Three Mile Island Restart*, ALAB-729, *supra*, 17 NRC at 873-77 (1983).

[30] All parties to this proceeding agree that "safety-grade" is equivalent to "safety-related," and the Licensing Board observed that it concurs in our view in *Three Mile Island Restart* that there is no difference between the two terms. 18 NRC at 559 n.28. In *Three Mile Island Restart*, we did not assume that the two terms are synonymous. The Licensing Board in that case had observed that the licensee agreed that, insofar as maintenance was concerned, "safety-related is not equivalent to and should not be confused with safety-grade, or other terms used in the industry." LBP-81-32, 14 NRC 381, 484 (1981). The definition of "safety-related," including any regulatory history of the term, however, was not explicitly considered on appeal in that case. *See* ALAB-729, *supra*, 17 NRC at 874 n.280. *But see id.* at 876 n.286, offering our comments on a Commission observation that there are only two categories of equipment — safety-grade and nonsafety-grade. The Commission had observed:

> "[I]n reviewing reactor plant designs . . . the NRC does not review all structures, systems, and components but rather reviews, in varying levels of detail, only those considered 'safety grade' by the applicant . . . . This method of classification is based on the notion that things credited in the analysis of a design basis event or specified in the regulations are important to safety and thus are 'safety grade' while all else is 'non-safety grade.' Non-safety grade items do not receive continuing regulatory supervision or surveillance to see that they are properly maintained or that their design is not changed in some way that might interact negatively with other systems."

45 Fed. Reg. 65,474, 65,475 (1980).

[31] *Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), ALAB-763, 19 NRC 571, 620-21 (1984) (Moore, concurring).

verification program was adequate because it failed to verify that systems "important to safety" (as opposed to safety-related systems within the meaning of Appendix B) met licensing criteria. In precluding the litigation of that issue, we ruled that, with respect to the *Diablo Canyon* proceeding, the regulatory terms "important to safety" and "safety-related" had been read synonymously and to the extent the regulations now were to be interpreted to impart a different meaning to the terms, such interpretation would not be applied retroactively.[32]

Our review of the *Three Mile Island Restart* and *Diablo Canyon* decisions demonstrates that there is a lack of uniformity in the manner in which the two terms have been, and perhaps are being, interpreted.

As suggested above, we believe that resolution of this issue is ill-suited to the narrow adjudicatory context imposed by the appeals before us. First of all, any resolution we might make could not bind elements of the staff that are not represented in this adjudication. The evidence in this case shows, for example, that Region I inspectors have never inspected at a plant that employed the classification "important to safety" to apply to items that are not "safety-related."[33] The Office of Nuclear Regulatory Research, which has taken over the responsibilities of the former Office of Standards Development, has not, as far as we are aware, renounced the definition contained in Regulatory Guide 1.105. Administrative fairness requires that, to the extent feasible, the Commission's regulations be given a consistent meaning and application by all elements of the agency's staff. Only the Commission can provide general policy guidance binding on all staff components.

Further, the effect of any decision on licensees and other applicants was not addressed in the *Three Mile Island Restart* case and has not been addressed fully on the record before us. The staff has indicated that it would impose the license condition requiring adherence to its proposed definitions if we were to dismiss the contention as impermissibly admitted. But it is not at all clear to us whether the Shoreham situation is perceived by the staff as unique or merely the forerunner of pervasive

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[32] Apart from that ruling we rejected, as untimely, a somewhat similar claim made by the intervenors in support of another motion to reopen the record. *See* ALAB-756, 18 NRC 1340, 1352 n.31 (1983). In this second motion, the intervenors sought to reopen the record on the issue of the adequacy of the applicant's construction quality assurance program because intervenors claimed generally that the applicant had failed to implement a construction quality program for systems "important to safety" within the meaning of Appendix A, GDC 1. But the fact that the applicant had had no distinct quality assurance program had been evident since 1974. The same untimeliness ground was not applicable, of course, to our other ruling in the unique reopened proceeding because there the real issue was the adequacy of the applicant's design verification program.

[33] *See* Tr. 17,284 (Higgins) and 17,285 (Narrow).

regulatory action. Such matter is appropriate for Commission disposition.[34]

2. 10 C.F.R. § 50.47(d) of the Commission's regulations provides:

> Notwithstanding the requirements of paragraphs (a) and (b) of this section, no NRC or FEMA review, findings, or determinations concerning the state of offsite emergency preparedness or the adequacy of and capability to implement State and local offsite emergency plans are required prior to issuance of an operating license authorizing only fuel loading and/or low power operations (up to 5% of the rated power).

10 C.F.R. § 50.47(d) then sets out the emergency planning finding that must be made as a prerequisite to issuance of a license for fuel loading and/or low power operations. It provides that:

> the state of onsite emergency preparedness provides reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency.

In April 1983, the Licensing Board certified to the Commission the issue of low power licensing, along with a recommendation that 10 C.F.R. § 50.47(d) not be applied to allow a low power license for Shoreham in advance of a reasonable assurance finding that the emergency planning requirements for a full power license can and will be met in the future.[35] The Commission rejected this recommendation. In doing so, it observed:

> Section 50.47(d) gives unqualified authorization to issue a low-power license in the absence of NRC or FEMA approval of an offsite emergency plan so long as other prerequisites, including an adequate state of onsite emergency preparedness, are met. The language of the regulation requires no predictive finding of "reasonable assurance" with regard to offsite emergency planning prior to low-power operation and none was intended by implication or otherwise. In issuing section 50.47(d), the Commission did not implicitly make any generic findings about the likelihood that emergency preparedness could be developed. . . . Moreover, it seems apparent that the Licensing Board's preliminary doubt about whether there is reasonable assurance that a sufficient offsite emergency plan can and will be developed is no different from preliminary doubt about whether a safety issue can be adequately resolved which has significance for full-power operation but not for low-power activities. Interjection of such doubts into the low-power proceeding could

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[34] Various issues unrelated to Contention 7B, or only partially related, are also pending before us. We think it is preferable to await the Commission's disposition of the Contention 7B matters before disposing of these other issues.

[35] LBP-83-21, 17 NRC at 593, 599-604.

> create a limited full-power hearing, before authorization of the low-power license. Such a procedure would have little to commend it.
>
> The emergency planning issues in this case are difficult. However, they do not appear to us to be categorically unresolvable. We believe the better procedure is to reserve full-power issues, like offsite emergency planning, for the full-power authorization decision. Accordingly, if applicant Long Island Lighting Company (LILCO) can meet all the other requirements of the Atomic Energy Act and NRC regulations pertinent to the grant of a low-power license, it is entitled to that license despite the existing uncertainties about offsite emergency planning. It should be added, however, that such authorization would in no way assure LILCO that it will be granted a full-power license and that in implementing any authorization it may be given to operate at low power, LILCO management would do so entirely at its own risk.[36]

During the course of the proceeding, Suffolk County argued that the NRC must make an independent assessment of the environmental costs and benefits of licensing Shoreham for low power operation because it is unlikely that adequate offsite emergency preparedness will exist and consequently no basis to believe that full power operation will ever occur. Thus, according to the County, in contrast to the usual situation where low power operation is an anticipated intermediate step on the road to full power license and embraced within the final environmental impact statement, low power operation without generation of any electricity by the Shoreham plant under a full power license is a foreseeable alternative within the meaning of NEPA. In sum, a new cost-benefit balance must be undertaken, without the prospect of electricity generation as the principal benefit.

The Licensing Board rejected Suffolk County's argument. In essence, it deemed itself bound by our decision in *Diablo Canyon*[37] and, more importantly, the Commission's disposition of the recommendation earlier referred to it by the Board.[38] The Board candidly recognized, however, that

> [a]s our recommendation was not couched in terms of NEPA, the Commission's decision on the question likewise was not so presented.[39]

Nonetheless, it observed that its recommendation was prompted by — and presented — the same type of cost-benefit balance that the County

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[36] CLI-83-17, 17 NRC 1032, 1034-35 (1983) (footnotes omitted).

[37] *Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), ALAB-728, 17 NRC 777, 793-95 (1983) (low power testing is an expected step in the licensing process not involving environmental impacts different from those evaluated for a full power license so that there is no need for a separate environmental statement focusing on the costs and benefits of low power testing).

[38] *See* LBP-83-57, *supra*, 18 NRC at 626.

[39] *Ibid.*

asserts must be made under NEPA. Hence, in the Board's view, a NEPA decision was embraced within the Commission's overall determination. The Board also found, after an analysis of federal court decisions, that NEPA did not require a separate assessment before a low power license could be issued.[40]

The NEPA issue is raised on appeal by Suffolk County. LILCO and the staff support the Board's result. At oral argument, however, we asked whether, in light of its earlier decision on low power licensing, it would not be appropriate to certify this issue as well to the Commission for disposition. Counsel for the applicant suggested that "it would be highly desirable" to certify the matter in the interest of obtaining a prompt and definitive agency ruling on the subject.[41] In his view, it was likely that the matter would be presented to the Commission in due course whatever our determination may be, and would then surely be presented to a court for ultimate decision.[42] He stated:

> It is an engaging issue, from the County's perspective, and now from the State's. They are not going to drop it. There is some force to it that was not ultimately compelling, in our judgment, by any means. So we would like to get it resolved as soon as possible, but we would prefer that it be resolved as soon as possible, by the group within the Agency that can take final action on it.[43]

Neither the County nor the staff objected to prompt certification of the issue.[44]

We have decided to include this issue in our certification to the Commission. As Suffolk County argues, and the Licensing Board recognizes, the matter is intimately tied to the Commission's earlier determination that a low power license could be issued despite a lack of approval of final offsite emergency plans. Nonetheless, the NEPA arguments were not presented to the Commission in connection with its earlier decision. Indeed, because the Licensing Board earlier raised the issue *sua sponte*, the parties had no opportunity to offer the Commission their comments or arguments on one side or the other.[45] We believe it sensible to have the Commission entertain these arguments and construe its earlier decision in light of them.

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[40] *Id.* at 627-32.
[41] App. Tr. 160.
[42] *Ibid.*
[43] *Ibid.*
[44] *Id.* at 161 (Suffolk County). *Id.* at 162-63 (staff).
[45] *See* CLI-83-17, *supra*, 17 NRC at 1036 (Separate views of Commissioner Asselstine).

Accordingly, we certify to the Commission under 10 C.F.R. § 2.785(d) the following questions:

1. Are the terms "important to safety" and "safety-related" to be deemed synonymous for the purpose of establishing an acceptable quality assurance program in accordance with GDC 1 of Appendix A and Appendix B to 10 C.F.R. Part 50?
2. How should the outcome of Question 1 be applied to the operating license application proceeding before us?
3. Is some form of environmental evaluation under NEPA required as a precondition to issuance of a license for low power operation in this proceeding if such issuance is otherwise warranted?

FOR THE APPEAL BOARD

C. Jean Shoemaker
Secretary to the
Appeal Board

Atomic Safety and Licensing Boards Issuances

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Cite as 19 NRC 1011 (1984) **LBP-84-17A**

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

Morton B. Margulies, Chairman
Frederick J. Shon
Dr. Richard F. Foster

In the Matter of

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

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

April 19, 1984

RULES OF PRACTICE: LATE-FILED PETITION TO INTERVENE

A petitioner whose late-filed petition to intervene has met the requirements of 10 C.F.R. § 2.714(a)(1) need not meet any further qualifications to have its admitted contentions litigated. It is not to be treated differently than a petitioner whose petition to intervene was timely filed.

MEMORANDUM AND ORDER

(Ruling on Applicant's Motion for Reconsideration and Other Relief, of March 20, 1984

On March 20, 1984, Washington Public Power Supply System (Applicant or Power Supply) submitted a motion to the Licensing Board for it to reconsider its Memorandum and Order of March 2, 1984 (unpublished), holding that petitioner Coalition for Safe Power

(Coalition) satisfied requirements called for in a remand by the Appeal Board and reinstating a prior order admitting Petitioner as a party intervenor to the proceeding, along with its nine admitted contentions. Applicant further requested that should the Licensing Board decide not to reconsider its prior determination, the matter be referred or certified to the Appeal Board.

Coalition in a response dated April 4, 1984, opposes Applicant's motion. Nuclear Regulatory Commission Staff did not file an answer.

DEVELOPMENT OF THE PROCEEDING

This matter evolved from Coalition's filing a late petition to intervene and to hold a hearing, in this captioned matter, involving an application for an operating license for a nuclear generating station, located near Satsop, Washington.

On April 21, 1983, we issued an unpublished Memorandum and Order finding that Coalition had satisfied the five-part test of 10 C.F.R. § 2.714(a)(i) permitting the acceptance of its late-filed petition to intervene and that it met the standing and interest requirements of 10 C.F.R. § 2.714. Coalition was permitted to file proposed contentions, as provided in 10 C.F.R. § 2.714(b).

Petitioner submitted seventeen proposed contentions of which it subsequently withdrew seven. Following a special prehearing conference on August 17, 1983, we issued an unpublished Memorandum and Order on September 27, 1983, admitting nine of the contentions.

The Applicant appealed from the result under 10 C.F.R. § 2.714(a), confining itself to the claim that Intervenor's petition should have been denied because of its untimeliness. It alleged Coalition had failed to meet the five-part test of 10 C.F.R. § 2.714(a)(1) that passing permits the acceptance of an untimely petition.

The Appeal Board issued its decision in *Washington Public Power Supply System* (WPPSS Nuclear Project No. 3), ALAB-747, 18 NRC 1167 (1983), vacating the September 27, 1983, order and remanding the proceeding to the Licensing Board. Its concern was the satisfying of the third factor of the test, dealing with a petitioner's ability to assist in developing a sound record in the proceeding. The instructions of the Appeal Board at page 1181 of the November 15, 1983 decision were:

> We accordingly vacate the relevant portion of the Licensing Board's April 21 memorandum and order and remand the intervention petition to that Board with instructions to require the Coalition to make an additional showing on the third factor. [Footnote omitted.] Should the Board find the showing to cure the deficiencies we have discerned in the cursory and unilluminating recitation on the third

factor contained in the Coalition's petition, the grant of intervention is to be reinstated. Otherwise, intervention is to be denied. . . .

The majority opinion of the Appeal Board in the remand provided two ways by which the requirements of 10 C.F.R. § 2.714(a)(1)(iii) could be met. One method was Petitioner could satisfy the requirements of *Mississippi Power & Light Co.* (Grand Gulf Nuclear Station, Units 1 and 2), ALAB-704, 16 NRC 1725, 1730 (1982), under which Coalition should both (1) identify specifically at least one witness it intends to present; and (2) provide sufficient detail respecting the witness' proposed testimony to permit the Licensing Board to reach a reasoned conclusion on the likely worth of that testimony on one or more of the contentions admitted to the proceeding by the Licensing Board's order of September 27, 1983.

On December 6, 1983, we required a further showing by Petitioner in accordance with the remand. Petitioner responded on January 10, 1984, and elected to meet the requirements outlined above. Applicant answered on February 6, 1984, stating Petitioner's response did not fulfill the requirement of the remand. Nuclear Regulatory Commission Staff had replied on February 2, 1984, that it did.

Our review of Coalition's supplemental petition of January 10, 1984, disclosed that as to one proposed witness named to support Contentions 11 and 12, Petitioner had not satisfied the requirements of *Grand Gulf* and that the deficiency set forth in the remand remained.

We further found that Petitioner's response relating to Contention 16 was satisfactory in meeting the requirements of *Grand Gulf* and it has provided us with sufficient detail respecting the testimony to reach a reasoned conclusion that establishes Coalition's ability to assist in developing a sound record, as required by the Appeal Board. We thereupon reinstated our prior order that admitted Coalition as a party intervenor in this proceeding, along with the nine contentions.

Applicant on March 20, 1984,[1] filed the subject motion requesting that we reconsider our March 2, 1984, Memorandum and Order, that had the effect of readmitting Intervenor's nine contentions, and place a limitation on the scope of Coalition's participation commensurate with its demonstrated ability to contribute to the development of a sound

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[1] Power Supply simultaneously filed an appeal with the Appeal Board contending we erred in finding Coalition's proposed witness could support Contention 16 and Intervenor would contribute to the development of a sound record as provided by *Grand Gulf*, which resulted in our reinstatement of the prior grant of intervention. Applicant sought dismissal of the proceeding. The Appeal Board found the appeal to be without merit. *Washington Public Power Supply System* (WPPSS Nuclear Project No. 3), ALAB-767, 19 NRC 984 (1984). By an unpublished Memorandum and Order of April 9, 1984, we deferred ruling on the subject motion pending disposition of the appeal.

record. Alternatively Applicant requests that the Licensing Board refer pursuant to 10 C.F.R. § 2.730(f) the denial of the motion, or certify the question pursuant to 10 C.F.R. § 2.718(i), to the Appeal Board.

ARGUMENT ON THE MOTION FOR RECONSIDERATION

Power Supply contends it was error for us to permit Coalition to participate as a party intervenor on all nine contentions, when it only made a showing as to ability to develop a record, in regard to Contention 16. It points out that the Licensing Board found as to Contentions 11 and 12 that Coalition failed to demonstrate on the record an ability to contribute to the development of a sound record and that no findings were made on the ability of Intervenor to contribute to the development of a sound record as to its remaining six contentions. We had found at page 10 of our unpublished Memorandum and Order of March 2, 1984, that Coalition had not attempted to demonstrate its ability to contribute to the development of a sound record in regard to the six contentions. The remand only required a response by Coalition to one or two contentions.

At page 15 of its motion Applicant would deny Coalition a further opportunity to show its ability to develop a sound record as to the remaining six contentions and thereby effectively limit Intervenor to only litigating Contention 16.

Power Supply further asserts that no basis exists to treat an untimely petitioner in the same manner as one which has sought intervention promptly. It argues that if the modification is not ordered there will no longer be any need for an untimely petitioner for intervention to establish a linkage of its ability to contribute to the development of a record to all of the issues it seeks to raise. It contends that the order of the Licensing Board is anomalous because "it holds as to contentions that Petitioner is unable to contribute to the development of a sound record but nevertheless allows Petitioner to litigate those issues. It also allows Petitioner to litigate issues as to which no findings were made on its ability to contribute."

Coalition argues that Applicant is seeking to have the Licensing Board apply the five-factor test of 10 C.F.R. § 2.714(a)(1) to each of its contentions, which has no basis in the regulations. It contends that to now apply the five-part test to the contentions at this stage of the litigation as Power Supply proposes would penalize the Intervenor on an *ex poste facto* basis and be prejudicial.

DETERMINATION OF THE MOTION TO RECONSIDER

As a result of filing its petition to intervene late, Coalition had to satisfy the five-part test of 10 C.F.R. § 2.714(a)(1) in order for us to accept the submission. Coalition satisfied this requirement and we found it had the necessary standing and interest to intervene and that nine of its contentions were admissible under 10 C.F.R. § 2.714(b). Applicant by its motion now proposes that Intervenor was to have established, in the manner required under 2.714(a)(1)(iii), its ability to assist in developing a sound record for each of the contentions that were admitted, for them to be acceptable for litigation in this proceeding.

The Commission's statutes, regulations and case law provide no such requirement. The Appeal Board in its remand of November 15, 1983, did nothing to intimate Intervenor would have to justify each of its contentions, in the manner stated, for them to be considered by the Licensing Board. In requiring Coalition to "provide sufficient detail respecting that witness' proposed testimony to permit the Board to reach a reasoned conclusion on the likely worth of that testimony on one or more of the contentions admitted to the proceeding in the Board's September 27 memorandum and order" the Appeal Board was only treating with the contentions in the context of satisfying 2.714(a)(1), thereby permitting the entertainment of the late-filed petition by the Licensing Board and enabling Coalition to participate as a party. The nature of its directive was clear. Should Intervenor establish for a minimum of one contention an ability to assist in developing a sound record, the grant of intervention previously entered was to be reinstated, thereby reestablishing Coalition's prior status as a full-party intervenor. The mandate had nothing to do with requiring a petitioner, who had filed late and who later overcame this handicap, to face additional hurdles to have its contentions considered, beyond those applicable to other petitioners. Coalition was not called upon by the Appeal Board to make a 2.714(a)(1)(iii) showing for each of its contentions.

Power Supply has provided no legal or factual basis for treating the contentions of a petitioner that made a late filing and satisfied the requirements of 2.714(a)(1) differently from those of any other petitioner, as it proposes. Either type of petitioner may be in a position of not being able to make a sound record as to contentions it has had admitted. An Applicant has available prior to hearing an effective remedy to cope with either party's inability, irrespective of whether or not its initial petition to intervene was timely filed. Summary disposition on the pleadings can be pursued. Section 2.749 of Title 10 of the Code of Federal Regulations permits any party to a proceeding to move on the

pleadings for a decision by the presiding officer in that party's favor as to all or any part of the matters involved in the proceeding.

Should Coalition be unable to develop a sound record as to any of its contentions, Power Supply, prior to hearing, could move for summary disposition. If Applicant's position is meritorious it would obviate any need for an evidentiary hearing on those issues. Applicant has an adequate remedy at hand to deal with any contentions Coalition cannot substantiate. It has provided no reasonable justification for requiring the additional remedy it proposes.

There are other material deficiencies in the motion. Even if the motion had merit, it is fatally untimely. It should have been raised when Coalition was in the process of submitting its contentions approximately one year ago, and not following this period of continuous litigation. Applicant would now preclude Intervenor from proceeding with contentions it filed almost a year ago because it failed to demonstrate compliance with a requirement that was first proposed on March 20, 1984, and of which Intervenor could not have previously been aware. We cannot impose any such *ex post facto* requirement upon Coalition. Unquestionably it would be a violation of due process.

Our finding that Coalition failed to demonstrate an ability to contribute to the development of a sound record regarding Contentions 11 and 12 provided us with no basis for foreclosing Intervenor from litigating those two contentions. Our determination was made wholly within the context of the remand and 10 C.F.R. § 2.714(a)(1), with all of their ramifications. Timeliness was one of the factors considered. At page 5 of the March 2, 1984, Memorandum and Order, we stated, "[w]e should have been apprised by this time, as to what his evaluation revealed."

We made no judgment as to Intervenor's overall ability to litigate the contentions, within the time frames and procedures involved. It was not our function to do so at that time. We did not find as Applicant states at page 4 of its motion that, "the Licensing Board found it could *not* make a contribution to the development of a sound record."

If Applicant is convinced of Intervenor's inability to make a case on the contentions, it can proceed with the procedures already in place and previously discussed, *i.e.*, summary disposition on the pleadings, to forestall Intervenors from bringing the issues to an evidentiary hearing.

On the basis of all of the foregoing we find Applicant's motion of March 20, 1984 for reconsideration should be denied.

ALTERNATIVE REQUEST FOR REFERRAL OR CERTIFICATION

Applicant in its motion requests that should we decide not to reconsider the Memorandum and Order of March 2, 1984, the issue raised be referred or certified to the Appeal Board, under 10 C.F.R. § 2.730(f) or § 2.718(i).

Power Supply correctly advises that interlocutory appeals are not favored in Commission practice and that interlocutory review is appropriate when the challenged licensing board ruling either (1) threatens the party adversely affected by irreparable impact which, as a practical matter, could not be alleviated by a later appeal or (2) affects the basic structure of the proceeding in a pervasive or serious manner.

Interlocutory review is not appropriate on the facts before us. Our decision does not threaten Power Supply with an irreparable impact.

The proceeding is presently in a hearing mode. The decision of the Appeal Board of April 10, 1984, denying Applicant's appeal and permitting the reinstatement of our Memorandum and Order of March 2, 1984, confirmed it. No question exists whether Intervenor has a litigable contention in Contention 16, as required by 10 C.F.R. § 2.714(b). Nothing Power Supply raises in its motion alters this situation.

Of the remaining eight admitted contentions there are two for which we found Coalition had not made an adequate showing as to its ability to assist in developing a sound record in the proceeding. It is only as to these contentions that there is any conceivable basis for the relief Applicant seeks *viz*, to restrict the contentions with which Intervenor can go forward. This amounts to a small part of the proceeding. Requiring Applicant to litigate these two contentions cannot suggest causing it irreparable injury.

Even as to those two contentions, Power Supply is not without a remedy should it seek to minimize its expense. It can request dismissal of Contentions 11 and 12, prior to any evidentiary hearing, through summary disposition. If successful, Applicant has not suffered any meaningful damage. If unsuccessful, its cause for complaint was unfounded. With the completion of the facility expected years in the future, it cannot be argued unusual delay is a factor for consideration.

Under any circumstance, irreparable harm will not come to Applicant through our ruling, if final.

Our ruling does not affect the basic structure of the proceeding in a pervasive or serious manner. For the reasons stated above, there will be no major impact on the proceeding as a result of the determination. Our decision is also consistent with existing statutes, regulations and case

law so that it will not affect the proceeding in a pervasive or unusual manner. It is what Applicant is seeking to accomplish through its novel approach that could have such a result

Applicant's concern that unless this matter is appealed and put to rest other petitioners will be permitted to follow the same alleged improper practice of Coalition is unfounded. Power Supply could find no precedent as to similar cases and terms the factual situation here unique. It is unlikely this situation will recur with any meaningful frequency in the future.

If Applicant is determined to have a petitioner, who has filed a petition to intervene late and then had it accepted, meet different standards for the admissibility of its contentions than other petitioners, it could move to amend the regulations governing the acceptance of contentions for litigation. Commission regulations 10 C.F.R. §§ 2.758(e) and 2.802 provide for such procedure.

For all of the foregoing reasons Applicant's request to refer or certify the issue to the Appeal Board is denied.

ORDER

Applicant's motion for reconsideration of the Licensing Board's Memorandum and Order of March 2, 1984 granting Coalition intervenor status and readmitting its nine contentions, and/or for referral or certification of the question of whether a limitation should be placed on the

scope of Coalition's participation in this proceeding, is found to be without merit and is hereby denied.

THE ATOMIC SAFETY AND
LICENSING BOARD

Morton B. Margulies, Chairman
ADMINISTRATIVE LAW JUDGE

Frederick J. Shon
ADMINISTRATIVE JUDGE

Dr. Richard F. Foster
ADMINISTRATIVE JUDGE

Dated at Bethesda, Maryland,
this 19th day of April 1984.

Cite as 19 NRC 1020 (1984) LBP-84-18

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

Lawrence Brenner, Chairman
Dr. Richard F. Cole
Dr. Peter A. Morris

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

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

April 20, 1984

RULES OF PRACTICE: ADMISSIBILITY OF CONTENTIONS, DEFERRED RULINGS ON

To admit contentions on undeveloped portions of emergency plans is to risk unnecessary litigation. But to deny the contentions is to unfairly ignore the insufficient development of those portions. Fairness and efficiency seem to dictate that rulings on such contentions be deferred. The principal aims in such deferrals are to encourage negotiation, to avoid unnecessary litigation, and to make necessary litigation as focused as possible. *Cf. Cincinnati Gas and Electric Co.* (Wm. H. Zimmer Nuclear Station, Unit 1), ALAB-727, 17 NRC 760, 772-74, 776 (1983).

EMERGENCY PLANNING: ADOPTION OF PLANS BY LOCAL ORGANIZATIONS

Though a board's findings on emergency planning are necessarily predictive, nothing "dictates" that a board make its findings on emergency planning before the plans are adopted by county and local

organizations. Section 50.47(a)(2) says, in part, "in any licensing proceeding, a FEMA finding will constitute a rebuttable presumption on questions of adequacy and implementation capability." Since under the procedures of some States, plans are not submitted to FEMA for formal review until after they've been adopted, the quoted passage implies there might be proceedings in which a board, making its findings after FEMA's, would be making its findings after the plans were adopted.

EMERGENCY PLANS: IMPLEMENTING PROCEDURES

The contents of implementing procedures, being highly detailed and related more to emergency preparedness than to the soundness of the emergency plans, are not to be litigated. *Louisiana Power and Light Co.* (Waterford Steam Electric Station, Unit 3), ALAB-732, 17 NRC 1076 (1983). But *Waterford* does not say that everything planners might choose to relegate to implementing procedures is thereby beyond litigation, but only items at the level of the ministerial detail appropriate to such documents.

EMERGENCY PLANS: DISTRIBUTION OF POTASSIUM IODIDE TO THE PUBLIC

Neither the Commission's regulations nor the guidance in NUREG-0654 require that radioprotective drugs be distributed to the general public. *See, e.g., Union Electric Co.* (Callaway Plant, Unit 1), ALAB-754, 18 NRC 1333, 1334 (1983). FEMA guidance leaves to the States the responsibility of deciding whether to distribute potassium iodide (KI) at all, even to emergency workers. *Id.* at 1335. But licensing boards may rule on, and have ruled on, the reasonableness of States' decisions not to administer KI to the general public. *See id.* at 1335, and the case it affirms, LBP-83-71, 18 NRC 1105, 1109 n.13 (1983). Several licensing boards have compiled full records on the costs and the benefits of distributing KI to the general public. *See, e.g., Callaway,* LBP-83-71, 18 NRC 1105. The reasons behind State policies against distributing KI to the public are now quite familiar to licensing boards, and their rulings are uniform: "State policies against . . . distribution [to the general public] have not been found contrary to requirements for providing adequate protective measures for emergency planning purposes." *Callaway,* ALAB-754, 18 NRC at 1335, *quoting* LBP-83-71, 18 NRC at 1109. There is no point in compiling yet another record on this well-settled issue.

RULES OF PRACTICE: ADMISSIBILITY OF CONTENTIONS EMERGENCY PLANNING: HUMAN RESPONSE TO RADIATION

Litigation of the general issue of human response to radiation danger, with testimony by experts instead of workers with specific responsibilities under the plans, would be a pointless battle between experts, the Intervenors' abstractly and inconclusively arguing that humans are less willing to face radiation dangers than they are other sorts of dangers, and the Applicant's experts abstractly and inconclusively arguing the contrary. However, with contentions which focus on the responses of specific groups of people with specific responsibilities under the emergency plans, there is more than mere speculation on which to rest a finding about the degree to which such personnel can be relied on in a radiological emergency. Even more important, it would be possible to determine how critical the functions these personnel will be trained to perform are to the implementation of the plans. Indeed, one possible efficient and probative approach for the litigation of such specific contentions would be an examination of the sensitivity of the effect on the success of the plans of less-than-full participation by the specific named groups, and/or any provisions in the plans to compensate for varying degrees of non-participation by those groups.

EMERGENCY PLANS: NOTIFICATION OF TRANSIENT POPULATION

The emergency plans include much that aims to give adequate notification and instruction to the transient population in the plume exposure emergency planning zone (EPZ). Nonetheless, in the event of an emergency, some members of this population might not hear the sirens, or know what they meant, or have radios, or be familiar with the roads in the plume EPZ. Thus, these persons might have to depend more on their own resources in finding out what to do than permanent residents of the plume EPZ would have to. Yet, the plans cannot reasonably be expected to provide more for this population than they already do. If everyone were left to figure out for himself what to do after the sirens sounded, and picked up later if he didn't figure it out, there would be, in effect, no emergency plans at all. On the other hand, the plans cannot be required to be specific to every individual, or again, there would be no acceptable plans at all. What NUREG-0654 calls "a best effort" will sometimes have to do. *See, e.g.*, NUREG-0654, Appendix 3, Section C.4.d.

EMERGENCY PLANNING: NOTIFICATION OF TRANSIENT POPULATION

The phrase, "transient population," which Section IV.D.2 of 10 C.F.R. Part 50, Appendix E, uses to define the group for which there is to be some special means of notification, does not refer only to people who take up temporary residence in the plume EPZ, as the use of the same phrase in NUREG-0654, Section II.G.2 shows. There, many of the devices suggested as means to notify the "transient population" would apply to temporary residents and temporary non-residents alike.

TECHNICAL ISSUES DISCUSSED: EMERGENCY PLANNING

SPECIAL PREHEARING CONFERENCE ORDER
RULING ON ADMISSIBILITY OF OFFSITE EMERGENCY PLANNING CONTENTIONS (AND DISMISSING CEPA, LEWIS, AND WHITE AS PARTIES)

This Special Prehearing Conference Order contains our discussions and rulings on offsite emergency planning contentions filed in the Limerick proceeding. Immediately following this page is a tabular summary of our rulings. Following this table are an introduction and our discussions and rulings on individual contentions.

SUMMARY OF RULINGS

INTRODUCTION

During the week of March 5, 1984, we held a prehearing conference on the admissibility of offsite emergency planning contentions. During the conference, we heard argument on written contentions which had been submitted by several private parties and by governmental participants. We now rule on those contentions and confirm the discovery schedule arrived at during the conference.

The following parties took part in the prehearing conference: The NRC Staff; Philadelphia Electric Company, the Applicant; Limerick Ecology Action (LEA); Friends of the Earth in the Delaware Valley (FOE); Marvin I. Lewis; Joseph A. White; and a group of inmates in the State Correctional Institution in Graterford, Pennsylvania, represented by their attorney, Angus R. Love. The City of Philadelphia and the Commonwealth of Pennsylvania appeared as governmental participants, as permitted by 10 C.F.R. § 2.715(c).

By letter dated October 21, 1983, the Consumers' Education and Protective Association (CEPA) had stated its intent to continue as a party on offsite emergency planning issues. We ruled that CEPA could continue as a party in our November 10, 1983, "Order Dismissing Keystone Alliance and the Pennsylvania Consumer Advocate" (unpublished), at 1. In our January 30, 1984, Notice of this prehearing conference, we said, at 2, "[a]ll parties and governmental participants which seek to participate in the litigation of offsite emergency planning issues are required to attend." CEPA did not file contentions or attend the conference. Having no contentions remaining in any part of the Limerick operating license proceeding, CEPA is dismissed from the proceeding. Tr. 7579.

These offsite emergency planning contentions were filed well over two years after the August 21, 1981, notice of hearing on Philadelphia Electric's application to operate the Limerick plant. The contentions are, therefore, arguably late-filed. Thus, in the light of a recent decision, *Duke Power Co.* (Catawba Nuclear Station, Units 1 and 2), CLI-83-19, 17 NRC 1041 (1983), we would be bound to balance certain factors before admitting any of these contentions, however admissible they might be were they not late. Before we consider *Catawba* further, a brief review of certain aspects of the emergency planning phase of the Limerick proceeding is in order.

The contentions before us now are part of a second set — in some respects a revised set — of emergency planning contentions in the Limerick proceeding. The first set was filed November 24, 1981, by LEA, CEPA, and other participants. That first set numbered 31 and included contentions on both onsite and offsite emergency planning issues. The Applicant argued about this first set that since the Commonwealth and local governments had not yet issued draft emergency plans intended to conform with the then newly revised emergency planning regulations in 10 C.F.R. § 50.47 and Appendix E to 10 C.F.R. Part 50, we should defer ruling on the contentions. We agreed, and in our June 1, 1982, "Special Prehearing Conference Order," we deferred our rulings. *See* LBP-82-43A, 15 NRC 1423, 1519. We proceeded to deal with onsite issues and offsite issues on separate schedules, returning to onsite issues sooner, since we had the Applicant's plan in hand before the offsite plans. Later, we scheduled the filing of new or revised offsite planning contentions around the Federal Emergency Management Agency's (FEMA) receipt of draft State and local government plans after review by the Pennsylvania Emergency Management Agency (PEMA). *See* our "Memorandum and Order Confirming Schedules Established During Prehearing Conference," May 16, 1983 (unpublished), at 4-5.

Over a year after we had deferred our rulings, the Commission issued its *Catawba* decision. It ruled that, in considering whether to admit contentions filed late because they could not be adequately specific without information available only in relevant documents unavailable to the public until shortly before the contentions were filed, Licensing Boards had to consider and balance all five factors set out in 10 C.F.R. § 2.714(a)(1) as having a bearing on the admissibility of late-filed contentions. The unavailability of a relevant document, the Commission said, could be considered under "good cause," the first of the five factors, but the Boards were not to treat that factor as automatically controlling. *Catawba, supra,* 17 NRC at 1045. The Commission went on to apply its ruling to proceedings on emergency planning issues and

concluded that, certainly, once the Applicant had filed its onsite plan, contentions could be based on it, to the extent that it did not depend on unavailable offsite plans, and to the extent that it made assumptions about the offsite plans. *Id.* at 1049. At any rate, the Commission said, intervenors were expected to "raise [emergency planning] issues as early as possible." *Id.* at 1050. There was a "substantial public interest," the Commission said, "in efficient and expeditious . . . proceedings." *Id.* at 1048.

Arguably *Catawba* applies here. Indeed, LEA and the Staff do apply it, both concluding that on balance, the contentions before us are admissible in relation to a balancing of the five factors listed in 10 C.F.R. § 2.714(a)(1). *See* Staff's Response at 3-7, and LEA's February 5, 1984, Supplemental Filing. We agree with their conclusion. But we wish to point out that the intervenors did indeed "raise issues as early as possible" (*Catawba, supra,* 17 NRC at 1050), and that the present set of contentions is in many ways a revision of the set filed over two years ago. Moreover, we deferred ruling on that first set at the urging of the Applicant, a party very likely to benefit from expeditious proceedings. Consistent with the approach the parties agreed to take toward the first set of contentions, the Applicant, in its answer to these contentions, quite properly does not mention *Catawba* in relation to any contention it construes to be about offsite plans.

The law which governs emergency planning is rooted in certain Commission regulations and one document of Commission guidance. Section 50.47 is the basic text. Section 50.47(b) contains sixteen standards with which all emergency plans must comply. These standards are elaborated on in the "evaluation criteria" in NUREG-0654; FEMA-REP-1, Rev. 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants . . . ," November 1980. These criteria are intended for use by planners in drafting, and by the Staff in reviewing, plans. The criteria are not requirements. Reviewers may judge measures other than those the criteria recommend as adequate to bring the plans into conformity with the standards in Section 50.47(b). *See Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), ALAB-644, 13 NRC 903, 937 (1981). Last of the roots of the law of emergency planning is Appendix E to 10 C.F.R. Part 50, which sets out with more particularity than does Section 50.47(b) certain standards the Applicant's emergency plans must meet.

Overarching all of these regulations and the guidance given is the rule in Section 50.47(a)(1), that no operating license will be issued unless

the NRC finds that "there is reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency." One difficulty in implementing this standard in operating license hearings is that a licensing board's findings on the emergency plans are likely to have to be predictive. Under Section 50.47(a)(2), the emergency preparedness exercises required by Section 50.47(b)(14) are "part of the operational inspection process and are not required for any initial licensing decision." Thus, a licensing board's task is very likely to be to find whether there is "reasonable assurance prior to license issuance that there are no barriers to emergency planning implementation or to a satisfactory state of emergency preparedness that cannot feasibly be removed." 46 Fed. Reg. 61,134, 61,135 (1981). "Thus, while the plan need not be 'final,' it must be sufficiently developed to permit the board to make its 'reasonable assurance' finding . . ." *Louisiana Power and Light Co.* (Waterford Steam Electric Station, Unit 3), ALAB-732, 17 NRC 1076, 1104 (1983).

In dealing with a number of the contentions before us, we faced what appeared to be rather early stages in the development of some portions of certain plans. Since there was every prospect that these portions would undergo further development, we could not admit contentions on these portions without risking what might later prove to be unnecessary litigation. But neither could we deny the contentions, given the insufficient development of those portions. Thus, in relation to some contentions, we found we were in the same position we were in when we had the first set of emergency planning contentions before us: Fairness and efficiency seemed to dictate that we defer our rulings. Our principal aims in such deferrals have been to encourage negotiation, to avoid unnecessary litigation, and to make necessary litigation as focused as possible. These aims seem to have been served by our having deferred ruling on the first set of contentions. Moreover, we think that these aims are in keeping with the underlying aim of *Catawba*. As we deal with the contentions of the sort we have just described, we shall be more particular about our reasons for deferring ruling on them.

To be admissible, contentions must be set forth with reasonable specificity, and with adequate bases, legal and factual. 10 C.F.R. § 2.714(b).

A word on the task we faced in ruling on these contentions: The participants filed nearly fifty contentions; the thirty-five the private parties filed were especially hard to sort out. Many of them were quite long and not shaped to help a reader distinguish contention from supporting assertion, or principal point from minor. Moreover, this disorder within individual contentions often obscured the order among contentions. We

found the prehearing conference useful — and LEA's contribution to that conference particularly so — in putting the contentions in more order. Because the conference clarified many of the contentions, and because LEA simply changed some of them to a degree, LEA's original filing is not a reliable indication of the present intent of the intervenors. Therefore, the original filing must be construed in the light of our discussions here of individual contentions. To clarify individual contentions and bring out the order among the contentions, we discuss some of them out of the numerical order LEA gave them, and we take care to point out relations among them of similarity and analogy, of general and particular, and of logical dependence.

Our task has not been made easier by the Applicant's having objected to the admission of each of the contentions. With nearly fifty contentions on so complex an undertaking as emergency planning, that the Applicant could not bring into focus one admissible contention seems to us not quite credible. We have, nevertheless, attended to the Applicant's arguments with care, finding some sound, others not.

We define four terms here as they are used in this Order. Commission law on emergency planning distinguishes between the "plume exposure pathway emergency planning zone" — a roughly circular area with a radius of about 10 miles — and the "ingestion exposure pathway emergency planning zone," another roughly circular area, but having a radius of about 50 miles. The names of these zones accurately indicate what the protective measures for the respective zones are designed to prevent. We shall refer to the zones by the expressions, "plume EPZ" and "ingestion EPZ." Counties which overlap, or are contained in, the plume EPZ are called "risk" counties, and counties which lie outside the plume EPZ but are slated to support the risk counties in a radiological emergency are called "support" counties.

SCHEDULE FOR THE CONTENTIONS OF THE GRATERFORD PRISONERS

Eighteen inmates of the Graterford State Correctional Institution in Graterford, Pennsylvania are represented in this proceeding by Angus R. Love, Esq. of Norristown, Pennsylvania. They were unable to present contentions during the prehearing conference because the separate emergency plan which the Commonwealth has drawn up for the Graterford prison cannot yet be made available to them, even in draft form. The plan is subject to review by a number of organizations *seriatim*, including the Department of Defense and the National Guard, and that

review is not yet complete. Tr. 7581. Moreover, agreements on certain questions of security are yet to be worked out. *Id.*

While the Board is concerned that counsel for the prisoners be provided adequate time to examine the plan, we must also avoid needlessly prolonging the hearings at this late stage in the operating license proceeding. Therefore, we order the following: The Commonwealth of Pennsylvania is to make available to counsel for the Graterford prisoners some form of the emergency plan for their prison as soon as possible. The form of the plan the Commonwealth makes available should be close enough to the final form of the plan to give the prisoners adequate grounds for deciding whether to file contentions, and if so, what contentions; we recognize that the details of the plan will not necessarily be those that will exist at the end of the long review process. Tr. 7582. We further order that as soon as the Commonwealth has provided the prisoners with some adequate form of the plan, the Commonwealth inform the Board and the other parties that it has done so. Unless the plan is far larger than there is now reason to expect it to be, the Graterford prisoners will have 20 days from the time they receive the initial form of the plan to file contentions. The contentions are to be received by us and the Applicant, NRC Staff and the Commonwealth on the twentieth day. Other parties may receive the contentions shortly thereafter. Tr. 7582-83.

We encourage the Graterford prisoners to discuss and attempt to resolve with the Commonwealth, and any others involved, their concerns about the adequacy of the Graterford plan. If, after examining the plan, the prisoners either have no concerns about the plan or, having concerns, are able to come to agreements with the responsible bodies, we ask that the prisoners inform us of the outcome. Tr. 7583.

LEWIS-1

Intervenor Marvin I. Lewis filed two contentions. The Staff and the Applicant oppose the admission of both contentions, and we rule that neither is admissible. We discuss Lewis-1 first. It is arguably a late onsite emergency planning contention, and the Applicant so argues. Applicant's Answer at 50. We, however, ground our ruling, as the Staff does its opposition, on the contention's lack of bases.

Lewis-1 has two parts, the first of which is that reactor operators should not have to make contact with offsite management before declaring an evacuation emergency, for in certain emergencies, time would be too precious to spend calling offsite management.

Mr. Lewis is in error in this part of his contention. As the Applicant points out, offsite managers do not have to be called before an emergency requiring evacuation is declared. Under Section 5.2.1.1 of the Limerick Emergency Plan, the responsibilities of verifying that an emergency exists, classifying it according to level, and notifying offsite organizations belong to the Interim Emergency Director. This office is held by the Shift Superintendent, or his alternate, the Shift Supervisor, both of which positions are filled 24 hours a day at the plant. Applicant's Answer at 50.

The second part of the contention alleges that because the plans do not contain the names and telephone numbers of the offsite managers who are to be called in an emergency, there is no assurance that the plans can be implemented. The heart of Mr. Lewis' concern, as he expressed it during the prehearing conference, is that if the plans do not contain the necessary names and numbers, those names and numbers might not be any place where the people who would need them could find them. Tr. 7591. He added that if the people who would need them "formally had a procedure that spelled out which senior management offsite and which numbers to call before they could do anything, then . . . [he] could not have an objection." *Id.*

Such formal procedures do, in fact, exist. The Commonwealth says that the needed names and numbers appear in the standard operating procedures for the Emergency Operations Center and in the duty officer's instruction and contact book. Tr. 7592-93. The Applicant adds that the names and numbers also appear in the implementing procedures for the onsite plans, copies of which, with the names and numbers blacked out, the Intervenors have had for some time. Tr. 7594. Thus, all who need to know those names and numbers have them, and thus, by his own account, Mr. Lewis can have no objection.

It is worth explaining why the names and numbers of offsite management are not included in the emergency plans, and are blacked out in the Intervenors' copies of the implementing procedures: As the Applicant points out, the NRC requires that the phone numbers be kept confidential, for if they were not, members of the general public could use them to frustrate, inadvertently or deliberately, an emergency response. Applicant's Answer at 50-51. *See* Generic Letter 81-27, from Director, Division of Licensing, Office of Nuclear Reactor Regulation (July 9, 1981). In addition, these names and numbers may be subject to relatively frequent change. It would be counterproductive to include such changeable information, requiring updating, in the formally issued and widely distributed emergency plan.

LEWIS-2

Lewis-2, LEA-14, and LEA-22 all deal with the distribution of potassium iodide (KI), a radioprotective drug; but since Lewis-2 makes a broader claim about KI than either of LEA's contentions make, and since LEA-14 and 22 share concerns other than KI, our treatment of Lewis-2 has little in common with our treatment of LEA's two contentions, and so we shall discuss them later.

KI is a blocking agent: By being absorbed by the thyroid, KI keeps radioactive iodine 131, which could be released in a reactor accident, from accumulating in the thyroid. KI thus protects one organ against one radioisotope. The Commonwealth's emergency plan does not call for distribution of KI to the general public. Mr. Lewis contends that everyone who lives within 50 miles of the plant should have KI on hand, and know how to use it, before Limerick begins to operate. Tr. 7595. In calling for distribution of the drug before plant operation, Mr. Lewis relies on the following FDA statement: "An important factor in obtaining satisfactory blocking of peak radioactive iodine uptake is the temporal relation of stable iodide administration to radioiodine exposure." FDA-HHS Publication 81-8158, March 1981, at 2. Mr. Lewis contends that distribution at the time of an accident would be too late for satisfactory blocking.

Besides the FDA publication, Mr. Lewis cites no bases, but the following portions of Section II.J.10 of NUREG-0654 are relevant: State and local organizations' plans for the plume exposure EPZ shall include:

> e. Provisions for the use of radioprotective drugs, particularly for emergency workers and institutionalized persons . . . whose immediate evacuation may be infeasible or very difficult, . . .
>
> f. . . . [and] the method by which decisions by the State Health Department for administering radioprotective drugs to the general population are made during an emergency . . .

The Staff, the Applicant, and the Commonwealth oppose this contention. We deny it. The Applicant argues that no NRC regulation or guidance requires distribution of KI to the general public, and the Staff argues that the Commonwealth's present plan — the full particulars of which were not set out at the prehearing conference but which includes distribution of KI to emergency workers, though, as we noted, not to the general public — is consistent with the guidance in NUREG-0654, § II.J.10.e.-f., quoted above.

More important than what the opponents of the contention say about what is required is what they say about who requires it. The Commonwealth says that FEMA leaves it to the States to decide whether to distribute KI to the general public. Tr. 7596. The Applicant goes the next step and claims that distribution of KI to the public is "wholly a matter of individual State determination," and "therefore . . . beyond consideration by this Board." Applicant's Answer at 51. The Applicant cites no authority.

It is well established that neither the Commission's regulations nor the guidance in NUREG-0654 require that radioprotective drugs be distributed to the general public. *See, e.g., Union Electric Co.* (Callaway Plant, Unit 1), ALAB-754, 18 NRC 1333, 1334 (1983). Indeed, FEMA guidance leaves to the States the responsibility of deciding whether to distribute KI at all, even to emergency workers. *Id.* at 1335.

On the other hand, it is equally well established that licensing boards — necessarily looking more to the Commission's requirement in 10 C.F.R. § 50.47(a)(1) that there be reasonable assurance that adequate protective measures will be taken in an emergency, than to FEMA guidance — may rule on, and have ruled on, the reasonableness of a State's decision not to administer KI to the general public. *See id.* at 1335; the case it affirms, LBP-83-71, 18 NRC 1105 (1983); and the cases cited there at 1109 n.13. Mr. Lewis would have us do likewise. Tr. 7599.

However, we decline to do so. Since the accident at Three Mile Island Unit 2 in 1979, several licensing boards have compiled full records on the costs and the benefits of distributing KI to the general public. *See, e.g., Callaway,* LBP-83-71, 18 NRC 1105. We note that the earliest of these records concerns the Commonwealth's policy and is to be found, fittingly, in one of the decisions in the Three Mile Island Unit 1 Restart Proceeding, *Metropolitan Edison Co.* (Three Mile Island Nuclear Station, Unit 1), LBP-81-59, 14 NRC 1211, 1663-70 (1981), *decision on appeal,* ALAB-697, 16 NRC 1265 (1982). The testimony of the experts in these records is becoming repetitious, and the reasons behind State policies against distributing KI to the public are now quite familiar to licensing boards. The most recent listing of those reasons can be found in *Callaway,* ALAB-754, *supra.* Most important, the licensing boards' rulings are uniform: "state policies against . . . distribution [to the general public] have not been found contrary to requirements for providing adequate protective measures for emergency planning purposes." *Id.* at 1335, *quoting* LBP-83-71, 18 NRC at 1109. Mr. Lewis has given us no reason to think we should make a different ruling. We see no point in compiling yet another record on this well-settled issue.

Lewis-1 and Lewis-2 having been denied, Mr. Lewis has no contentions remaining in the emergency planning phase of the Limerick proceeding. On March 14, 1984, Mr. Lewis filed a "Motion for New Contention Based on IE Notice No. 84-17." This motion is denied, as will be set forth in an order to be issued soon. With that denial, Mr. Lewis has no contentions remaining in any phase of the Limerick proceeding and is thus no longer a party in this proceeding. Mr. Lewis may file objections to, or appeal, this Order; the procedure for doing so is set out in the last section of this Order.

WHITE-1

This contention, which we rule inadmissible, brings into focus the limits of what emergency planning can do. Mr. Joseph A. White contends that the plans do not provide adequate notification, shelter, or evacuation to employees of moving companies working in the plume exposure EPZ (such as himself), or to other people in similar situations, for example, people delivering goods in the plume exposure EPZ, or truckers and tourists who pass through it but don't spend the night. Mr. White contends that he and such transients might be in places within the plume exposure EPZ which the sirens designed to give early notification of an emergency could not reach (Tr. 7601, 7612); that even if these transients heard the sirens, they probably would not know what the sirens meant (Tr. 7601); that even if they somehow knew, many of them would be without radios and so would not know what action to take (Tr. 7602, 7612); and that even if they had a radio, or found out by other means what action they were supposed to take, they could well be unfamiliar with the roads in the EPZ (Tr. 7603). Among the bases Mr. White cites, the one which speaks most clearly of people in Mr. White's situation, 10 C.F.R. Part 50, Appendix E, Section IV.D.2, says, in part, "[s]igns or other measures shall also be used to disseminate to any transient population within the plume exposure pathway EPZ appropriate information that would be helpful if an accident occurs."

The Staff and the Applicant oppose this contention, for similar reasons. The Applicant argues that the sirens will cover as large an area within the plume exposure EPZ as is physically possible — 100% of it probably (Tr. 7606) — and that if from seeing large numbers of people taking protective action, a transient person such as Mr. White describes did not figure out what was happening and seek advice, local authorities would find him and help him on their final run through the EPZ. Tr. 7605-06. But, the Applicant's main argument is simply that in the emergency plans such people are given the same protection members of

the general public are given, and that nothing in Commission law requires that Mr. White's group be given special treatment. Applicant's Answer at 52. In particular, the Applicant argues, the bases Mr. White cites do not require such special treatment: For example, though the basis quoted from above, Section IV.D.2 of 10 C.F.R. Part 50, Appendix E, gives special attention to measures taken to inform a "transient population," it is referring only to people who take up temporary residence in the plume exposure EPZ. Applicant's Answer at 52 n.99.

We doubt whether the phrase, "transient population," is to be so narrowly construed. NUREG-0654, Section II.G.2 contains the passage we quoted from Appendix E of Part 50, but expands on it by giving as examples of acceptable measures, "decals, posted notices or other means, placed in hotels, motels, gasoline stations and phone booths." Some of these measures would appear to apply to people in Mr. White's situation and to the other sorts of transients he identifies, as well as to people temporarily residing in the plume exposure EPZ.

Nonetheless, we agree with the Applicant to the extent that we find no basis in Commission law for requiring that the groups Mr. White identifies be treated in some way other than the way in which they are already treated in the emergency plans. If everyone were left to figure out for himself what to do after the sirens sounded, and picked up later if he didn't figure it out, there would be, in effect, no emergency plans at all. On the other hand, the plans cannot be required to be specific to every individual, or again, there would be no acceptable plans at all. What NUREG-0654 calls "a best effort" will sometimes have to do. *See, e.g.*, NUREG-0654, Appendix 3, Section C.4.d. Mr. White has identified a group of people for whom best efforts are likely to be adequate but may not always be so, and yet are all that can be required. Already the plans include much that is aimed at transient populations. For example, notification by siren is provided for the whole plume exposure EPZ; information on the meaning of the sirens and advice on appropriate action in an emergency will be in public phone books and in brochures distributed to hotels, motels, state parks, etc., in the plume exposure EPZ (Tr. 7604); more information will be available by radio on the Emergency Broadcast System. Mr. White says he would like to have the information in the brochures to complement the information on radio (Tr. 7607), and he points out that his work doesn't take him to hotels, nor even often where decals and the like will be posted (Tr. 7607-08). Businesses such as the one Mr. White works for may notify the Commonwealth that they would like the information contained in the brochures, and the Commonwealth will make it available (Tr. 7609).

Beyond this we don't think the Commonwealth can go. Neither we nor the parties have been able to imagine how the Commonwealth could compile a list of businesses which are not located in the plume exposure EPZ but whose employees often work there. The class of such businesses is far too open.

Because we have declined to admit Mr. White's contention, he is no longer a party in this proceeding. He may, of course, appeal our ruling. But regardless of the outcome of any appeal he may make, we note here the quality of both his preparation for this proceeding and his participation in it: Throughout the long prehearing process he has been concise, thought-taking, intelligent, aware of the factors relevant to his contention, and attentive to procedures. We believe Mr. White's interest in this proceeding would be to some degree satisfied, and LEA's participation in the proceeding benefited, were Mr. White to render some assistance to LEA's able representatives to the extent they are mutually willing to do this.

COMMONWEALTH-1

As we note below in discussing LEA-14 and LEA-22, the Commonwealth's emergency plans call for providing dosimeters to all emergency workers. LEA-14 and LEA-22 contend that dosimeters should also be provided to two segments of the general public which under some circumstances could become, in effect, groups of emergency workers. Commonwealth-1 contends that the emergency plans must include arrangements for the procurement and distribution of both self-reading and permanent record dosimeters to every offsite emergency worker. Discussions are going on now between the Commonwealth and the Applicant on arrangements for procurement and distribution of dosimeters. The principal question in those discussions apparently is who will buy the dosimeters. Tr. 8167. In effect, then, the Commonwealth is contending that the emergency plans must record the results of the discussions it and the Applicant are having. The Staff would admit this contention. The Applicant would not. We, modifying the Applicant's argument, admit the contention only as it applies to self-reading dosimeters.

An earlier case in which the Commonwealth participated, *Metropolitan Edison Co.* (Three Mile Island Nuclear Station, Unit 1), ALAB-698, 16 NRC 1290 (1982), partly controls here. There the Commonwealth had asked the Appeal Board to rule either that predistribution of a permanent record dosimeter to each emergency worker was required by the Commission's regulations, or, that the regulations did not so require but that there was no reliable evidence of any alternative means of radiation

exposure control that would assure the safety of emergency workers. *Id.* at 1296. One of the principal bases for the Commonwealth's claim was the following sentence from NUREG-0654, § II.K.3.a: "Each organization shall make provisions for distribution of dosimeters, both self-reading and permanent record devices."

The Appeal Board ruled that, although permanent record dosimeters would be a "useful added measure of protection for emergency workers" (*Three Mile Island*, ALAB-698, *supra*, 16 NRC at 1301), no regulation mandated the use of dosimeters of any sort (*id.* at 1294), and that permanent record devices would be required only if they were necessary to reasonably assure the safety of emergency workers. *Id.* at 1299. The Appeal Board then concluded that the Commonwealth's plans for the distribution and use of self-reading dosimeters were "sufficient to assure reasonable protection for emergency workers" (*id.*), and, therefore, that permanent record devices were not required. *Id.* at 1301.

No one has argued before us that the Commonwealth's plans for the distribution and use of self-reading dosimeters are materially different from what they were in *Three Mile Island*. Therefore, we think this Appeal Board decision compels us to rule that the Limerick emergency plans need not include arrangements for the procurement and distribution of permanent record dosimeters. If permanent record devices are not required, then neither are arrangements for their procurement and distribution.

The Applicant argues that *Three Mile Island* compels us to make an analogous ruling on self-reading dosimeters, but the Applicant is ignoring that the Appeal Board rested its decision on the adequacy to workers' safety of the plans for the use of self-reading dosimeters. The Commonwealth argues that *Three Mile Island* says only that predistribution of permanent record devices is not necessary, not that planning for their procurement and distribution are not. Tr. 8164, 8167-68. However, we think the Appeal Board ruled more broadly. When discussing the adequacy to workers' safety of the plans for the use of self-reading dosimeters, the Appeal Board decided nothing about the virtues of predistribution, but only that the absence altogether of permanent record devices is not likely to compromise the safety of emergency workers. See *Three Mile Island*, *supra*, 16 NRC at 1299-1301.

The only issue which remains under Commonwealth-1 is whether reasonable assurance of the necessary supplies of self-reading dosimeters requires that the Limerick emergency plans include arrangements for the procurement and distribution of such dosimeters. The Applicant implies that the discussions now going on between it and the Commonwealth reasonably assure the necessary supplies. We, however, rule now, as we

shall analogously elsewhere in this order, that the plans must show either that the necessary supplies are in place, or that the mechanism for acquiring and placing them exists. It is not clear that either of these requirements has been met. Therefore, we admit Commonwealth-1 as it applies to self-reading dosimeters, but we hope that the discussions between the Applicant and the Commonwealth will make litigation of this issue unnecessary.

(Commonwealth-2 has been withdrawn. *See also* LEA-23 below.)

CITY 1 THROUGH CITY 9, AND CITY 12

The City filed twelve "Issues of Concern." Ten of them deal with protective measures which the Commonwealth's emergency plan would require for the ingestion EPZ in a nuclear emergency at Limerick. At the prehearing conference, the City and the Commonwealth asked that we defer ruling on those ten, to give the discussions which have been going on between the City and the Commonwealth more time to bear fruit. Tr. 7972. The Commonwealth said that the additional time would be useful for two reasons: that the discussions required the participation of several State agencies, and that the filing the City had made in reply to the Applicant's and Staff's responses to the City's filing of issues had furthered the discussions. Tr. 7975-76. Both the City and the Commonwealth were confident they would come to considerable agreement in the discussions.

The Staff and the Applicant opposed deferring ruling on the City's issues. The Staff argued that since the parties had come to the prehearing conference prepared to discuss the City's issues, it would be more efficient to have rulings now, and that those might help narrow the scope of the discussions the City and the Commonwealth were having. Tr. 7973-74. Trying to strike a balance between efficiency and encouraging negotiation, we at first decided to hear argument on the City's issues but defer ruling on them until after a status report on April 23. Tr. 7978. We thought it unlikely we could rule on the contentions soon at any rate, and the Commonwealth represented to us that some of the City's issues might well be settled before we could rule. Tr. 7979.

However, later in the week of the prehearing conference, it became clear that the time we would have given to hearing argument on the City's issues was more pressingly needed for evidentiary hearings on other matters. April 19 was established as the date for receipt of the report of results of the negotiations. Tr. 8154-55. (At the City's telephone request, on April 18, the Board extended the receipt date to April 23.) We suggested that interested parties might want to take part in the

continuing discussion of the City's issues (Tr. 8155) or keep themselves otherwise informed of the progress of those discussions. Tr. 8157.

CITY-10 AND CITY-11

These two of the City's issues deal with the Applicant's implementing procedures (IP) rather than the Commonwealth's plans. We did hear argument on City-10 and City-11, and at first intended to rule on them when we ruled on the bulk of the emergency planning contentions; but at the close of argument we decided to defer ruling on these two of the City's issues also. Tr. 8151.

City-10 and City-11 together assert that three of the Applicant's implementing procedures are unclear on some important matters. IPs 318 and 319 set out procedures related to calculations of radiation exposure caused by ingestion of contaminated water and fish. City-10 asserts that IPs 318 and 319 do not say who is to perform the calculations, for under the heading "Responsibilities" in those IPs there appears only the word "None." The City also claims that IPs 318 and 319 do not provide for notifying downstream users of the water should it become contaminated. IP 287 sets out procedures related to notifying downstream users of the Schuylkill River should it become contaminated, but City-11 asserts that this IP should specify what level of contamination requires notification.

The Applicant argues that City-10 and City-11 are late-filed onsite emergency planning contentions and that the City is, therefore, obliged to address the five factors 10 C.F.R. § 2.714(a)(1) requires licensing boards to consider before ruling on the admissibility of late-filed contentions. The Applicant also argues that under *Waterford, supra,* 17 NRC 1076, the contents of implementing procedures, being highly detailed and related more to emergency preparedness than to the soundness of the emergency plans, are not to be litigated. *Id.* at 1106-07. Last, speaking to the merits, the Applicant argues that IPs must be read in the context of other planning documents, and that if IPs 318, 319, and 287 are so read, it will be clear that the Limerick Dose Assessment Team is assigned the calculations in IP 318 and 319. The Applicant asserts that the Limerick Dose Assessment Team is fully aware of its responsibilities under IPs 318 and 319. The Applicant also argues that the notification procedures the City says are missing from those two IPs are set out in IP 287, and that what the City says is missing in IP 287 will be found in IPs 210 and 312. The Staff argues similarly about City-10, but, for no stated reason, would admit City-11.

On February 28, 1984, the City replied to the Applicant's answer, although we had not invited reply.* In its reply, speaking to procedure, the City addressed the factors we must balance before ruling on late-filed contentions and argued that *Waterford* had ruled only that IPs did not have to be final before a licensing board could authorize a full-power operating license, not that IPs did not have to be clear. Speaking to the merits, the City replied that if the Limerick Dose Assessment Team was to do the calculations described in IPs 318 and 319, then under the heading "Responsibilities" in those IPs, there should appear "Limerick Dose Assessment Team" instead of "None," and that if IPs 210 and 312 clarify IP 287, they should be listed as references in IP 287.

We had hoped that the Applicant and the City could come to some agreement on these apparently minor points of draftsmanship even as we were hearing argument on City-10 and City-11. On the one hand, the changes the City sought were minor and, according to the Applicant, were accurate reflections of the facts. Tr. 8146. On the other hand, although the City is right that implementing procedures are important, and that those to whom responsibilities have been assigned must know of the assignment (Tr. 8149), we are inclined to think that the changes the City wants do concern the sort of detail *Waterford* says should not bog down hearings (17 NRC 1107), and that at this level of detail, whether the Applicant made the requested changes or not, it would be free to make even larger changes later, even after the hearings were over.

Nonetheless, the Applicant sticks to the position that the changes are not necessary and that they clarify nothing, and the City continues to think that the changes are important enough to be litigated if necessary.

We defer ruling on City-10 and City-11. We will rule now neither on the merits, nor on whether these two issues are late-filed, nor on whether *Waterford* prevents us from considering them. Instead, the City and the Applicant are to try to come to some agreement on these two issues and to include in the status report on the discussions between the City and the Commonwealth due on April 23 a report on the discussions of these two issues. Tr. 8154. We note that *Waterford* would not necessarily keep us from ruling on these two issues. We do not read *Waterford* to say that everything which appears in an IP is thereby beyond litigation, but only that a certain level of detail, a level entirely appropriate to IPs, is. We wish it to be clear that we are not urging that the discussions of

*Ordinarily such an uninvited reply would raise procedural difficulties, but when it concerns the admissibility of contentions we have no strong objection to receiving it. Moreover, the Commonwealth, at least, has found the reply helpful. Tr. 7976. However, parties should seek leave in advance, even if only by telephone, to file such a reply.

these two issues have any particular outcome other than a resolution of the issues.

LEA-1 THROUGH LEA-4

In LEA-1 through LEA-8, LEA contends, in a variety of ways, that the emergency plans for Limerick do not meet the first of the planning standards set out in 10 C.F.R. § 50.47(b). That standard, Section 50.47(b)(1), requires that the responsibilities for emergency response have been assigned and that the primary response organizations have enough staff to carry out their assigned responsibilities. LEA-1 through LEA-4 are based, in part, simply on the fact that officials from the county level down have not yet formally adopted the plans which apply to them. LEA-1 contends that the responsibilities outlined in these plans have not yet been assigned because the plans have not yet been adopted. LEA-2 contends there is no reasonable assurance that organizations from the county level down, the municipalities principally (Tr. 7665-66), have enough staff to carry out their tasks under the plans. Here LEA rests in part on the practical proposition that officials are not likely to adopt plans they haven't the staff to carry out. Tr. 7667. Appended to the contention are several tables from the Municipal Radiological Emergency Response Plans showing not only that the municipalities have unmet needs, but also that they have not yet determined the extent of their unmet needs. The contention is not that a certain task would require more staff than the planners think it would (Tr. 7668), but that, however many people the task may require, unadopted plans for which officials don't yet know they have the staff do not provide reasonable assurance the necessary staff will be available.

LEA-3 contends that the plan for Montgomery County, a risk county, is unworkable without aid from Bucks County, a support county, and that since the Bucks County Commissioners have not yet adopted the plan designed for them, there is no reasonable assurance that the plan for Montgomery County can be implemented. LEA-4 makes the analogous contention about the reliance of the plans for Berks and Montgomery risk counties on the plan for Lehigh County, a support county. In these two contentions LEA is not claiming that the plans for Berks and Montgomery Counties are deficient for depending on support from Bucks and Lehigh, nor that there is any deficiency in the Bucks or Lehigh plans themselves, but only that, even if Berks and Montgomery had adopted their plans by now, responsibilities under those plans still could not be said to have been assigned, for those plans allocate some

support responsibilities to Bucks and Lehigh, neither of which has adopted any plans.

We asked LEA to show us more precisely than it had in the exhibit which accompanied LEA-3 what responsibilities the supporting counties had which, if not performed, would leave a great deficiency in the Berks and Montgomery County plans. Tr. 7675-77, 8051. On March 14, LEA filed papers which show to our satisfaction that Berks and Montgomery would rely a great deal on Bucks and Lehigh in an emergency. For instance, Bucks would help Montgomery with traffic control and transportation of evacuees, provide medical support, and manage reception centers. Lehigh would, for instance, be prepared to receive 8,200 students from Berks and Montgomery if they had to be evacuated during school hours. In responding to LEA's March 14 filing, the Commonwealth says that LEA identifies no deficiencies in the plans of the supporting counties (Commonwealth's Response to LEA's March 14 Supplemental Filing, at 4), and the Applicant says LEA has not shown why it would want to litigate the matters listed in the filing (Applicant's Answer to LEA's March 14 Supplemental Filing, at 8). True enough on both counts, but we didn't ask for a list of deficiencies in the plans of the supporting counties.

The Applicant opposes admitting any of these first four contentions. The Staff would admit all of them. The Commonwealth has expressed no opinion on the admissibility of LEA-1 and LEA-2 but opposes admitting LEA-3 and LEA-4.

The Applicant's first argument is that the incomplete, evolving state of the plans, which makes the Board's findings necessarily predictive, also makes adoption of the plans pointless until the plans are more complete, and thus "dictates" that the Board's findings be made before the plans are adopted. Applicant's Answer at 10-11. The Applicant points out that PEMA procedures, in recognition of the evolving state of the plans, do not call for formal adoption of them until after the exercises required by Section 50.47(b)(14) to test the plans and the readiness of the organizations with responsibilities under the plans. The exercises are now scheduled for July 1984. Tr. 7659.

The Applicant's second argument against admitting any of the first four contentions is that, whatever the timing of adoption may be, LEA has neither alleged any particular deficiency in the plans, nor given any reason to be concerned that the plans will not be adopted. The Commonwealth argues the same about LEA-3 and LEA-4. Commonwealth's Response to LEA's March 14 Supplemental Filing, at 4. We infer that the Commonwealth would argue the same about LEA-1 and LEA-2. If, the Applicant argues, at a later stage in planning, some deficiency in the

plans or difficulty in getting them adopted should come to light, LEA could move to reopen the record. Tr. 7657-58.

LEA-1 through LEA-4 are good examples of the kind of contention on which, fairness suggests, a Board should defer ruling. Nothing "dictates" that we make our findings on emergency planning before the plans are adopted. The record appears to show that PEMA does not require formal adoption of the plans until they are otherwise ready for review by FEMA (Commonwealth's Response to LEA's March 14 Supplemental Filing, at 4), which is sometime after the emergency exercises. On the other hand, PEMA leaves local organizations free to adopt their respective plans before the exercises, with the understanding that the results of the exercises may call for changes in the plans. Tr. 7658-59. Moreover, the Commission's regulations on emergency planning foresee cases in which adoption will precede a Board's findings. Section 50.47(a)(2) says, in part, "in any licensing proceeding, a FEMA finding will constitute a rebuttable presumption on questions of adequacy and implementation capability." Since under the procedures of some states, among them Pennsylvania, plans are not submitted to FEMA for formal review until after they've been adopted, the quoted passage implies there might be proceedings in which a Board, making its findings after FEMA's, would be making its findings after the plans were adopted. To admit these contentions now might be to burden the proceeding with litigation which, as LEA readily grants (Tr. 7647, 7665, 7674) may prove unnecessary. Indeed, we think that something short of formal adoption could make the litigation unnecessary, for according to the way we construe these four contentions, LEA seeks no more than reasonable assurance the plans will be adopted. Tr. 7672. That is all we would seek.

On the other hand, to deny the contentions is premature also. At the moment, LEA may have nothing very specific to point to as a reason for thinking that some organizations might not adopt the plans which apply to them, but according to LEA, neither are there grounds for reasonable assurance that all the organizations will adopt their respective plans. According to LEA, the plans are too sketchy and many of the organizations for which they are being written are, as yet, little involved in filling them out. Tr. 7645-46, 7659. It might turn out that after the plans became more complete, some organization, seeing more clearly what was expected of it, would refuse to adopt its plan.

Our deferring ruling on LEA-1 through LEA-4 is, we think, in harmony with the Appeal Board's treatment of a similar situation in *Cincinnati Gas and Electric Co.* (Wm. H. Zimmer Nuclear Station, Unit 1), ALAB-727, 17 NRC 760 (1983). There, in an initial decision, the

Licensing Board had determined that the incomplete state of arrangements between a risk county and a support county for the evacuation of schoolchildren did not provide reasonable assurance that the support county could, or would, help. The Licensing Board granted the intervenors a right to a further hearing, without showing of cause, on this and related matters. The Appeal Board affirmed this aspect of the initial decision. *See id.* at 772-74, 776. "In our view, the gaps are simply too large to leave to a license condition to remedy. The intervenors must be afforded an opportunity to test the revised plans in an adjudicatory hearing." *Id.* at 774. Analogously, the gaps here are too large to permit us to deny the contentions at this stage, or, on the other hand, to admit them. Therefore, they are deferred. The parties shall exchange and discuss changes to the *status quo* and file appropriate proposals for further consideration by the Board, as it becomes appropriate to do so.

LEA-5 THROUGH LEA-7

Common to these three contentions is a concern with the letters of agreement which NUREG-0654, II.A.3 puts forward as instruments by which to satisfy Section 50.47(b)(1)'s requirements that responsibilities be assigned and the necessary staff assured. LEA-5 contends that sometimes when the plans should mention letters of agreement, they do not. In such cases, LEA claims, the plans don't even say that the letters are to be developed. Tr. 7677. Since the plans sometimes do say that such letters are to be developed, LEA infers that when they are not mentioned at all, it may be that the planners think none are required. Tr. 7684. LEA argues that, in such instances, there is no reasonable assurance of enough staff, and thus no reasonable assurance the plans could be implemented. Tr. 7678. LEA-6 contends that even in the cases of letters which the plans speak of as "to be developed," there is no reasonable assurance that the planning standard in Section 50.47(b)(1) will be met, for it is not possible to say yet whether the letters will be adequate. Tr. 7679.

LEA-7 contends, finally, that the existing letters of agreement are, in fact, not adequate. LEA cites as an example the "Statement of Understanding" Berks and Chester counties have worked out with the Southeastern Pennsylvania Red Cross. The Statement, LEA claims, "fails to mention any problems caused by a radiological emergency." LEA claims that letters of agreement should take into account, should "resolve" — LEA doesn't say how — what it calls "three issues": that there may be volunteers who would risk injuries not caused by radiation, but not injuries which are caused by radiation; that radiation injuries are not covered

by regular insurance policies, and the Price-Anderson Act limits a licensee's liability for damages stemming from a radiological emergency; and that since the area affected by a radiological emergency is greater than the plume EPZ, the families of volunteers who live outside the plume EPZ but in the affected area may want to evacuate, and thus may force the volunteer to choose between one duty and another. Without such letters, LEA argues, responsibilities have not been assigned and staff assured. During the prehearing conference, LEA made clear that throughout these three contentions it is speaking of letters of agreement with organizations, not individuals. Tr. 7682. The parties agree that Commission law and guidance do not call for letters of agreement with individuals.

LEA-5 through LEA-7 are analogous to several other contentions: In LEA-1 through LEA-4, LEA grounds its claim that Section 50.47(b)(1) is not met on the fact that the plans have not yet been adopted; in LEA-5 through LEA-7, LEA grounds the same judgment on the absence of what LEA would consider adequate letters of agreement. LEA-7, 8, 12, and 15 all make claims about human response in a radiological emergency, and LEA-12 and LEA-15 also discuss letters of agreement. We shall be more particular about the relations between LEA-5 through LEA-7 and these later contentions when we rule on the later contentions.

The Applicant and the Staff object to admitting LEA-5 through LEA-7. Judging by a PEMA action we shall report later, we infer that the Commonwealth would not admit LEA-7. The Commonwealth has not said, nor can we infer, whether it would admit LEA-5 and LEA-6. We defer ruling on LEA-5 and LEA-6 and deny LEA-7. In opposing LEA-5 and LEA-6, the Applicant argues that the very existence of the plans, and their submission to PEMA and FEMA, reflect commitments by the planning organizations to implement the plans, and that since LEA offers no reason to think that these organizations will not honor their commitments, it must be presumed they will. Letters of agreement, the Applicant claims, only confirm these unquestioned commitments, and thus the absence of, or incomplete development of, these letters presents no litigable issue.

As support for its position, the Applicant points to the Appeal Board's treatment of a similar situation in *Waterford, supra*, 17 NRC 1076. There, risk parishes (counties) were negotiating, but had not yet signed, letters of agreement with neighboring parishes for vehicles and drivers. Nonetheless, evidence adduced in full hearing showed that the neighboring parishes had the necessary resources. Apparently, there was no question that the neighboring parishes intended to provide these resources to

the risk parishes. *Id.* at 1105. The Appeal Board affirmed the Licensing Board's ruling that the absence of final letters of agreement was not to be litigated but could be dealt with by a license condition which required that there be such letters before a full-power license was issued. *Id.* at 1105-06.

The Staff objects to admitting LEA-5 and LEA-6 because the Staff thinks these two contentions duplicate, though it doesn't say exactly how, LEA-1 and LEA-2. We note in passing that although LEA-5 and LEA-6 are, as we have said, analogous to LEA-1 and LEA-2, they do not duplicate them. The Commonwealth, though not saying whether it would admit LEA-5 and LEA-6, points out that some organizations are not required to be parties to letters of agreement, organizations of full-time police or firemen being examples. Tr. 7682. Under NUREG-0654, II.A.3, which provides guidance on drawing up letters of agreement, "written agreements" with organizations whose "response functions are covered by laws, regulations or executive orders . . . are not necessary."

We defer ruling on LEA-5 and LEA-6. The parties shall exchange and discuss changes to the *status quo* and file appropriate proposals for further consideration by the Board, as it becomes appropriate to do so. Again, LEA has little basis for these contentions other than the uncertainties that still surround the plans. However, those uncertainties make it difficult to rule that there is reasonable assurance that those organizations which should be parties to letters of agreement will be. On the record before us, it is not even clear yet whether the lack of mention of letters of agreement at certain places in the plans is significant. These uncertainties highlight an important difference between the situation here and the situation in *Waterford,* the case on which the Applicant relies. In *Waterford,* the Licensing Board and the Appeal Board had a full, evidentiary, record on which to base a judgment that capabilities and commitments were assured, and that any work which was still to be done to make the letters of agreement final was purely formal. We, however, have no such record.

LEA-7 merits different treatment. LEA's claim that the letter of agreement between the Red Cross and Berks and Chester Counties "fails to mention any problems caused by a radiological emergency" may mean simply that the letter fails to mention nuclear emergencies. If LEA's claim means this, it is not correct about Berks County. As the Applicant points out, the letters between the Red Cross and Berks and Montgomery Counties expressly refer to "nuclear incidents." The agreement between the Red Cross and Chester County is less explicit, but we cannot attribute much weight to a concern that the American Red Cross, an organization which has demonstrated in a great number of different kinds

of emergencies its abilities, and which has experience with radiological emergency planning at more than one nuclear power plant, would not be adequately prepared with resources and staff to fulfill its obligation to provide support, particularly when such support would be primarily outside the plume exposure EPZ. Moreover, we note that both FEMA and PEMA have approved the agreement between Chester County and the Red Cross as it applies to the Peach Bottom Atomic Power Station. Tr. 7707.

However, LEA clearly wants in these letters of agreement more than the plain mention of nuclear incidents. In its written contention, LEA wanted the letters of agreement to "resolve at least these three issues," namely the factors — which we set out earlier — involving human response in radiological emergencies, insurance coverage for radiation injury, and the desire of the families of emergency workers living outside the plume EPZ to evacuate. We agree with the Staff that nothing in NUREG-0654, II.A.3, the Staff's guidance on letters of agreement, requires these letters to "resolve" these factors. During the prehearing conference, LEA said that it sought in the letters of agreement nothing more than assurance that "everybody has agreed to and understands what their participation involves." Tr. 7706. It is not the burden of the letters alone to provide such assurance. That assurance depends on the planning process and training programs in addition to the letters of agreement; the letters are only required to be summaries of the commitments.

LEA-8

In LEA-8, LEA contends that the emergency plans are based on false assumptions about how emergency workers, both voluntary and professional, will respond in a radiological emergency. LEA cites testimony in the Three Mile Island, Unit 1, restart proceeding (TMI-1) by Mr. Lamison of PEMA that some professional people did not carry out their responsibilities during the emergency caused by the accident at TMI in March 1979. *See* TMI-1 Restart, Docket 50-289, Tr. 17,826. LEA also cites testimony in the same proceeding by Kai Erikson that emergency workers "would regard their real job as tending for their families." *Id.*, ff. Tr. 21,686. Unless, LEA argues, the plans are based on true assumptions about how workers will respond in a radiological emergency, there is no reasonable assurance that the requirement in Section 50.47(b)(1) that there be adequate staff to implement the plans will be met.

This contention is analogous to LEA-2. Both contentions argue that there is no reasonable assurance of enough staff, but LEA-2 argues from the fact that certain plans are not yet adopted, while LEA-8 argues from what LEA asserts to be the reliance of the plans on false assumptions. LEA-8 is also analogous to LEA-7, which is also concerned with whether enough staff will be available. LEA-7 argues, in part, that existing letters of agreement do not adequately take into account human response to danger from radiation; LEA-8 argues that the plans themselves do not do so. Finally, LEA-12 and LEA-15 make the same claim LEA-8 does, but only about schoolteachers and staff, and school bus drivers. The Applicant and the Commonwealth would deny LEA-8. The Staff would admit it. We deny it.

Both the Applicant and the Commonwealth view this contention as merely a general and speculative attack on the training programs. *See* the Commonwealth's response at Tr. 7716. The Applicant is confident that the training program will adequately inform workers about their responsibilities and the conditions under which they may have to perform them, and will identify workers who would not perform their responsibilities. The Commonwealth argues that TMI-1 Restart testimony by its witness, Mr. Lamison, about the behavior of some professionals during the accident at TMI was not meant to be applied to all plants, but that it was meant only to support improving emergency planning. Tr. 7715. The Applicant alleges that responses of emergency workers during the site emergency at the Ginna facility near Rochester, New York, in February 1982 provide good evidence that the improved emergency planning has proved effective. Applicant's Answer at 22 n.39.

Putting these arguments on training aside, we deny the contention because of its lack of specificity. The contention is so general that we cannot imagine how litigation of it would be fruitful. LEA says it would litigate the general issue of human response to radiation danger, and present testimony by experts, not workers with specific responsibilities under the plans. We foresee a pointless battle between experts, the Intervenors' abstractly arguing that humans are less willing to face radiation dangers than they are other sorts of dangers, and the Applicant's experts abstractly arguing the contrary.

The Staff claims that litigation of these issues can't be anything but abstract. Tr. 7719. We disagree, and so does the Commonwealth. Tr. 7717. We admit LEA-12 and LEA-15 below because, although they raise the same issues, they focus on specific groups of people with specific responsibilities under the Limerick plans. Thus, arguments in litigation of LEA-12 and LEA-15 can be more than merely speculative The parties could, for instance, examine the planned role of the specific

named groups, and assess the significance and sensitivity of less-than-full response by the groups on which LEA-12 and LEA-15 focus.

LEA-9 AND LEA-18

A principal focus of each of the contentions LEA-1 through LEA-8 is the requirement in Section 50.47(b)(1) that there be enough staff to implement the plans. The principal focus of both LEA-9 and LEA-18 is whether there will be enough resources, especially financial resources, to implement the plans. LEA-9 asserts that the plans do not provide reasonable assurance of enough resources. LEA-18 is more specific. It asserts that the plans do not provide reasonable assurance of enough resources for the training programs described in the evaluation criteria in NUREG-0654, II.O.4.a.-j. LEA-9 also mentions training, but only tangentially, when it says that the plans make no provision for financial assistance from the Applicant for training and resources. LEA-9 then cites Section 50.47(b)(1) and thus shows that between them, LEA-9 and LEA-18 treat the absence of assurance of funding for training as a failure to meet both the requirement in Section 50.47(b)(15) that training be provided, and the requirement in Section 50.47(b)(1) that the necessary staff be assured: Where there is too little funding for training, there will be too few staff, is the implied argument in LEA-9, which is thus analogous to LEA-1 through LEA-8. But the main argument in LEA-9 is simply the general one that there isn't assurance yet of enough funds to implement the plans.

It may appear that LEA-9 and LEA-18 together contend that the Applicant is required by law to help make up shortfalls in the funds and other resources of State and local organizations. LEA-9's remark that the plans don't provide for financial assistance from the Applicant is echoed by LEA-18's quoting the following sentence from NUREG-0654: "If State and local governments lack the capability and resources to accomplish this training, they may look to the licensee and the Federal government (FEMA) for assistance in this training." II.O.4.a.-j., n.2.

However, LEA-9 cites another passage in NUREG-0654 which shows that the Applicant is not required by law to help make up these shortfalls. Section I.G in NUREG-0654, at 25, says, in part, that funding and technical assistance "must be discussed between the individual nuclear utilities and the involved State and local governments," and that "the nuclear utility may have an incentive based on its own self interest as well as its responsibilities to provide electric power, to assist in providing . . . resources that the State and local governments may need but are themselves unable to provide." If it is assumed that LEA has read this

passage which it cites, then LEA-9 and LEA-18 must be construed to contend not that the Applicant must help make up shortfalls in the resources of other organizations, but that it should. This construction of LEA-9 and LEA-18 is confirmed by what LEA says about certain discussions between Chester County and the Applicant. On February 5, 1984, LEA provided us with copies of two letters from Chester County to the Applicant, one dated September 22, 1983, the other July 25, 1983. The letters report how much the County has spent on emergency planning for the Applicant's nuclear plants and list unmet needs. The earlier letter urges that the County and the Applicant discuss ways to reduce the burden on the County. Of these letters, LEA says, "we think that frankly, what we are seeing is no resolution .... The County ... says, ... we don't have the resources ... [T]he position of the Applicant seems to us to be, well, it's your responsibility." Tr. 7724. LEA wants the Applicant to break what LEA thinks to be a deadlock.

Both Staff and the Applicant object to admitting LEA-9 and LEA-18. The Commonwealth has taken no position on their admission. We deny them both. Both the Staff and the Applicant point out, of course, that the Applicant is under no legal obligation to provide resources to organizations who need them but don't have them. The Applicant also argues that LEA has alleged no specific deficiency in the plans, and that the plans state that training will be provided by FEMA, PEMA, the Applicant, and the risk counties. The Applicant also reports that in a letter dated February 1, 1984, the Applicant agreed to provide Chester County some of the services and equipment it still needs.

LEA might well think that it has alleged a specific enough deficiency in the plans, namely, that they have no provisions for financial and other assistance from the Applicant. However, if the lack of such provisions were in an absolute sense a deficiency — and we do not decide that it is — we know of no law which would empower us to remedy the deficiency. Certainly the advice in the passages quoted from NUREG-0654 does not amount to such a law.

As an alternative to litigating whether the Applicant should provide certain resources, LEA wants to litigate whether the plans could be implemented in the absence of needed resources. Tr. 7725. It is clearly impossible to litigate so general a contention. It is, of course, possible to have litigation on a specific unmet need. LEA-11, for instance, which we admit below, alleges, with names and numbers, that the school districts don't have enough buses to evacuate the schools in one lift. But LEA-11 is far more specific than even LEA-18, which alleges nothing more than a lack of assurance of resources for training; it speaks of no

particular plan, no particular training program, nor any particular shortfall.

It might even be possible to determine whether Chester County could do without the needs it listed as unmet in the letters LEA provided us, both of which are now over six months old. LEA would like to litigate that much at least. *Id.* But such litigation would be broad and unfocused, and at best would be premature. Chester's lists were in no way final. They were items (of varying importance) in the normal give and take of the planning process, in which a county takes stock of its resources and then decides whether it can make up the shortfalls and, if not, whom it will ask for help. As we have noted, the Applicant has agreed to meet some of Chester's needs. Moreover, the Commonwealth apparently is yet to be drawn into the process fully. The Commonwealth says that PEMA will help local governments meet their needs (Tr. 8089), but that PEMA depends on being told by the local governments that they lack specific resources. By the time of the prehearing conference, the Commonwealth had not been informed of many of the needs LEA labels unmet in the material attached to LEA-10. Tr. 7731.

We note, finally, that a local government has the power to say that it doesn't see how it can approve its plan unless certain resources are provided it.

LEA-10 AND LEA-17

Of all of LEA's contentions which are responses to the uncertainties that still surround the plans, LEA-10 and LEA-17 are the most general. We deny them.

LEA-10 claims, simply, that because so much in the plans is marked "to be developed," there is no reasonable assurance that adequate protective measures will be taken in the event of a radiological emergency. LEA-17 contends that the municipal emergency plans contain many errors, contradictions, and omissions, and that although some of these shortcomings are not by themselves significant, taken as a whole, they raise doubts that the municipal plans can be implemented. Attached to LEA-10 are several pages of items marked "to be developed" in the plans, and attached to LEA-17 are several pages of items LEA alleges to be errors, contradictions, and omissions in the municipal plans. As legal bases, LEA-10 cites all the Commission's emergency planning standards and guidance, thus implying that the plans as they stand meet none of the Commission's planning standards or evaluation criteria. In a similar vein, LEA-17 cites the two most general regulations, 10 C.F.R.

§ 50.47(a)(1) and (2), and one of the most general pieces of guidance, Section I.J in NUREG-0654.

The Staff, the Applicant, and the Commonwealth all oppose the admission of these two contentions. During the prehearing conference, it was LEA-10 that most inclined us to consider deferring ruling on some of LEA's contentions (Tr. 7747-50), and we are deferring rulings on LEA-1 through LEA-6, and LEA-23. But we can only deny LEA-10 and LEA-17. We see no way to litigate these contentions, either as general propositions, or as collections of specific ones, each one about a specific item on one of the many pages attached to the contentions. As general propositions — "[t]he plans are too undeveloped to provide reasonable assurance of adequate protective measures," or, "[t]he plans cannot be implemented because they have too many errors and omissions" — neither LEA-10 nor LEA-17 can be litigated, for a judgment that a plan is too undeveloped or too error-ridden must rest not on how many items in the plan are still "to be developed" or are incorrect, but on which items are still to be developed or corrected, whether there are obstacles to the development and correction of those items, and what the obstacles may be.

Therefore, if LEA-10 and LEA-17 could be litigated at all, they could only be litigated as sets of specific allegations. However, were we to litigate every item, even every sort of item, listed in the many pages LEA attached to these two contentions, the litigation of the two would know no bounds. The lists on those pages could no doubt be shorter: Some of the items in those lists are clearly too detailed for emergency planning litigation, but as to the many other items in those lists, it appears that LEA has made no attempt to distinguish the significant from the insignificant. At the prehearing conference, LEA requested an opportunity to make LEA-17 more specific. Tr. 8071. We granted the request and asked LEA to choose from the lists attached to LEA-17 those items LEA thought to be the most significant ones not covered by LEA's other contentions. Tr. 8071-72. We also asked LEA to try to find time to discuss those items with the other parties. Tr. 8072. However, on March 14, 1984, LEA merely resubmitted a large, unorganized (by significance or otherwise) list of what it called "examples that are typical of the kinds of errors and omissions LEA has found" in the municipal plans. LEA should have told us exactly what it wanted to litigate. Therefore, LEA-10 and LEA-17 are denied for lack of basis and specificity.

LEA-11

Contentions LEA-11 through LEA-16 have as their main concern the protection the emergency plans provide students and staff in schools and day-care centers. We admit most of these contentions.

LEA-11, as explained at the prehearing conference, alleges that the plans for the school districts in the plume EPZ — plans which under PEMA regulations cover both public and private schools — contain insufficient information to reasonably assure that there will be enough buses to evacuate the schools in the plume EPZ in one lift. The plans themselves call for evacuation in one lift. LEA appends tables to the contention showing what LEA claims to be the numbers of buses the school districts in Montgomery County need but don't have. The Applicant claims there are errors in the tables. The Staff and the Commonwealth would admit the contention, the Applicant would not. Since the County plans refer to unmet school bus needs as needs "to be developed," LEA-11 could be viewed as a part of LEA-10, which alleges that all the plans are too undeveloped to assure that adequate measures would be taken in an emergency. LEA-10 was too general to litigate. LEA-11 is not, and we admit it.

The Applicant argues that there is no reason to think that an adequate number of buses won't be found as the plans become more developed, and therefore that there is nothing to litigate, "as long as the mechanism exists for obtaining that number of buses when the time comes." Tr. 7779. Judging from the brief discussion during the prehearing conference, on just what the mechanism is, it is not clear the mechanism does exist. *See* Tr. 7781-82. Further development of the plans or, failing that, litigation can determine whether it does.

LEA-12 AND LEA-15

These contentions make analogous assertions about different groups of school personnel: LEA-12 deals with schoolteachers and staff, LEA-15 with school bus drivers. Therefore, we consider them together. They both belong to the group of contentions, LEA-11 through LEA-16, concerned with children and schools.

In LEA-12, LEA contends that the school district plans do not provide reasonable assurance that in a radiological emergency, there will be enough teachers and staff to stay at schools, or with evacuated students, as circumstances require. LEA-15 contends, analogously, that the same plans provide no reasonable assurance that there will be enough school bus drivers in a radiological emergency. The bases of the two contentions

are largely the same, that more of these personnel would abandon their posts in a radiological emergency than would in a non-radiological emergency, that all of them who are parents will be tempted to see to the safety of their own children first, and that there are no letters of agreement which explicitly bind these personnel to perform their duties in a radiological emergency. As additional factual bases for LEA-15, LEA cites what it contends in LEA-11 is the absence of reasonable assurances there will be enough buses to evacuate the schoolchildren in one lift: Where there aren't enough buses, there aren't enough drivers, LEA says. Tr. 7994.

Clearly, LEA-12 and LEA-15 belong to the group of contentions on human response during a radiological emergency, LEA-8 being chief among them, and to the group of contentions which centers on letters of agreement, LEA-5 through LEA-7; thus we shall be repeating some of the things we said in response to some of those contentions. The Staff, the Applicant, and the Commonwealth are divided on whether to admit LEA-12 and LEA-15. Applicant would deny both. The Staff would admit one but not the other. The Commonwealth, while not stating specifically what it would do, would likely not object to parts of these contentions. We admit both.

Echoing its answers to the other contentions on human response in a radiological emergency, especially LEA-8, the Applicant asserts that LEA has alleged no particular deficiency in the school district plans, nor offered anything more than speculation as grounds for thinking that some school personnel would not perform in an emergency the tasks they're trained to perform. The Applicant also asserts that nothing in NUREG-0654 requires that schools have letters of agreement with their own personnel.

The Staff would not admit those parts of LEA-12 and LEA-15 which raise issues about human response in a radiological emergency but would have those issues litigated under LEA-8, which the Staff would admit even though it calls LEA-15's similar concerns about human response baseless. But the Staff would admit that part of LEA-12 which talks about letters of agreement, though not the analogous part of LEA-15. The Staff claims, for reasons that escape us, that LEA-15 calls for letters with individuals rather than with organizations, but that LEA-12 doesn't. All parties agree, as do we, that letters with individuals are not required.

The Commonwealth did not tell us how it would reply to the parts of LEA-12 and LEA-15 which concern human response to radiation, but in its discussion of LEA-8, the Commonwealth said that it would not object to the admission of a contention which made "specific allegations"

about the response to radiation of "specific groups of emergency workers." Tr. 7717. We infer, therefore, that the Commonwealth does not object to the admission of the parts of LEA-12 and LEA-15 which concern human response, for these deal with specific personnel working under specified circumstances. The Commonwealth does object to the admission of those parts of LEA-12 and LEA-15 which deal with letters of agreement. In response to LEA-12, the Commonwealth says that the letters asked for in the contention are not necessary (Tr. 7786), and in response to LEA-15, that the letters asked for there are necessary only with organizations which might be leasing buses to the school districts. Tr. 7999. Apparently, the Commonwealth is impliedly arguing concerning teachers, staff, and drivers directly employed by the schools what it impliedly argues about the response functions of full-time police and fireman (Tr. 7682), that those functions are, in the language of NUREG-0654, II.A.3, "covered by laws, regulations or executive orders" and thus, under the same criterion, A.3, do not have to be covered by separate written agreements.

As we understand LEA-12 and LEA-15, they are not about letters of agreement *per se* as ends in themselves, but regard such letters only as one way to contribute to reasonable assurance that in an emergency there will be enough school personnel to implement the school plans. *See* Tr. 8001. We note that LEA's concerns with letters of agreement are more generally stated in LEA-5 through LEA-7 and thus are dealt with in our treatment of those three contentions. Therefore, we consider LEA-12 and LEA-15 to be solely about human response in a radiological emergency and do not discuss the arguments the Applicant, the Staff, and the Commonwealth make about whether such letters are required by law. So understood, LEA-12 and LEA-15 are admissible. We think that the abstractness and inconclusiveness which would afflict any litigation of LEA-8 could be avoided under these two more specific contentions, for they deal not with the response of the everyman in some everysituation, but with specific personnel assigned specific tasks. With such specificity, there is more than mere speculation on which to rest a finding about the degree to which such personnel can be relied on in a radiological emergency; even more important, it is possible to determine how critical the functions these personnel will be trained to perform are to the implementation of the plans. Indeed, one possible efficient and probative approach for the litigation of these two contentions would be an examination of the sensitivity of the effect on the success of the plans of less-than-full participation by available school bus drivers and teachers, and/or any provisions in the plans to compensate for varying degrees of nonparticipation by school bus drivers and teachers.

LEA-13 AND LEA-27

Three of LEA's contentions assert that the degree of protection the plans provide persons in the care of certain private facilities is inadequate. LEA-13 is concerned with day-care centers and preschools, LEA-27 with a home for the elderly and two homes for the mentally retarded, and LEA-16 with private schools. We treat LEA-13 and LEA-27 together, but LEA-16 requires separate treatment and so we consider it by itself at its proper place in the numerical order of LEA's contentions.

LEA-13 contends principally that day-care centers and preschool programs in the plume EPZ are not provided for in existing plans, or at least not adequately provided for. The contention covers both profit and non-profit institutions, but not those which have only a few children. Tr. 7788. The principal thought behind this contention is that emergency conditions — separation from parents at an unexpectedly critical time, changes in schedule and environment and so on — can frighten young children, perhaps even make them unmanageable, and therefore that planning which does not consider carefully how to deal with young children will not adequately protect them in an emergency. At the prehearing conference, we asked LEA to furnish the parties and us with a list of the institutions LEA thought the plans should cover. Tr. 7794, 7987. On March 14, 1984, we received the list.

As written, LEA-13 claims also that the numbers of parents who may try to pick up their children before they are evacuated from preschool and day-care facilities are not reflected in the plans' analyses of evacuation traffic patterns. We construe this claim to be not a separate issue for litigation, but something LEA might argue in litigation in response to an assertion that an emergency plan makes adequate provision for parents to pick up their children before evacuation.

LEA-27 contends that no emergency plans cover Spring Mountain House, Camp Hill Village, and Camp Hill Special School, all located in the plume EPZ. Spring Mountain House, in Montgomery County, is characterized by the written contention as a nursing home, and by the Applicant as a boarding house. At the prehearing conference, LEA said Spring Mountain House was a residence for elderly people, some of whom were under nursing care. Tr. 8131. According to LEA, both Camp Hill Village and Camp Hill Special School are residential schools for the mentally retarded, both in Chester County. Tr. 8130-31. LEA says that it is contending not that the only way to assure adequate protective measures for the people cared for in these facilities is to draw up separate plans for the facilities, but only that the plans at some level —

the township perhaps being the most appropriate — should include careful consideration of the special needs of the people in these facilities, especially their transportation needs in the event of an evacuation. Tr. 8130-32.

The Staff would admit both LEA-13 and LEA-27 (Tr. 8132); the Applicant and the Commonwealth would admit neither (Tr. 7792, 8136). We admit both. Part of the Applicant's argument against both LEA-13 and LEA-27 is based on a distinction in the Commonwealth's Disaster Operations Plan, Annex E at E-31. There the Commonwealth requires specialized plans for "hospitals, nursing homes, and other public institutions," but not for people who will be notified at a home, office, or other private place; these people are to be covered by the plans which protect the general public. The Applicant argues that under the Commonwealth's distinction, private institutions such as the Camp Hill residential schools, and at least some of the day-care and preschool programs LEA lists, are to be covered by the plans which protect the general public, not by specialized plans. The Applicant adds that the special needs of people in these institutions, as of people elsewhere in the general population, will be provided, after having been determined by population surveys undertaken by the risk counties. The Applicant also notes that both Camp Hill schools have responded to one of the surveys (Applicant's Answer to LEA's March 14 Filing, at 3), and that implementing procedures under development will provide the transportation needs identified in those surveys (Tr. 8133). The Commonwealth, basing itself on the Applicant's response, is confident that Spring Mountain House and the Camp Hill schools are adequately provided for in the present plans. Tr. 8136.

Making a distinction similar to the one in Annex E of the Disaster Operations Plan, the Commonwealth says that school district plans need not include profit day-care and preschool programs (Tr. 7791). The Commonwealth intends to make sure that any non-profit programs on LEA's March 14 list are included in school district plans (Commonwealth's Response to LEA's March 14 Filing, at 2), but LEA did not note which institutions on its list were non-profit, though we had asked them to (Tr. 7794). Some assurance of coverage for the profit programs is given by the Commonwealth's requirement that all day-care and preschool facilities be listed in the municipal plans (Tr. 7792-93), and that "the municipal coordinator . . . review plans that these institutions draw up for themselves, giving any aid that is required." Tr. 7793. PEMA is making sure now that the institutions LEA listed at our request "are identified and accounted for in the municipal plans." The Commonwealth's Response to LEA's March 14 Filing, at 2.

In sum, the Applicant and the Commonwealth agree there is reasonable assurance now that the institutions LEA is concerned about in LEA-13 and 27 are, or will be, provided for in some plan, and that all that remains to do is to check lists in municipal and school plans, and to issue implementing procedures tailored to the results of population surveys. Thus, the argument concludes, there is nothing to litigate (Tr. 8136): It is not the Board's job to check lists, and "the Commission did not want licensing hearings to become bogged down with litigation about such details" as implementing procedures consist of. *Waterford, supra,* 17 NRC at 1107.

However, we are not satisfied that there is nothing litigable in these two contentions. For one thing, the Commonwealth's distinctions between public and private, profit and non-profit, seem to imply odd results. For instance, Spring Mountain House as a nursing home — and therefore, under Annex E, a public institution — must be covered by a specialized plan, but Spring Mountain House as a boarding home need not be, even though Spring Mountain House as either is a facility in which there are many elderly, some of whom are under nursing care.

The list in the Commonwealth's Annex E of institutions which must have specialized plans — hospitals, nursing homes, and other public institutions — resembles, but also differs from, a list in the definition of "special facility population" in NUREG-0654, Appendix 4, Section II: "those confined to institutions such as hospitals and nursing homes" and "the school population." The Staff relies on this definition in not objecting to the admission of LEA-13 and LEA-27 (Tr. 8132), perhaps because although neither the definition nor anything in Appendix 4 calls for specialized plans for special facilities, the definition does focus on the nature of the population the facilities serve and not on whether they are public, non-profit, or licensed.

More important, as we have noted, LEA is not contending that the institutions listed in these two contentions be covered by specialized plans, but only that the planning for them be adequate. Tr. 7791-92, 8131-32. Specialized plans might be a sufficient, but possibly not necessary, way to assure that there will be adequate plans for these facilities. It is not clear yet that these facilities will be adequately provided for merely by being listed in, say, a county plan, or by being covered in implementing procedures which take some cognizance of the results of population surveys. Implementing procedures properly so-called are not to be litigated, but it may be that not everything relegated to implementing procedures by a particular plan is at the level of the ministerial detail which is appropriate to such a document. LEA-13 and LEA-27

will be resolved without litigation of such detail, but not necessarily without a look at some implementing procedures.

LEA-14 AND LEA-22

These are two of the three contentions dealing with the distribution of potassium iodide (KI). The other of the three, Lewis-2, called for distributing KI to the general public in at least the plume EPZ. LEA-14 and LEA-22 call for distribution to certain segments of the general public in the plume EPZ. LEA's two contentions also deal with matters other than KI, including dosimetry, which is taken up in LEA-23/Commonwealth-2 also. We denied Lewis-2 but will admit LEA-14 and 22, thinking, however, that both can be settled, LEA-22 quite easily.

As written, LEA-14 is divided into two parts both of which are rooted partly in LEA-11, which contends that there is no reasonable assurance of enough buses to evacuate the schools as quickly as the school district plans demand, namely, in one lift. The first part of LEA-14 contends that because some drivers may have to make repeated trips into the plume EPZ, and some school personnel may have to stay in the plume EPZ longer than now planned to care for students until they are evacuated, the drivers and school staff are, in effect, potential emergency workers and should be provided the KI and dosimetry supplied other emergency workers. The second part of LEA-14 contends that these same drivers and school staff, being potential emergency workers, should be trained as emergency workers. As written, the second part of LEA-14 also contended that to assure that these potential workers received the proper training, there should be "training criteria" and "accountability programs" in the plans, but at the prehearing conference, LEA dropped this part of the contention. Tr. 7792.

As explained at the prehearing conference, LEA-22 makes nearly analogous claims about farmers who have livestock to tend in the plume EPZ, but where LEA-14 contends that certain people should be classified as emergency workers and be provided for as such, LEA-22 contends that even though emergency plans already designate farmers who have livestock in the plume EPZ as emergency workers, those farmers are not provided with KI, dosimetry supplies, or training on the use of these materials or on procedures for reentering the plume EPZ. As written, LEA-22 appeared to contend that these farmers should also be given access to decontamination facilities, but at the prehearing conference, LEA said that it had not intended to raise any issue about decontamination. Tr. 8105.

The Applicant opposes both contentions. The Staff would admit all of LEA-14 except the claim that the school bus drivers and school personnel should receive KI, but the Staff would deny LEA-22 altogether. The Commonwealth also would deny LEA-22 but didn't say whether it would deny LEA-14, and we are unable to infer whether it would. As we said, we admit both contentions. We discuss LEA-22 first because our discussion of it will provide some helpful background for our ruling on LEA-14.

The Commonwealth reports that Annex E, Appendix 16, page B-8 of the Commonwealth's Disaster Operations Plans does state that farmers with livestock in the plume EPZ will be designated emergency workers if the plume EPZ is evacuated. But Annex E also states that the county emergency management agencies will provide these farmers with KI and dosimetry if they reenter or stay in the plume EPZ. The Annex also describes procedures for distribution of KI and dosimetry and for farmers' reentering the plume EPZ. Tr. 8106. But the Commonwealth's plan does not expressly provide for training the farmers. Tr. 8107. Thus, the Commonwealth's plan meets all of LEA's stated concerns about farmers except its concern that they be adequately trained to use KI and dosimetry and to reenter the plume EPZ. But it is easy to read a dosimeter (Tr. 8108-09), or to self-administer KI, or to follow the right procedures in reentering the plume EPZ. Besides, the Commonwealth says that "there's no question" that in an emergency, these farmers would be given the instructions they needed. Tr. 8107. Thus, the Commonwealth and the Applicant argue that there is nothing left in LEA-22 to litigate.

However, the Commonwealth also says that such training as LEA wants these farmers to receive "certainly can be read into" the plan. *Id.* LEA replies that if express provision for such training were incorporated into the Commonwealth's plan, LEA's concern would be met. Tr. 8107, 8109. Thus, the parties are so close to agreement on LEA-22 that we fully expect them to settle, rather than go to the trouble to litigate the little that is still at issue between them.

It could be argued that, since we've admitted LEA-11, LEA-14 is unnecessary: Either the result of the litigation of LEA-11 will be reasonable assurance that there are enough buses to evacuate the schools in one lift — in which case, drivers and school personnel will not need KI, dosimetry, or the training suited to emergency workers — or it will be proposed that evacuating the schools in two lifts is an adequate protective measure, in which case LEA may argue, in its proposed findings or elsewhere, that drivers and school personnel will have to be provided for as emergency workers.

However, on reflection after the prehearing conference, the Board believes that LEA-14 does not depend solely on any lack of reasonable assurance of enough buses. We now construe LEA-14 to be contending also that even if there were reasonable assurance of enough buses to evacuate the schools in one lift, reasonable assurance is not perfect assurance, and that the plans should provide for the possibility that for unforeseeable reasons evacuation of the schools might require two lifts and thus cause the drivers and school personnel to become emergency workers. *Cf.* Tr. 7991.

At bottom, LEA is asking that the plans treat school bus drivers and school personnel as they do farmers with livestock in the EPZ: As members of the general public who in certain circumstances would be designated as emergency workers and provided for as such. We think we detect some willingness on the part of the Commonwealth to treat drivers and school personnel this way. Tr. 7991. Therefore, we have some ground for hoping that LEA-14 can be settled before litigation.

LEA-16

This is the last of the six consecutive contentions on schools and children. As are LEA-13 and LEA-27, LEA-16 is concerned with how well the emergency plans provide for certain institutions. LEA-16 contends that although school district plans do provide for private schools, there is no reasonable assurance that the needs of private schools for enough buses to evacuate those schools in one lift, for prompt notification of an emergency, and for adequate training for school personnel, will not be overlooked. The Staff and the Commonwealth would admit the contention; the Applicant would not. We deny it.

In relation to none of the three needs LEA-16 lists is it admissible. As LEA notes (Tr. 8059), LEA-11's claim that there is not yet reasonable assurance of enough buses to evacuate all schools in one lift includes LEA-16's claim that there is no assurance of enough buses for the private schools. Since we admitted LEA-11, we need not admit the corresponding part of LEA-16.

As to prompt notification, LEA's concern is not that there are procedures for notifying the private schools of an emergency which differ from procedures for notifying the public schools and make it less likely that the private schools will receive prompt notification — the Commonwealth reports that private schools would be notified the same way public schools would be (Tr. 8063) — but that in some school districts the number of schools to be notified is so great that the private schools might somehow receive notification less prompt than the notification

the public schools would receive. *Id.* LEA has given us no basis for concern that any of the mechanisms of notification now under consideration (*see* Tr. 8064-66) could have such a result.

As to training, LEA wants assurance simply that personnel in private schools will, if notified of an emergency, know what to do. Tr. 8066. LEA has given us no reason to think that the training which the Applicant says private school personnel are to receive (Tr. 8065) is materially different from the training public school personnel are to receive. LEA may be concerned that the training which private school personnel are to receive may not adequately prepare them to be emergency workers, but that concern is encompassed in LEA-14, which we have admitted. We note that many private schools in the plume EPZ have drawn up their own plans. Applicant's Answer at 34.

LEA DRILLS (VIII-38)

This contention has no number in the system LEA used to renumber it's contentions. Here LEA claims that the emergency plans do not contain sufficient detail on the conduct of the exercises and drills required by 10 C.F.R. § 50.47(b)(14), that there is no assurance the exercises and drills are realistic enough, and that a true test of preparedness does not permit participants to have prior knowledge of the dates, times, and other details of the test.

LEA withdrew this contention at the prehearing conference. LEA's principal aim in filing the contention was to secure an opportunity to comment on the drills and exercises. Tr. 8080. Since filing the contention, LEA has learned that under 44 C.F.R. § 350.10 (1983) there will be at least one public meeting in the vicinity of the Limerick plant between the first joint (utility, State and local governments) exercise of the plans and FEMA approval of them. LEA is confident that under Section 350.10 it will have ample opportunity to comment, and in a more appropriate forum than ours. Tr. 8086-87. We agree. The adequacy of the exercises and drills is best determined after they are held, at which time LEA may make its views known in the forum provided by FEMA.

LEA-19 AND LEA-21

Three contentions deal with the communications systems planned. LEA-26, considered separately below, is concerned largely with prompt notification of the public. LEA-19 contends that the emergency plans

fail to demonstrate that the system for communications among the emergency response organizations can operate effectively under a wide range of adverse conditions, including heavy commercial telephone traffic, bad weather, blackouts, jammed telephone links, spontaneous evacuation both inside and outside the plume EPZ, and some number of volunteers who will not risk radiation injury. LEA-19 also contends that there is no assurance that the communications links between county and local governments can operate 24 hours a day. LEA-21 is more specific. It contends that although the primary communications link with the municipal Emergency Operations Centers (EOC) is the telephone, the municipal EOC's have too few telephone lines. The Applicant opposes both LEA-19 and LEA-21. The Staff and the Commonwealth would admit both contentions. Tr. 8095, 8101. We deny both.

LEA's concerns in these two contentions are largely related to the role commercial telephone plays in the communications links among response organizations. But, as described in Appendix B of each risk county plan, those links include much more than commercial telephone. The risk counties will also have a dedicated telephone "switch" and direct radio links with municipal police, fire, and medical personnel. A dedicated telephone switch permits conference calling and does not depend on the commercial telephone system. Three radio systems will be in use: the Radio Amateur Civil Emergency Services, the Amateur Radio Emergency Services, and the new PEMA Radio System. Appendix B in each risk county plan also states that each risk county EOC will be organized, equipped, and staffed, when augmented, to operate 24 hours a day for an extended time.

Taken together, LEA-19 and 21 are merely a broadside attack. They put forward no basis for thinking that this diverse and redundant communications system could, under some adverse circumstance, become so impaired on all levels that it could not operate effectively. The Commonwealth says that it has some concerns about the system and gives one example: From its review of the plans, the Commonwealth is unclear on whether the communications system would include a telephone link between each risk county and each municipality. Tr. 8095. If the example Commonwealth has given us is rightly called an example, the Commonwealth's concerns are at a level of detail best dealt with outside adjudication. If, when the emergency plans are in final form, any party has a similar communications concern which ought to be considered in adjudication, that party can come back to us.

LEA-20

In this contention, LEA claims that not all the municipal Emergency Operations Centers (EOC) have been designated, and that no alternative municipal EOC has been designated. At the prehearing conference, LEA withdrew its call for designation of alternative EOCs, on the correct ground that nothing in Commission law requires that there be alternative EOCs. At the prehearing conference, the Applicant claimed that all the municipal EOCs had been designated (Tr. 8098-99), but in its March 14 filing, LEA identifies three townships for which EOCs have not been designated. The Applicant opposes the contention. The Staff would admit it. The Commonwealth has not said whether it would admit the contention but has stressed certain requirements which have to do with the EOCs. We shall mention those requirements shortly.

We deny LEA-20 because it raises no litigable issue. It does not contend that any EOC site, present or proposed, is deficient in any respect. No party disputes that unless all the municipal EOCs are designated before the exercises planned for July 1984, reviewing authorities will declare the plans deficient. LEA does not contend that there is any obstacle to designating any municipal EOC. The closest thing to an adjudicable dispute in connection with this contention concerns the possibility of townships' sharing EOCs. Twice in its filings on LEA-20, the Applicant has claimed that townships may share an EOC. Applicant's Answer at 39, and Applicant's Response to LEA's March 14 Filing, at 4. The Commonwealth claims, though, that townships may share an EOC only if they also have the same emergency plan and use the same EOC staff. Commonwealth's Response to LEA's March 14 Filing, at 3. But this dispute, if dispute it is, is not formally before us. If the Commonwealth, the Staff and FEMA do not see to it that all the municipal EOCs are properly designated, then LEA can file for appropriate relief.

LEA-23

The next three contentions are tied together by the middle one of them. Both LEA-23 and LEA-24 are concerned with vehicular traffic in the plume EPZ, and both LEA-24 and LEA-25 are concerned with the size of the plume EPZ.

Both LEA-23 and Commonwealth-2 allege deficiencies in the Applicant's time estimates for evacuation in the plume EPZ. NUREG-0654, Section II.J.8 recommends that the licensee include such estimates in its emergency plan. Among the deficiencies alleged by LEA and the Commonwealth were use of the wrong evacuation routes and of outdated or

inconsistent census data, and inadequate consideration of the effects of adverse weather.

The Commonwealth has withdrawn its contention (Tr. 8110-11), and we defer ruling on LEA-23. A new evacuation time study is due soon from the Applicant's consultant. Apparently, the Commonwealth did not know until after it had filed its contention that the new study was under way. The Commonwealth now says that, as outlined to the Commonwealth by the Applicant's counsel, the new study appears to address the Commonwealth's concerns (Tr. 8110), and that the Commonwealth will be working closely with the Applicant's consultant as the study is brought to completion and will submit comments on the completed study to the Applicant and FEMA. Tr. 8111. Satisfied that its concerns will be given adequate attention, the Commonwealth, with our approval, withdraws Commonwealth-2.

LEA, however, stands in a different relation to the new time estimate study. As the written form of LEA-23 shows, LEA knew before it filed its contention that a new study was in progress. Nonetheless, perhaps because LEA doesn't have the Commonwealth's power to make a formal review of the new study, LEA filed a contention on the old time estimates. But that contention really amounts to a claim about the new study, namely, that it should not contain the deficiencies LEA alleges the old one contains.

Once more, we face a contention we can neither admit nor deny and, therefore, defer ruling on. LEA, of course, can point to no specific deficiencies in a study it has had no opportunity to review. However, by alleging specific deficiencies in the old studies, deficiencies some of which there might be reason to think could be carried over into the new study, LEA has argued with as much basis and specificity as circumstances allow. We note too that LEA's concerns about the time estimates appear not to overlap the Commonwealth's concerns much. Therefore, not all of LEA's concerns will necessarily be represented by the Commonwealth in its work with the Applicant on the new study. We expect the Board and the participating parties to receive a copy of the new study as soon as possible after it becomes available. The parties shall exchange and discuss changes to the *status quo* and file appropriate proposals for further consideration by the Board, as it becomes appropriate to do so.

LEA-24 AND FOE-1

Both FOE and LEA advance contentions which are concerned with, among other things, the effect of traffic congestion on evacuation. Friends of the Earth in the Delaware Valley (FOE) contends that the

emergency evacuation plans should include Valley Forge State Park and the King of Prussia area because the heavy traffic in these areas will impede the evacuation of the EPZ. LEA contends the same in LEA-24, and argues similarly there that the plans should also include the Marsh Creek and French Creek State Parks, a certain "Horseshoe Trail," and Exton Mall.

For reasons we give below, we admit both of these contentions, but only to the extent they call for planning against the effect traffic congestion in the areas outside the EPZ they name could have on evacuation of the plume exposure pathway EPZ. We take up first the inadmissible portions of both contentions.

FOE, besides contending that the emergency plans should include certain areas where traffic congestion is common, also asserts, almost in passing, that the Applicant should not be granted a license to operate Limerick until "the safety of the 7.2 million people in the entire 50 mile radius is assured in case of an accident" (coordinated Intervenors' Contentions at 55), and more radically, that since "there is no way to provide for the safety of residents in the King of Prussia area or the users of [Valley Forge National Historical Park] except by removing the threat of a nuclear accident at Limerick," the Applicant should be denied a license to operate Limerick. *Id.* at 56. If these assertions are intended as contentions, there are neither factual nor legal bases for them. It is simply not correct, as a matter of law, that nothing short of denying the Applicant a license could provide for the safety of people in the King of Prussia and Valley Forge Park areas. Moreover, under 10 C.F.R. § 2.758, to contend, in effect, that the EPZ should be expanded to 50 miles is an impermissible attack on the requirement in 10 C.F.R. § 50.47(c)(2) that the plume exposure EPZ be "about 10 miles in radius." *See also* our discussion of LEA's similar assertions in LEA-25.

Some parts of LEA-24 are inadmissible because they lack factual basis or duplicate other contentions. Two of the areas LEA contends should be included in the plans for the EPZ, French Creek State Park and a certain "Horseshoe Trail," are already in the EPZ. French Creek State Park lies just inside the western edge of the zone, and the "Horseshoe Trail" LEA speaks of, apparently one of several "Horseshoe Trails" in the Limerick area (Tr. 7634), runs through the EPZ, from French Creek Park to Valley Forge Park. Tr. 7637. LEA argues that its contention is, in fact, about the adequacy of planning for certain commercial and recreation areas, some inside, some outside the EPZ. Tr. 7638. LEA reads its contention to claim that there is no reasonable assurance that people in recreation areas inside the EPZ would receive adequate notification of an emergency. Tr. 7636. LEA claims there is not yet enough information to

conclude that the siren system the emergency plans call for can be heard everywhere in the EPZ. *Id.* Granting LEA's interpretation of its own contention, LEA-24 overlaps with LEA-26, which concerns notification in general, and sirens in particular. Since notification is the principal subject of LEA-26, we do not admit the part of LEA-24 which overlaps LEA-26.

Therefore, what remains of LEA-24 and FOE's contention is the claim that to help assure that an evacuation of the plume exposure EPZ would not be impeded by traffic congestion connected with Marsh Creek State Park, Valley Forge National Historical Park, the King of Prussia area, and Exton Mall, these areas should either be included in the EPZ, or adequate plans for traffic control in those areas should be made to avoid an adverse effect on evacuation of the EPZ. Most of Valley Forge Park lies just outside the EPZ, on the southeast. The King of Prussia area is further southeast, about 4-5 miles outside the EPZ. Exton Mall is near the intersection of U.S. 30 and PA 100, about 14 miles south of the Limerick plant, and about 2 miles south of the approximate 12-mile EPZ southern boundary. Marsh Creek State Park lies just outside the EPZ on the southwest, within a mile of PA 100. LEA is concerned that congestion at Marsh Creek and Exton Mall, a reception center, could impede evacuation along PA 100, an important evacuation route running north and south through the western half of the EPZ.

We admit these two contentions in these focused forms, with the understanding that the issue joined is not necessarily whether the plume exposure EPZ should be expanded to include the four named areas, but whether the emergency plans provide reasonable assurance that traffic congestion in the four named areas will not significantly impede evacuation of the EPZ. We will entertain evidence that nothing short of including these four areas in the EPZ will provide such assurance, but the evidence could show that there are less drastic ways to deal with traffic congestion. Thus construed, LEA-24 is linked more to the claim in LEA-23 that the county plans have unreliable evacuation time estimates than to the claim in LEA-25 that the EPZ should include Philadelphia, a claim which is not motivated by a concern about traffic congestion.

Both the Staff and the Applicant oppose the admission of these contentions in their focused forms. The Staff claims that the Intervenors are trying to expand the EPZ, and thus are attacking the regulations without making the arguments 10 C.F.R. § 2.758 requires to accompany such an attack. In a similar vein, the Applicant claims that the Intervenors have argued none of the special circumstances which, under 10 C.F.R. § 50.47(c)(2), might call for modest expansions of the EPZ. Applicant's Answer at 53. The Applicant argues further that the present plans

adequately take into account congestion in general, and congestion in these four areas in particular. Congestion outside the EPZ, the Applicant says, "would necessarily be considered" in the evacuation time study, now being revised. *Id.* at 44, 53. The Commonwealth backs the Applicant here with the somewhat more general claim that the emergency plans already take congestion outside the EPZ into account. Tr. 7619-20. A closer look at any one of the four areas the Intervenors want included in the EPZ will show, the Applicant says, that congestion outside the EPZ poses no significant threat to evacuation of the EPZ. For example, common sense says, according to the Applicant, that during an evacuation emergency local authorities would not permit cars which have no good reason to be in the EPZ to exit Marsh Creek State Park on the northeast and thus impede traffic on PA 100 southbound out of the EPZ at the traffic consolidation point on PA 100 just south of Eagle and west of Byers. Tr. 7641, 7643. The Applicant argues that even if common sense did not prevail, the traffic northbound out of the park could be stopped at the first intersection north of Eagle on PA 100. Although this intersection is in the EPZ, it is outside the 10-mile circle; thus traffic intercepted there would not, according to the Applicant, affect traffic in the 10-mile circle. Tr. 7643.

Similar arguments could be made, the Applicant says, about the other areas the Intervenors want included in the EPZ. Tr. 7641, 7643. Besides, the Applicant says, "there is ample room beyond the ten mile area to accommodate all kinds of vehicles." Tr. 7642.

We are not persuaded by these arguments of the Staff and the Applicant. The Applicant's argument about Marsh Creek State Park leaves too many questions unanswered: Are there plans which implement what the Applicant argues common sense would dictate in dealing with traffic trying to exit the park on the northeast? Do the present plans take into account congestion caused by park traffic? Is there any way to leave the park except on the northeast? If there is, is there a significant possibility that traffic leaving that other way could, even though it is not heading into the EPZ, impede the flow of traffic out of the EPZ? If arguments similar to the one the Applicant makes about Marsh Creek could be made about Exton Mall, King of Prussia, and Valley Forge, what are those arguments? In particular, why isn't traffic heading south and southeast out of these three places at least as likely to impede traffic leaving the EPZ as the traffic heading into the EPZ, the only traffic the Applicant considered in its argument about Marsh Creek? More generally, the Applicant says that the evacuation time study "would necessarily" consider congestion outside the EPZ, but we ask whether the study in fact does so.

Finally, the Staff's argument that these contentions impermissibly attack the regulations is heavy machinery better saved for another contention, and the Applicant's argument that the Intervenors plead none of the factors which 10 C.F.R. § 50.47(c)(2) says could support expanding the EPZ is not accurate. The Staff's argument suits LEA-25, which contends that the EPZ should include Philadelphia, better than LEA-24, which calls for adjustments of only a few miles. The EPZ in some places already extends to nearly 13 miles from the Limerick plant, and the Commonwealth believes "it would be worthwhile to at least consider expanding the EPZ to include Valley Forge," though not Exton Mall. Tr. 7641. The Applicant's argument on pleading factors listed in Section 50.47(c)(2) overlooks the Intervenors' having pleaded at least two of those factors. The Intervenors are concerned about congestion in certain highly traveled areas, and thus about the factor in Section 50.47(c)(2) called demography. Moreover, they are concerned about the flow of traffic on evacuation routes, and thus about the factor in Section 50.47(c)(2) called access routes.

Since LEA-24 encompasses FOE's contention, we admit and consolidate both contentions as construed by us above. Thus both FOE and LEA are parties in the proceedings related to this contention, designated LEA (FOE)-24. LEA is to be the lead intervenor, and thus FOE is to coordinate all its prehearing activities (including discovery) and litigation of this contention with LEA.

LEA-25

This is the last of three contentions in which an expansion of the plume EPZ is suggested, but in its main concern, LEA-25 is closer to the City of Philadelphia's concerns with emergency planning for the ingestion EPZ.

LEA-24 and FOE-1 called for expanding the plume EPZ to include certain areas where traffic congestion is frequently very heavy. The main concern of those two contentions was that, unless adequately considered in the plans for the plume EPZ, traffic congestion in those areas could significantly impede evacuation of the plume EPZ. As written, LEA-25 makes the more radical claim, asserted apparently in passing in FOE-1, that the plume EPZ should be expanded to include the Philadelphia metropolitan area, to reduce the chance of latent cancer deaths in these areas after a nuclear accident at Limerick. The Staff and the Applicant oppose the contention. The Commonwealth has expressed no opinion on its admissibility. We deny it.

The Staff and the Applicant regard the contention as an impermissible attack on the Commission's regulations. *See* 10 C.F.R. § 2.758. Although 10 C.F.R. § 50.47(c)(2) permits adjustments to the 10-mile radius of the plume EPZ under certain circumstances, the adjustments the language "about 10 miles" in Section 50.47(c)(2) contemplates are far more modest than the large expansion urged in LEA-25. Several of the modest adjustments Section 50.47(c)(2) contemplates have already been made to the Limerick plume EPZ, and it is possible that more will be made as a result of the litigation of LEA(FOE)-24; but these adjustments, either present or possible, lengthen the radius of the plume EPZ by at most only a very few miles in some places.

However, LEA-25 could be read less narrowly to be asking merely for increased planning for the Philadelphia area, planning which might include some measures now intended for the plume EPZ alone, such as sheltering or evacuation. But even if read less narrowly, LEA-25 is not admissible. The City of Philadelphia has filed here several "issues of concern" about planning for the ingestion EPZ, of which the Philadelphia metropolitan area is a part; those issues are specific enough to form a basis for discussions between the City and the Commonwealth. But LEA does not contend here that the plans for the ingestion EPZ do not conform to NRC regulations and guidance. We have no power to require those plans to meet other standards.

We note that NRC regulations and guidance on the size of the plume EPZ and the measures to be implemented in the ingestion EPZ were drafted by persons well aware of the few nuclear plants located near major metropolitan areas. Those regulations and that guidance make no exceptions for Limerick, or for other plants similarly situated. Nor do those regulations and that guidance rely on evacuation of any part of an ingestion EPZ in a nuclear emergency.

LEA-26

This is one of three contentions on the communications system envisioned in the emergency plans. The other two contentions, LEA-19 and LEA-21, focused on the effects of adverse conditions on certain parts of the system. LEA-26 consists of several connected claims most of which concern the promptness of notification, especially notification of the public. We admit only part of LEA-26.

LEA-26 first contends that no system for prompt notification of the public is in place, that the principal such system, the siren system, is not yet installed, and thus not tested. Unless, LEA argues, that system is tested as installed, there is no assurance that it will work.

LEA-26 next contends that the system which is the backup to the siren system is inadequate. The sirens run on AC power from normal transmission lines and thus would not work in a blackout. Tr. 8123. To provide notification to the public if the sirens were not to work, the emergency plans call for a system called route-alerting, in which police, firemen, and other emergency workers would notify the public by traveling planned routes in vehicles with loudspeakers. LEA claims that there has been no indication that route-alerting could be carried out quickly enough to meet the time standards set out in NUREG-0654, Appendix 3, § B, and, more generally, that there is no basis for concluding that route-alerting is an effective way to alert the public. Effectiveness aside, LEA contends, there is no assurance of enough personnel and vehicles to carry out the alerting as planned, and the plans do not contain route-alerting sector maps.

The third part of LEA-26 contends that the Applicant's plans call for telephone notifications to emergency response organizations to be made sequentially contrary to the guidance in NUREG-0654, Appendix 3, § C.2.b., and that time would be wasted logging one call before making the next. LEA also claims in this part of LEA-26 that ten sets of telephone calls would have to be made one after the other before the public alerting system was activated. Thus, there is no assurance, LEA contends, that public notification could come soon enough to meet the time standards in NUREG-0654, Appendix 3, § B.2.a.

Last, and not directly related to promptness, LEA-26 contends that the Emergency Broadcast System (EBS) is not adequate. The only factual basis given for the claim is that in Chester County the EBS uses a station which doesn't run 24 hours a day.

The Applicant opposes admitting any of LEA-26. The Staff would admit all of it. The Commonwealth expresses no opinion on the admissibility of any part of the contention. The Applicant argues, correctly we believe, that under *Waterford, supra,* 17 NRC 1076, the installation and testing of the sirens are exactly the sort of matter which the Staff will properly oversee. *Id.* at 1104-05. Since LEA hasn't alleged with specificity any deficiency in either the plans for the siren system or the mechanism by which the installation and testing of the system will be reviewed, there is nothing in this first part of LEA-26 to litigate. Accordingly, we deny this first part.

About route-alerting, the Applicant argues that the risk county plans adequately describe the procedures used in route-alerting, that LEA has not shown that any municipality in the plume EPZ lacks the resources for route-alerting, and that route-alerting sector maps cannot be drawn

up until the sirens are installed, since the locations of the routes to be alerted depend on the locations of the sirens which fail.

If the testing and installation of the siren system is not a matter for adjudication, it appears to us that the making of route-alerting sector maps isn't either, for the maps depend on the installation of the sirens. Therefore, we deny the part of LEA-26 having to do with maps. Neither do we admit that part of LEA-26 which calls for a showing that route-alerting is an effective way to alert the public. LEA proffers no basis for thinking that route-alerting is not effective. We note that both FEMA and licensing boards have said that route-alerting might be a necessary backup to some siren systems. *See, e.g., Consolidated Edison Co. of New York* (Indian Point, Unit 2), LBP-83-68, 18 NRC 811, 938-39 (1983).

However, we admit the issue LEA raises [illegible] whether there will be enough resources for route-alerting. The emergency plans should show either that there are enough personnel and vehicles for route-alerting, or else that the mechanisms for acquiring those resources exist. But it is not clear to us yet that the plans show more than the procedures for carrying out route-alerting. *See* Applicant's Answer at 47.

As to notification of emergency response organizations by sequential telephone calls, the Applicant argues, and the Commonwealth agrees (Tr. 8125), that LEA wrongly assumes the calls will be made sequentially. In fact they will be made by several people calling at once, the Applicant claims. LEA claims, however, that it would appear from the titles of the persons who would be called that the calls must be made in the order in which they are listed in the county plans. Tr. 8124. We suspect that the parties could have settled this issue among themselves before they brought it here. Of course, they may still be able to settle it among themselves. In the meantime, it is admitted for litigation. We note that logging the calls, a practice the Applicant says is required by NUREG-0654, Appendix 3, § C.2.b., becomes an issue here only if the calls are, in fact, made sequentially and one call logged before the next one is made.

The last claim LEA-26 makes — that the EBS is not adequate — lacks basis and specificity, but we admit for litigation LEA's claim that the Chester County EBS uses a station (WCOJ) which doesn't run 24 hours a day and we construe the issue thus raised to extend to any EBS station which doesn't run 24 hours a day. The Applicant argues that either arrangements could be made with the station already chosen in Chester County to broadcast in the off-hours in an emergency, or a replacement station could be chosen from outside the county. Again, the plans should show either that such arrangements have been made, or that

there exists a mechanism for making them. The choice of WCOJ for Chester County might indicate that the mechanism is not yet in place.

In sum, LEA-26 is admitted as to the issues of resources for route-alerting, the order of the telephone calls by which emergency response organizations would be notified, and arrangements for securing 24-hour-a-day broadcast capability for the EBS.

LEA-28

As written, LEA-28 contended that all the emergency plans for Limerick were deficient because, though they assigned the National Guard the tasks of towing cars disabled on the main evacuation routes in the plume EPZ, and of providing gasoline along the same routes, the plans did not say where the Guard would find enough tow trucks, fuel trucks, and fuel, nor how long it might take the Guard to mobilize in heavy traffic or bad weather.

At the prehearing conference, the Commonwealth asserted with great firmness that the Guard had the resources and the will to do its assigned tasks. Tr. 8139-40. Thinking that the strength of the Commonwealth's response might reflect facts that would satisfy LEA, we asked LEA to discuss its concerns with the Commonwealth, and to report to us whatever effects the discussions had on LEA-28. Tr. 8140-41. LEA's March 14 filing includes a report of the discussions LEA had with the Commonwealth, and a listing of the issues which remain under LEA-28. It appears that the discussions have alleviated some of LEA's concerns and focused others. Two issues remain, and we admit both for litigation.

The first of these issues has to do with mobilization of the Guard. One result of the discussions between LEA and the Commonwealth was that Berks County now has assigned to it a Guard battalion which would not have to cross the plume EPZ to get to the County, but LEA remains concerned about the length of time it might take the Guard to mobilize in heavy traffic or bad weather. The Commonwealth does not say whether it would admit this issue. The Applicant would not, arguing that LEA proffers no basis for this part of the contention (Applicant's Answer to LEA's March 14 Filing, at 4), and that the effects of adverse weather are among the things which must be considered before a decision to evacuate (*id.* at 6). Nonetheless, a decision to evacuate in bad weather is conceivable. Perhaps there are other measures besides the assignment of a new battalion to Berks which could reduce the obstacles to a quick mobilization of the Guard.

The other issue which remains after the discussions between LEA and the Commonwealth is somewhat new because it does not wholly involve

the Guard. LEA contends that there is no assurance of enough resources to provide towing, gasoline, and snow removal on non-State roads. The Commonwealth agrees and would admit this part of LEA-28. Commonwealth's Response to LEA's March 14 Filing, at 3. The Applicant opposes this part of the contention also, arguing, not entirely relevantly, that between them, the Guard and the Commonwealth have enough resources to provide towing, fuel, and snow removal for the main evacuation routes. Applicant's Answer to LEA's March 14 Filing, at 5. The Commonwealth, however, says that the Guard has neither resources for snow removal, nor responsibilities for it under the Commonwealth's plan. Commonwealth's Response to LEA's March 14 Filing, at 3.

LEA-29 AND LEA-30

LEA, with our approval, has withdrawn these two contentions. Tr. 8143. Like LEA-10 and LEA-17, LEA-29 and LEA-30 were quite general. But where LEA-10 and 17 involved the incompleteness of the emergency plans, LEA-29 and 30 argue broad deficiencies in the very nature of the plans.

DISCOVERY

Discovery may begin immediately on contentions admitted by the Board in this Order. All discovery requests must be served by June 25, 1984. Tr. 8390-91. Other than the time within which to make discovery requests, discovery is subject to the directions and time limits set forth at 2-3 in our unpublished Order of May 16, 1983.

As we noted in the Introduction to this Order, the text of the contentions LEA filed is not a reliable indication of the present intent of the Intervenors. The proponent of an admitted contention has the burden of modifying the text of the contention in the course of discovery so that the text will accurately reflect both our construction here of the contention and clarifying information gathered in the course of discovery. At some later point, shortly after discovery, a date will be set for the filing of better focused and reworded contentions. Work on improving the wording of the contentions should be performed on an ongoing basis and discussed among the parties, in anticipation of the requirement to file reworded contentions after the discovery period.

OBJECTIONS AND APPEALS

Under 10 C.F.R. § 2.751a(d), parties may file objections to this Order (requests for reconsideration) before this Licensing Board within 5 days after the date of service of the Order; the Staff has 10 days after the date of service within which to file objections. Parties may not file replies to the objections unless the Board so directs.

Pursuant to 10 C.F.R. § 2.714a, within 10 days after service of this Order, a party may file a motion of appeal and supporting brief before the Atomic Safety and Licensing Appeal Board. Any other party may file a brief in support of or in opposition to the appeal within 10 days after service of the appeal.

Appeals permitted under § 2.714a are limited as follows: Petitioners for leave to intervene may only appeal an order wholly denying intervention on the question of whether intervention should have been permitted in whole or in part. An order granting a petition for leave to intervene is appealable by a party other than the Intervenor on the question of whether the petition should have been wholly denied. In the circumstances of the Limerick proceeding taken as a whole, it appears that only CEPA, Mr. Lewis, and Mr. White, at this time, have the opportunity to appeal, if they so desire, on the question of whether their intervention should have been permitted in whole or in part.

IT IS SO ORDERED.

THE ATOMIC SAFETY
AND LICENSING BOARD

Lawrence Brenner, Chairman
ADMINISTRATIVE JUDGE

Dr. Richard F. Cole
ADMINISTRATIVE JUDGE

Dr. Peter A. Morris
ADMINISTRATIVE JUDGE

Bethesda, Maryland
April 20, 1984

Cite as 19 NRC 1076 (1984) LBP-84-19

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

Herbert Grossman, Chairman
Dr. James H. Carpenter
Dr. Peter A. Morris

In the Matter of

Docket No. 50-416-OLA
(ASLBP No. 84-497-04-OL)

MISSISSIPPI POWER & LIGHT COMPANY, *et al.*
(Grand Gulf Nuclear Station, Unit 1)

April 23, 1984

In an operating license amendment proceeding, the Licensing Board admits an intervenor and two of its contentions relating to the suspension of technical specifications to perform certain tasks.

ATOMIC ENERGY ACT: RIGHT TO HEARING

Under Section 189a of the Atomic Energy Act, where the Commission determines that a license amendment involves no significant hazards consideration, the amendment may be issued and made immediately effective in advance of any required hearing.

RULES OF PRACTICE: RIGHT TO HEARING

Where an amendment is issued and made immediately effective under a determination of no significant hazards consideration, a timely filed contention will not be considered moot, even if the contested action has been completed.

SECOND ORDER FOLLOWING PREHEARING CONFERENCE

(Admitting Intervenor and Ruling on Contentions)

Memorandum

I. STANDING

On June 14, 1983, June 23, 1983 and August 1, 1983, Mississippi Power and Light Company, Middle South Energy, Inc., and South Mississippi Electric Power Association (Licensees) applied for changes in the technical specifications for Grand Gulf, Unit 1. On September 23, 1983, the NRC Staff issued the requested changes as Amendment No. 10 to the Grand Gulf Unit 1 license, effective on that date. Staff determined that no significant hazards consideration was involved and made the amendment immediately effective without first offering an opportunity for a public hearing. Subsequently, on October 26, 1983, a notice of issuance of Amendment No. 10 was published in the *Federal Register* (48 Fed. Reg. 49,608). The notice authorized the filing of petitions for hearing by November 25, 1983, to Licensees or any person whose interests might be affected by the issuance of the license amendment.

On November 17, 1983, Mr. Ken Lawrence filed a timely petition to intervene and request for hearing on behalf of Jacksonians United for Livable Energy Policies (JULEP). Mr. Lawrence gave his address as a post office box in Jackson, Mississippi, more than 50 miles from the plant. Staff and Licensees opposed the petition on the grounds that the petition lacked the requisite demonstration of interest in the licensing proceeding of any individual member of petitioning organization or any aspect sought to be litigated.

On December 11, 1983, Petitioner filed an amended petition and request for hearing. Three signed and witnessed statements by individual members of Petitioner organization were attached to the amended petition, authorizing JULEP to act on behalf of those members in petitioning to intervene and requesting a hearing in this proceeding. One of the authorizing members was alleged by the amended petition to reside about 15 miles northeast of the facility. The amended petition also questioned the propriety of three aspects of Amendment No. 10 which, presumably, Petitioner sought to litigate. Subsequently, apparently at the suggestion of Staff (not the Board), Petitioner filed notarized statements by the same three individual members of Petitioner organization,

again authorizing JULEP to act on their behalf in petitioning to intervene and requesting a hearing. Affidavits Attached to Petitioner's Response to NRC Staff and Licensee, January 12, 1984.

At the prehearing conference held in Vicksburg, Mississippi on February 29, 1984, Licensees continued to object to Petitioner's standing to intervene. Although they did not qu[illegible] on the residence of one of JULEP's members approximately 15 [illegible] from the facility, they insisted that something more than geog[illegible]al proximity and an interest as a member of the general public is necessary to confer standing. Tr. 20-21. Staff did not object to Petitioner's standing to intervene, especially in light of its having submitted sworn statements in affidavit form attesting to the facts relating to standing. Tr. 25.

We have reviewed the precedents cited by Licensees in objecting to Petitioner's standing. We see none that would support a challenge to the standing of an organization petitioning to intervene on health and safety matters within the scope of the notice of opportunity for hearing, which has an authorizing member residing within 50 miles of the facility. *See*, for example, *Virginia Electric and Power Co.* (North Anna Nuclear Power Station, Units 1 and 2), ALAB-522, 9 NRC 54 (1979); *Public Service Co. of Indiana* (Marble Hill Nuclear Generating Station, Units 1 and 2), ALAB-322, 3 NRC 328 (1976).

Petitioner has the requisite standing to intervene. Since we determine that two of its contentions are litigable, as discussed below, we admit Petitioner to the proceeding.

II. CONTENTIONS

In its amended petition of December 11, 1983, JULEP raised three matters relating to Amendment 10 of the operating license. Petition, ¶¶ 6-8. Staff treated them as litigable aspects of the proceeding that would satisfy the requirements of 10 C.F.R. § 2.714; Licensees disagreed. Staff Response to Amended Petition, January 3, 1984, at 4-5; Licensees' Answer to Amended Petition, December 22, 1983, at 9-10.

In the supplement to its petition to intervene, filed prior to the prehearing conference, JULEP raised three contentions which it sought to have admitted to the proceeding. These contentions were discussed at the prehearing conference.

Also, however, at the prehearing conference, Petitioner offered the matters previously raised in paragraphs 6-8 of the amended petition (treated as litigable "aspects" by Staff, and non-litigable ones by Licensee) as its first three contentions, renumbering the contentions raised in its supplemental petition as Contentions 4, 5 and 6. The Board

accepted the renumbering. Although Licensees objected to the admission of Renumbered Contentions 1, 2 and 3 without any showing of satisfying the five-factor test of 10 C.F.R. § 2.714(a)(1) required for late-filed contentions, the Board overruled that objection. We indicated that we are unaware of any authority that would require, or even permit, us to disregard matters that were raised in the original petition or amended petition and treat them as raised later. Since Staff and Licensees were caught by surprise (*i.e.*, in fact, misled by Petitioner's supplement to petition which referred only to Renumbered Contentions 4, 5 and 6 as those which it "seeks to have admitted in this proceeding"), they were unprepared to respond to Renumbered Contentions 1, 2 and 3 at the prehearing conference. We, therefore, set further time limits for them to file written responses and for Petitioner to reply. We indicated further that we would not schedule another prehearing conference to discuss these contentions. Tr. 17, 28-32.

The parties have filed their respective positions on Renumbered Contentions 1, 2 and 3 within the time limits prescribed by the Board. We affirm, here, our ruling that those contentions were timely filed. We will discuss all of the contentions in the order argued by the parties at the prehearing conference and in the later filings, *viz*, first, Renumbered Contentions 4, 5 and 6, and then, Renumbered Contentions 1, 2 and 3.

Renumbered Contention 4

> Petitioner contends that the Safety Evaluation on Amendment 10 to NPF-13, Grand Gulf Nuclear Station, Unit 1, unrealistically assumes perfect fuel.

Basic to this contention and Renumbered Contentions 5, 6 and 1 is an understanding of the major change involved in Amendment 10 to the operating license. Previously, the High Pressure Core Spray (HPCS) system, a portion of the emergency core cooling system, was designed to initiate when its instruments sensed a certain water level and pressure in the reactor pressure vessel. Under the worst anticipated loss-of-coolant accident, involving a steamline break inside containment, the peak cladding temperature was calculated to reach 900°F. Because the instruments, which were calibrated for normal operating conditions, read higher than actual water level at low coolant temperatures and pressures, Amendment 10 changed the technical specifications so that the system would not become operable until a higher operating pressure is reached. Consequently, a recalculation of the peak cladding temperature that would be reached under the postulated worst failure is now 1322°F, as opposed to the 900°F previously calculated (assuming

no inaccuracy in the instrumentation). In other words, because, hypothetically, the system would activate at a later point in time, the peak cladding temperature might rise 422°F above what had been calculated previously. The higher peak cladding temperature calculated under the changed technical specifications would, nevertheless, be significantly below the peak cladding temperature permitted in 10 C.F.R. § 50.46(b)(1), of 2200°F.

JULEP's Renumbered Contention 4, inferentially, appears to recognize that the calculated peak clad temperature under the revised technical specifications of 1322°F is well within the regulatory limit of 2200°F. However, Petitioner contends that this regulatory standard is based on the assumption of there being "perfect fuel," *i.e.*, undamaged fuel, in the reactor. This assumption, Petitioner claims, should not be made with regard to Grand Gulf. According to JULEP, because of the lack of experience and possible lack of satisfactory training and qualifications of the operators and other personnel of Grand Gulf, it is likely that the cladding may have been, or will be, damaged during fuel insertion. Petitioner's Supplement to Petition at 1; Tr. 33, 37-38.

Under 10 C.F.R. § 2.758, no rule or regulation of the Commission (such as § 50.46(b)(1) which sets the calculated peak cladding temperature at 2220°F), shall be subject to attack, although a party to an adjudicatory proceeding may petition for a waiver or exception to the rule. However, the sole ground for petition for waiver or exception shall be that special circumstances with respect to the subject matter of the particular proceeding are such that the rule or regulation would not serve the purposes for which the rule or regulation was adopted. Section 2.758(b).

During the prehearing conference, we examined Petitioner at length with regard to any possible special circumstance that would support the imposition of a more limiting regulatory standard for peak cladding temperature than that established by § 50.46(b)(1). *See*, for example, Tr. 38-48. The only difference between Grand Gulf and other nuclear plants that Petitioner relies upon is the asserted lack of training and experience of operators and poor management which could have led to damaged fuel at Grand Gulf.

We determine that Petitioner has failed to support any "special circumstance" that would permit a waiver of 10 C.F.R. § 50.46(b)(1). Any connection between the asserted lack of training and experience and the possibility of damage to the fuel cladding is too tenuous to support a waiver. Because of Petitioner's failure to show any direct support for its position that there is a strong possibility that the fuel is damaged, Petitioner not only fails to support a waiver of the regulatory

standard, but it fails also to satisfy the specificity requirements for contentions of 10 C.F.R. § 2.714(b).

Moreover, Petitioner could offer no support for its contention that the Safety Evaluation of Amendment 10 "assumes perfect fuel." Presumably, Petitioner believes that the regulatory standard of § 50.46(b)(1) is based upon an assumption of perfect fuel and that, consequently, Staff's Safety Evaluation of Amendment 10 also makes that assumption. Staff, however, denies that it makes the assumption for this plant or for any other plant. Staff Response to Petition Supplement at 5; Tr. 49. Again, Petitioner fails to make a *prima facie* showing that there are any special circumstances with regard to this facility that would justify waiving the regulatory standard of § 50.46(b)(1). Not only has it made no showing that the fuel cladding is more likely to be damaged here than at any other plant, it has also failed to make any showing that damaged cladding is not taken into account in the regulatory standard that applies to all plants.

The contention is denied.

Renumbered Contention 5

> The safety evaluation of the High Pressure Cooling System (HPCS), based on the questionable assumption of perfect fuel, leaves a programmatic gap in safety performance

This contention, although worded differently, in substance is identical to the preceding contention. Based upon Petitioner's assertion of lack of training and experience and poor management, it assumes damage to the cladding and therefore the inappropriateness of the regulatory standard with regard to peak cladding temperature.

For the same reason given with regard to Renumbered Contention 4, above, Renumbered Contention 5 is inadmissible and we deny it.

Renumbered Contention 6

> The safety evaluation of Amendment 10 in its entirety is unrealistically based on single failure criteria. That is, unless one thing by itself poses a danger to the public, the risk is not considered significant enough to address. This constitutes a serious shortcoming of the evaluation and may well render it an ineffective attempt to accurately ascertain safety hazards.

Although there appeared to be differences in opinion between the parties as to what constitutes single failure criteria, Petitioner's

assumption that single failure criteria were used in evaluating the safety of this facility was based on its understanding that the single failure criterion is used for all nuclear plants. Tr. 76-80. In fact, Appendices A and K of Part 50 adopt the single failure criterion as the regulatory standard. Petitioner seeks to impose a different standard upon the Grand Guif facility for the same reasons it wished to apply a different regulatory standard with regard to the peak cladding temperature in the prior contentions, to wit, because of the asserted poor past performance of management, and the inexperience and lack of training of the operators. Tr. 77-79.

As with regard to the prior two contentions, Petitioner has failed to demonstrate any nexus between the asserted poor past general performance of Licensees and the standard it wishes the Board to impose in place of the regulatory standard imposed on all nuclear plants. Consequently, it has made no showing of a "special circumstance" which would permit a waiver of the regulatory standard. The contention must be denied.

Renumbered Contention 1

> The changes made by Amendment 10 include redefining Operability range for High Pressure Core Spray (HPCS) until the first refueling outage due to water level instrumentation inaccuracies at low pressure (MP&L letter dated August 1, 1983). As page 4 of the NRC Safety Evaluation of Amendment 10 indicates, the belief that little or no change in the peak cladding temperature would be expected is based on a best-estimate basis, which indicates that few or no criteria are available for this determination. A serious situation could result if this assertion, which may be based on no or insufficient evidence, proves wrong. Given this, the matter should be fully explored through a hearing before proceeding.

Like the previous contentions, this contention concerns the revised technical specifications for the HPCS and the reanalyzed event involving a steamline break inside containment. In addition to the Appendix K to Part 50 calculation which results in a peak cladding temperature of 1322°F for the reanalyzed event, the Staff also stated in its analysis that on a "best estimate" basis little or no change in peak cladding temperature is expected. From the discussion (Tr. 84-88, 90-92), it was clear that there were two separate estimates involved: the "conservative" recalculation under Appendix K arriving at the maximum peak cladding temperature of 1322°F; and the "best estimate," being a realistic estimate, that there would be little or no change in the peak cladding temperature from what would have been expected under the original technical specifications.

Renumbered Contention 1 questions the evidence on which this "best estimate" is based. This "best estimate" by Staff, however, is not material to whether the license change in question is acceptable. What is important in this regard is whether peak cladding temperature, recalculated in accordance with requirements of Appendix K to 10 C.F.R. Part 50, is within the limitations of 10 C.F.R. § 50.46. In other words, even if the Staff's realistic estimate were incorrect (that there would be little or no change in peak cladding temperature), the regulatory limit of 2200°F would concededly still not be approached.

Renumbered Contention 1 must be denied as immaterial.

Renumbered Contention 2

> Amendment 10 permits suspension of Specification 4.0.4 to allow the plant to attain operating conditions necessary for ADS Trip System surveillance testing (MP&L letter dated June 14, 1983). The Safety Evaluation stresses that the surveillance test must be completed within 12 hours. There is no indication and no information that 12 hours is a short enough period to insure safety. It appears to be an arbitrary length of time.

According to Licensees' explanation of the suspension of Specification 4.0.4, they were granted a unique one-time exception, permitting them to delay testing of a particular component until sufficient reactor pressure was reached. They requested this exception because valve operation with no or inadequate steam flow may cause damage to the valve seating surfaces, possibly leading to improper valve operation. Additionally, in order to perform the surveillance test, observation of certain main steam-related parameters was required. These observations were only possible under certain minimum steam pressure conditions. Thus, the exception permitted Licensees to properly conduct a required surveillance test. Licensees' Response to Order Following First Prehearing Conference, at 8. Now that the test has been completed, Licensees contend that the issue is moot and the contention should be dismissed. *Id.* at 14-18.

Under general judicial authority, the one-time suspension of specification having been completed, the issue would be considered moot. *See, e.g., Weinstein v. Bradford,* 423 U.S. 147, 149 (1975); *Southern Pacific Terminal Co. v. ICC,* 219 U.S. 498, 515 (1911). However, the situation here is governed by the statutory and regulatory changes adopted in response to *Sholly v. NRC,* 657 F.2d 780 (D.C. Cir. 1980), *reh'g denied,* 651 F.2d 792 (1980), *vacated,* 103 S. Ct. 1170, 75 L. Ed. 2d 423 (1983).

In *Sholly*, the Commission had permitted the Metropolitan Edison Company to release radioactive gas into the atmosphere from the damaged Three Mile Island Nuclear Plant without affording Petitioners a right to notice and hearing. The Court of Appeals held that Section 189a of the Atomic Energy Act did not permit the NRC to dispense with a requested hearing on a license amendment even if the Commission had previously made a finding that the modification of license involved "no significance hazards consideration."

As a result of *Sholly*, at the request of the Commission, Congress included Section 12 in Pub. L. 97-415, the NRC Authorization, to amend Section 189a of the Atomic Energy Act of 1954. The new language provided, *inter alia*, that where the Commission determines that a license amendment involves no significant hazards consideration, the amendment "may be issued and made immediately effective in advance of the holding and completion of any required hearing." Section 189a(2)(A) (42 U.S.C. 2239(a)(2)(A)).

We understand this language (and similar language in 10 C.F.R. § 50.58(b), promulgated under the changes made in the Atomic Energy Act by Pub. L. 97-415) to require a hearing, if requested, in all cases in which the amendment has been issued and made effective, notwithstanding that the action permitted under the amendment may have been completed (which would otherwise have mooted a hearing on the amendment). *See also*, the Commission's Statement of Consideration in Promulgating § 50.58(b), at 48 Fed. Reg. 14,873 (1983). To hold otherwise would violate the integrity of the statutory and regulatory scheme whereby the Commission may act expeditiously on a license amendment without depriving petitioners of their right to a hearing.

Having determined that Licensees' objections on grounds of mootness cannot be sustained, we find further that the contention satisfies the basis and specificity requirements of 10 C.F.R. § 2.714, and we admit it.

Renumbered Contention 3

> MP&L seeks suspension of Specification 4.0.4 to allow Grand Gulf Unit 1 to attain operating conditions necessary for Scram Discharge Volume surveillance testing (MP&L letter dated August 1, 1983). The Safety Evaluation, on page eight, indicates that this test must be completed within 72 hours after attaining sufficient rod density. Again, 72 hours appears to be an arbitrary figure, with no indication or information to support the assertion that it is sufficiently short to insure safety.

This contention, like the previous one, concerns a one-time suspension of the technical specifications to allow a test, which has now been completed. For the reasons given with regard to the prior contention, we cannot sustain Licensees' objections on the ground of mootness. Furthermore, we find that the contention satisfies the basis and specificity requirements of § 2.714.

The contention is admitted.

III. SCHEDULING

The two admitted contentions appear relatively simple. Discovery should not take long. Furthermore, we would encourage the parties to informally supply whatever relevant information is sought by the others. We would expect that discovery would be completed within three months. Although we will not now order that it be completed by then, we do require that each of the parties submit a status report at that time informing us of all the matters that have yet to be resolved preparatory to the hearing. The Board will schedule further proceedings at that time.

Order

For all of the foregoing reasons and based upon a consideration of the entire record in this matter, it is, this 23rd day of April 1984,

ORDERED:

1. That Petitioner JULEP *is admitted* to the proceeding as an Intervenor;

2. That JULEP's Renumbered Contentions 2 and 3 *are admitted,* and the others *are denied;*

3. That discovery shall now commence; and

4. That the parties shall each file a status report with the Board by August 1, 1984, advising the Board of all unresolved matters preparatory to hearing and of the parties' respective suggestions as to the dates for scheduling the final prehearing conference and the hearing.

Licensees shall have until ten (10) days after service of this Order, pursuant to 10 C.F.R. § 2.714a, to appeal this Order.

FOR THE ATOMIC SAFETY AND
LICENSING BOARD

Herbert Grossman, Chairman
ADMINISTRATIVE JUDGE

April 23, 1984
Bethesda, Maryland

Directors' Decisions Under 10 CFR 2.206

DIRECTORS' DECISIONS

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

OFFICE OF NUCLEAR MATERIAL SAFETY AND SAFEGUARDS

John G. Davis, Director

In the Matter of **(10 C.F.R. § 2.206)**

SHIPMENTS OF HIGH LEVEL NUCLEAR POWER PLANT WASTE

April 13, 1984

The Director of the Office of Nuclear Material Safety and Safeguards denies a request from the Sierra Club that the NRC halt all dry cask shipments of spent fuel in certain model casks until appropriate analyses are performed of an incident involving possible oxidation of spent fuel shipped to Battelle Columbus Laboratories.

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

By letter to Charles E. MacDonald, Chief, Transportation Certification Branch of the Nuclear Regulatory Commission (NRC) dated November 7, 1983, Marvin Resnikoff, on behalf of the Sierra Club, requested the NRC to halt all dry cask shipments of spent fuel in Model Nos. NLI-1/2, NFS-4 (NAC-1) and IF-300 casks, including shipments from West Valley, New York and the Cooper Nuclear Station in Nebraska, until appropriate analyses are performed of an incident involving possible oxidation of spent fuel in a shipping cask received at Battelle Columbus Laboratories (BCL) in Ohio. In support of its request, the Sierra Club stated "[i]f nuclear fuel is shipped dry and an accident involving impact and fire occurs, then uranium could oxidize rapidly, producing a radioactive dust. As far as we are aware, this type of accident has not been analyzed by the NRC." The Sierra Club also requested that NRC:

1. Require General Electric (GE) and Nuclear Assurance Corporation (NAC) to update their Safety Analysis Reports (SAR) for the IF-300 NLI-1/2, and NFS-4 (NAC-1) casks to consider oxidized fuel; and
2. Reanalyze accident scenarios in NUREG-0170, NUREG/CR-0743, and NUREG/CR-2472 to consider the oxidation phenomenon.

Notice of receipt of the request and the NRC's intent to treat the request as a petition under 10 C.F.R. § 2.206 of the Commission's regulations was published in the *Federal Register* on December 5, 1983 (48 Fed. Reg. 54,550).

For the reasons set forth below, I have determined that: (1) fuel shipments need not be halted, (2) GE and NAC need not update their Safety Analysis Reports, and (3) the NRC accident scenarios to evaluate potential impacts of transportation need not be reanalyzed.

BACKGROUND

The NRC establishes safety and design standards for packages, known as Type B packaging, used to transport potentially hazardous radioactive materials, including spent reactor fuel. These standards require Type B packages to withstand conditions incident to normal transport (*see* 10 C.F.R. §§ 71.51(a) and 71.71) and certain hypothetical accident conditions, including impact and fire, without serious loss of containment and limited loss of shielding capability (*see* 10 C.F.R. §§ 71.51(a) and 71.73). The NRC reviews and specifically approves each Type B package design (10 C.F.R. § 71.31) to assure that the design meets applicable requirements. The approvals are issued in the form of a Certificate of Compliance for each package design. The NRC rules (10 C.F.R. Part 71) also require various procedural, administrative and technical requirements to be followed for use of Type B packages. The NRC regulations also specify Quality Assurance standards under which packages must be designed, fabricated, and used and require an NRC-approved Quality Assurance Program (10 C.F.R. § 71.101).

The NRC has conducted several studies of the environmental impacts of the transportation of radioactive materials, including spent fuel (WASH-1238, "Environmental Survey of Transportation of Radioactive Materials to and from Nuclear Power Plants," December 1972; and NUREG-0170, "Final Environmental Statement on the Transportation of Radioactive Material by Air and Other Modes," December 1977). In each case, the risk of radiological effects from the transport of spent fuel under both normal and accident conditions was found to be small.

INCIDENT

Details of the incident at BCL form the basis of Sierra Club's request and are documented in R.W. Klingensmith, *Airborne Contamination Released During Underwater Unloading of a Failed PWR Spent Fuel Assembly*, PATRAM Proceedings – Berlin, 646-53 (1980), and V. Pasupathi and R.W. Klingensmith, "Investigation of Stainless Steel Clad Fuel Rod Failures and Fuel Performance in the Connecticut Yankee Reactor," EPRI-2119, November 1981. Basically, in May 1980, an irradiated fuel assembly with known severe cladding failure (stainless steel) was shipped to BCL for examination. The fuel was shipped dry in a Model No. NFS-4 cask. Rod failure included 4-5-foot-long cracks approximately 1/8-inch wide. During shipment, the fuel may have reached a temperature of 285°C in an air environment. Upon removal of the cask head following flooding of the cask cavity and with the cask submerged in the pool, a dark cloud of material emanated from the cask. This resulted in contamination of the pool water and airborne contamination within the cask handling area.

No significant radiation doses were received by any employees during the incident and there was no release of radioactive material from the building.

The circumstances associated with the incident were reviewed in a routine NRC inspection at the BCL facility. The results were reported in Region III Inspection Report Nos. 70-008/80-02; 30-5728/80-02; 50-6/80-01 (November 25, 1980). A Notice of Violation was issued to BCL on December 8, 1980, for an overexposure to an employee's hand during preparation of the cask for reuse and for radioactivity in the fuel storage pool exceeding license conditions.

Subsequent to the incident, BCL reviewed and revised their receipt and handling procedures to consider receipt of failed fuel. Also, the Commission amended the Certificate of Compliance for the Model No. NFS-4 cask to preclude shipment of failed fuel assemblies (pellets) which are oxidized and to authorize other failed fuel to be shipped only in a dry non-oxidizing atmosphere. (Certificate of Compliance No. 6698, Rev. No. 15, to Nuclear Assurance Corporation and all users dated January 25, 1982.)

There are other Certificates of Compliance issued for Model Nos. IF-300, NLI-1/2, TN-8, TN-8L, TN-9, and NLI-10/24 casks which authorize the dry shipment of spent fuel. Certificates of Compliance for Model Nos. NLI-1/2 and NLI-10/24 casks require inerting of the cask cavity. The Certificates of Compliance for the Model Nos. NFS-4, IF-300, TN-8, TN-8L, and TN-9 casks permit an air environment.

DISCUSSION

In its petition, the Sierra Club does not ask that shipments of spent fuel be halted because of noncompliance with regulatory requirements. Rather, it asserts that the BCL incident is a type of incident that has not been previously considered by the NRC and that approvals issued by the NRC do not consider the oxidation phenomenon.

Following the receipt of the petition, the UO_2 fuel oxidation phenomenon and its potential impact on the transportation of irradiated power reactor fuel assemblies were further assessed in NRC Research Information Letter (RIL) No. 139, "Potential Oxidation of UO_2 in Irradiated Fuel and Its Regulatory Implications," March 5, 1984 (RIL-139), a copy of which is appended to this decision (not published). Its conclusions are briefly summarized below.

Under certain conditions UO_2 can react with available oxygen to form higher oxidation states. One of these higher oxidation states is U_3O_8. Production of U_3O_8 is accompanied by a decrease in density from that of UO_2 (*i.e.*, volumetric expansion). The U_3O_8 expands and breaks off to form a powder as it is produced from the oxidation of the original UO_2. This process is known as spalling.

The conditions necessary for UO_2 to achieve higher oxidation states are the presence of oxygen and sufficient heat. Conversely, the absence of either oxygen or sufficient heat will preclude UO_2 oxidation. In most cases spent fuel which is shipped is undamaged (*i.e.*, >97% of rods are expected to have undamaged cladding). Because the fuel rods are filled with helium, one of the necessary conditions for oxidation is not present (*i.e.*, oxygen) when cladding is not damaged. So, in the case of undamaged rods, even with high levels of heating, oxidation of UO_2 to higher oxidation states is precluded.

For damaged fuel rods, the internal helium gas would be lost. Such fuel would be exposed to its immediate ambient environment. In the case of spent fuel in transport, the immediate environment would be the cask cavity gas. If the cavity gas contains oxygen, one of the necessary conditions for oxidation is met. If sufficient heat is also present, then oxidation could take place. Experimental data indicate that temperatures exceeding 150°C (302°F) may be sufficient for UO_2 oxidation. Thermal analyses on NRC-approved spent fuel casks indicate that peak fuel temperatures, even with relatively low internal heat loads, may exceed 150°C under the normal and hypothetical accident conditions considered under the requirements of 10 C.F.R. Part 71.

Oxidation of UO_2 in failed fuel rods causes spalling of the fuel matrix. As the fuel spalls, dispersible radioactive material is produced. The spall

product releases additional gaseous fission products and contaminated particles. Although the start of spalling (*i.e.*, reaction initiation) is not immediate once the conditions necessary for oxidation are present, it can occur in a matter of minutes to hours at temperatures of 250°C or more, in a matter of days at about 200°C, and over a matter of years at about 150°C. It is evident that lower temperatures delay the initiation of the potential for UO_2 oxidation, but lower temperatures do not necessarily preclude it.

The spall product increases the available dispersible radioactive material but does not significantly add to the driving force needed to release material from a cask. The shipping casks have been designed to preclude the release of radioactive material under normal and hypothetical accident conditions of 10 C.F.R. Part 71. Because oxidation does not create or add to the driving force for release evaluated in the Part 71 analyses, these air-filled casks will preclude release even for conditions where oxidation occurs.

The potential of UO_2 oxidation does not reduce packaging effectiveness for normal or hypothetical accident conditions of 10 C.F.R. Part 71. The overall risk to public health and safety for conditions beyond the hypothetical accident conditions of 10 C.F.R. Part 71 and for sabotage events has been considered. Evaluations were done in the past (NUREG-0170; WASH-1238; NUREG/CR-0743, "Transportation of Radionuclides in Urban Environs: Draft Environmental Assessment," July 1980; and NUREG/CR-2472, "Final Report on Shipping Cask Sabotage Source Term Investigation," October 1982), but the possibility of UO_2 spalling was not specifically considered in these reports. Evaluations were performed recently by the NRC's Office of Research to determine if there was any increase in risk over previous studies from potential oxidation in the five air-filled cask designs and two helium-filled cask designs (*see* RIL-139, at 13-15, 19-23.) In both cases it was estimated that consequences are not increased by more than a factor of 4.0 and that impact on risk is minor (<15% increase). This upper bound of increased risk is not considered significant. For example, based on 2,182 spent fuel shipments/year (70% by truck and 30% by train), there is a likelihood of one latent cancer fatality in 2,060 years from an extremely severe transportation accident in which oxidation occurs.

The other situation to be considered for air-filled casks is the receipt and handling of these packages. While fuel oxidation does not significantly alter the risks of transport, it could increase the risks of personnel exposure during receiving and handling operations. This is especially true if the occurrence of oxidation is unsuspected; or if oxidation is suspected, but the extent of oxidation is unknown.

In view of the foregoing, and because there is no practical means of identifying all failed fuel assemblies, particularly if the cladding defects are small, I have concluded that the public health and safety requires that all dry spent fuel shipping casks should be inerted for shipment in order to avoid handling problems at facilities receiving spent fuel. In addition, fuel assemblies (rods) known or suspected to be failed should be canned for shipment. Accordingly, the applicable NRC Certificates of Compliance have been revised to require inerting for shipment. In addition, the certificates, except Certificate of Compliance No. 9010, prohibit shipment of failed fuel assemblies and fuel with cladding defects greater than pin holes and hairline cracks. Certificate No. 9010 permits such shipment only if the fuel is canned appropriately for shipment. Revisions may be made to the other certificates in the future to permit shipments of canned failed fuel. Copies of the revised certificates are attached to this decision.

CONCLUSION

The Sierra Club's request to halt all dry cask shipments of spent fuel including shipments from West Valley, New York and the Cooper Nuclear Station in Nebraska is based on its belief that appropriate analyses of fuel oxidation have not been performed. As outlined above, and in RIL-139, the issue of fuel oxidation has been addressed. Based on the information available to the NRC, the regulations governing the transportation of spent fuel and the requirements for inerting dry spent fuel casks and canning grossly failed spent fuel are adequate to protect public health and safety. Consequently, the Sierra Club's first request to halt shipments is denied. Because of the action taken to require inerting of all dry cask shipments of spent fuel, the Sierra Club's second request to require General Electric and Nuclear Assurance Corporation to update their Safety Analysis Reports to consider oxidized fuel is also denied. Based on the analysis of fuel oxidation as described in RIL-139 and the finding therein that the oxidation phenomenon is not a significant contribution to overall transport risk, the Sierra Club's third request to reanalyze accident scenarios in NUREG-0170, NUREG/CR-0743, and NUREG/CR-2472 is also denied.

A copy of this decision will be filed with the Secretary for the Commission's review in accordance with 10 C.F.R. § 2.206(c) of the Commission's regulations. As provided in 10 C.F.R. § 2.206(c), the decision will constitute the final action of the Commission 25 days after the date of

issuance, unless the Commission on its own motion institutes review of this decision within that time.

John G. Davis, Director
Office of Nuclear Material
Safety and Safeguards

Dated at Silver Spring, Maryland,
this 13th day of April 1984.

[The Appendix has 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 NUCLEAR REACTOR REGULATION

Harold R. Denton, Director

In the Matter of

Docket No. 50-271
(10 C.F.R. § 2.206)

VERMONT YANKEE NUCLEAR POWER CORPORATION
(Vermont Yankee Nuclear Power Station)

April 16, 1984

The Director of the Office of Nuclear Reactor Regulation denies a petition pursuant to 10 C.F.R. § 2.206 from the Vermont Public Interest Research Group and the Vermont Yankee Decommissioning Alliance requesting issuance of an order to the Vermont Yankee Nuclear Power Corporation to show cause why its license should not be suspended pending resolution of certain issues related to intergranular stress corrosion cracking of reactor piping at the Vermont Yankee facility.

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

The Vermont Public Interest Research Group (VPIRG) and the Vermont Yankee Decommissioning Alliance (VYDA) submitted a petition pursuant to 10 C.F.R. § 2.206 on October 25, 1983 requesting that the Nuclear Regulatory Commission (NRC) issue an order to Vermont Yankee Nuclear Power Corporation (licensee) requiring it to show cause why its license should not be suspended pending resolution of certain issues related to pipe cracks in its Vermont Yankee facility. Notice of receipt of this request was published in the *Federal Register* on November 17, 1983 (48 Fed. Reg. 52,370).

VPIRG/VYDA assert as the basis for their requested action a number of concerns with intergranular stress corrosion cracking (IGSCC) of reactor piping at the Vermont Yankee plant. After considering the request and for the reasons set forth below, I have concluded that continued operation of the Vermont Yankee Nuclear Power Station does not adversely affect the public health and safety and, therefore, no adequate basis exists to take the requested action at this time. Accordingly, I have determined that the VPIRG/VYDA request should be denied.

I.

The issue of IGSCC has been of concern to the staff for a number of years. As a result of extensive IGSCC found in the recirculation system piping of one boiling water reactor (BWR) in the spring of 1982, the NRC required inspections at other BWRs in 1982 and 1983. As further information was gathered from plant inspections about the extent and nature of the IGSCC problem, substantial industry and NRC effort was expended in conducting and improving inspection activities in this area.*

During the spring 1983 refueling outage at Vermont Yankee, augmented inservice inspection was performed on the recirculation system piping in accordance with Office of Inspection and Enforcement (I&E) Bulletin 83-02. The initial sample size covered twenty-six welds and was later expanded to sixty welds (including two residual heat removal (RHR) system welds) after ultrasonic indications were reported on welds in the initial sampling. The sixty welds inspected consist of forty, 12-inch-diameter riser welds and twenty large-diameter ($\geq$20-inch) piping welds. The criteria for selecting welds for examination included the consideration of high susceptibility rating in terms of stress rule index and carbon content matrix, inspection results from earlier examinations, and IGSCC experienced at other BWR plants.

The ultrasonic tests (UT) of pipe welds were performed by Magnaflux Company for the licensee. Their UT procedures, equipment, and personnel have satisfactorily demonstrated their inspection capability on the IGSCC cracked samples at the Electric Power Research Institute's (EPRI) Nondestructive Examination (NDE) Center in accordance with I&E Bulletin 83-02.

A total of thirty-four welds were found to show linear indications of possible cracks and all indications were reported to be parallel to the

*SECY-83-267C, "Staff Requirements for Reinspection of BWR Piping and Repair of Cracked Piping" November 7, 1983.

weld in the heat-affected zone (HAZ). The deepest indication was reported in a 12-inch-diameter riser weld and was 50% of wall thickness. The reported indications in the large-size pipe welds were relatively shallow and did not exceed 15% of wall thickness.

All thirty-four welds with UT indications were evaluated by NUTECH for the licensee using the methodology provided in the American Society of Mechanical Engineer's (ASME) Code Section XI IWB-3600. The twelve large-diameter welds with UT indications were found conditionally acceptable for returning to service for a 12-month fuel cycle after considering the IGSCC and fatigue crack growth. All twenty-two, 12-inch-diameter riser welds with UT indications were repaired by NUTECH using the weld overlay technique, and each overlay design was shown to meet the ASME Section III requirements including fatigue considerations. The licensee also installed local leak detection sensors (moisture-sensitive tapes) on seven uninspected 28-inch-diameter welds.

The staff reviewed Vermont Yankee's submittals regarding the inspection results including the description of the defects found, the repairs and the associated stress and fracture mechanics analyses and permitted the Vermont Yankee plant to return to power operation in its present configuration for one 12-month fuel cycle. Because of concern over the possible long-term growth of small IGSCC that may be present but not detected during the last inspection, the staff required that additional monitoring and tighter limits on unidentified leakage be implemented and that plans for inspection and/or modification of the recirculation and other reactor coolant pressure boundary (RCPB) piping systems during the next refueling outage, which is now scheduled for July 1984, be submitted for the staff review at least one month before the start of the next refueling outage.*

II.

The bases for staff judgment that continued operation of the Vermont Yankee Nuclear Power Station does not adversely affect the public health and safety can be summarized as follows:

1. A large percentage of welds, which are representative of those most likely to suffer IGSCC, were inspected during the last outage. For those welds having crack indications, weld repairs which the staff considers adequate were made. The staff's judgment is that all cracks which have been repaired will not fail

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*"Order Confirming Licensee Commitments on Pipe Crack Related Issues," June 27, 1983 (48 Fed. Reg. 31,320 (1983)).

during a single operating cycle. No judgments have been made at this time concerning continued operation with these repairs beyond the current operating cycle.

2. For those welds not inspected, the staff has concluded that some of the large-diameter pipe welds probably will have IGSCC. However, based on the analysis of the results from the sampled welds, no uninspected circumferential cracks are expected to currently exceed much beyond 15% of the wall thickness. Consequently, these cracks would not be deep enough to jeopardize the safe operation of the plant before the next scheduled refueling outage. This is because the primary pipes at the Vermont Yankee Nuclear Power Station, even with IGSCC, will behave in a predictable nonbrittle manner with low crack growth rate.
3. Even if a crack were to grow completely through the pipe wall during the current operating cycle, analyses and experience indicate that it is likely that the pipe would leak for a period of time before pipe rupture. To address this possibility, the staff required enhanced leak detection capability. Leak detection systems now in place would detect a leak before pipe rupture.
4. Finally, if a large pipe were to rupture during the current operating cycle, which the staff judges to be extremely unlikely, analyses and experiments indicate that the emergency core cooling systems would operate to maintain any offsite radioactive releases within regulatory limits.

III.

To support their request for issuance of an order to show cause to Vermont Yankee, VPIRG and VYDA relied on a number of facts and assertions. In order to respond in an organized fashion to the petition, the staff has grouped these assertions into several issues listed below. The numbered paragraphs in the petition pertaining to each issue are identified in parentheses. Some paragraphs (such as statements of facts) do not appear because no specific response to these paragraphs is necessary. The issues are:

1. The quality of UT inspection at Vermont Yankee;
2. The scope and extent of UT inspection;
3. The adequacy of weld overlay repairs;
4. Compliance with NRC regulations; and
5. Lack of assurance of safe operation of the facility.

Each of these issues is summarized below and followed by the staff's evaluation and response.

Issue 1

A good quality of UT inspection of the pipe welds has not been assured (4, 31, 32, 33, 34, 53, 58) because:

a. According to the "EPRI UT Sizing Round Robin Results," Magnaflux has used an unreliable inspection method at Vermont Yankee. (26, 27, 28, 29, 30)
b. The Advisory Committee on Reactor Safeguards (ACRS) has expressed concern over the efficacy of UT sizing, evaluation procedures, and the weld overlay repair method, all of which pertain to Vermont Yankee. (3, 35, 36, 37, 43)
c. The results of inspection at Vermont Yankee indicated that a large number of cracks were found. (18, 38, 39)
d. The Executive Director for Operations (EDO) has stated concern over the reliability of UT sizing, as expressed in SECY-83-267, dated July 1, 1983. (3, 24)

Staff Response

Magnaflux was contracted by the licensee to perform UT inspection at Vermont Yankee. Magnaflux used the procedures and methods required by the ASME Code Section XI to detect and size the IGSCC indications in the Vermont Yankee recirculation and RHR piping systems. The overall quality of UT inspection at Vermont Yankee was carefully reevaluated by an NRC ad hoc task force, consisting of NRC staff from the Office of Nuclear Reactor Regulation (NRR), I&E, Region I and their consultants and the recently established NRC Piping Review Committee. Both groups found the quality to be acceptable. The bases of the task force conclusions and the staff's responses to this category of contentions are summarized below:

- Magnaflux's UT procedures, equipment, calibration standards and personnel had satisfactorily demonstrated the required performance capability on the IGSCC cracked samples at EPRI's NDE Center in accordance with I&E Bulletin 83-02.
- The licensee conservatively reported the depth of UT indications by doubling the crack depth measured by UT and then used this value in the fracture mechanics evaluation. This additional margin compensates partially for the possible sizing errors.

- The licensee took the position that, unless absolutely certain that it was a geometric reflector, the indication was classified as IGSCC.
- Decontamination of piping probably enhanced the UT detection capability of IGSCC.
- Joints with extensive construction weld repair were determined and inspected.
- The quality of UT inspection cannot be judged solely by the failure to identify an axial indication. Because of its orientation, an axial indication is very easy to miss. If an axial indication is very close to the weld crown and the weld is not ground flush, the axial indication is more easily missed. Further, the axial cracks are generally limited in length, *i.e.*, confined by the width of the HAZ. The consequence of a throughwall penetration of axial cracks is to leak, not to rupture; therefore, it is not a significant factor in the pipe integrity consideration.*
- The Magnaflux UT procedure for crack depth sizing, like other procedures currently in use, is a state-of-the-art procedure; as such, it would be difficult to assess how well Magnaflux, using its UT procedures can size the IGSCC indications because the preliminary sizing round robin conducted by EPRI/NDE Center was the first of its kind. This situation may serve to explain why the ACRS felt that "there is no consistent experimental evidence or body of expert opinion indicating that the measured crack depths bear any direct relationship to the actual crack depths . . ." While the staff shares ACRS' concern as quoted, the staff does not necessarily agree with ACRS' conclusion regarding the crack characterization because such a concern may be applicable only to the depth sizing. The field capability to size crack length, which is at least as important in assessing the integrity of piping welds containing cracks, is considered much better than that for depth sizing.

  In the December 19, 1983 letter from J.J. Ray to Chairman Palladino, the ACRS recommends that "the uncertainty in crack depth be compensated for by the repair of any weld joint with effectively continuous crack indications over greater than 120 degrees circumferential extent." Interpreting this proposed criterion literally, the staff identified four unrepaired welds at

*A small throughwall axial crack was found during weld overlay repair of each of the 12-inch riser welds (No. 35 and No. 40)

Vermont Yankee that would not meet this criterion. Subsequently, the staff made an assessment of these four welds (two of which had 360° intermittent indications) and concluded that continued operation of the Vermont Yankee plant is justified because the measured crack depths of these welds were shallow, *i.e.*, they did not exceed 15% of the wall thickness. Even if the crack depths were a factor of two larger than measured, growth to the Code acceptance limits during the present operating cycle (scheduled to end mid-June 1984) would be unlikely. Further, on the basis of evidence previously obtained at other BWRs, these shallow indications reported at Vermont Yankee, including the so-called "360°-intermittent" indications, are most likely metallurgical reflectors. This conclusion tends to be confirmed by the results of recent examinations of some sample welds at another BWR, using advanced techniques that have been developed under NRC sponsorship.

- The first EPRI sizing round robin results illustrate that the amplitude-based UT sizing method currently endorsed by the Code is inadequate in sizing IGSCC. In addition, it also shows that the best state-of-the-art sizing procedures, which utilize more than one technique (including crack tip diffraction but not limited to this technique alone) need to be developed for field use in the near future. It should also be emphasized that even with the best state-of-the-art sizing procedures, an intensive program of training and field application will be needed before a consistent and reliable UT sizing of IGSCC indications can be achieved. The staff, therefore, concludes that Vermont Yankee could not have used the UT procedure relying solely on the crack tip diffraction principle during this 1983 inspection.
- As demonstrated in the Performance Capability Demonstration and EPRI UT sizing round robin, not only under-call (calling a crack a non-crack or calling crack depth shallower than the actual depth) but the possible over-call (calling a non-crack a crack or calling crack depth deeper than the actual crack) of UT sizing should also be factored into the consideration of how much margin should be added to the reported crack depth to obtain a realistic crack depth for evaluation.
- While the memorandum sent by the Executive Director for Operations to the Commission (SECY-83-267, July 1, 1983) did indicate the staff's concern over the efficacy of current UT sizing procedures, the primary concern is directed more at the

generic aspects of UT inspection and to point out the need for further improvement in the overall UT inspection process, rather than the specific quality of UT inspection at Vermont Yankee.

- Having recognized the limitation of the current state-of-the-art UT sizing procedures, the staff has not accepted the reported crack depths on the basis of "faith" nor has it taken the unrealistic approach of categorically assuming the crack was throughwall. Rather, the staff followed the traditional practical, yet conservative regulatory approach and considered all aspects of UT sizing uncertainties to arrive at an incremental depth to be added to the reported crack depth for flaw evaluations.

For the reasons discussed above, the inspection that was performed was sufficient for the staff to assess the condition of the plant in order to determine the safety of continued operation.

Issue 2

The scope and extent of UT inspections are insufficient to ensure continuous safe operation of the plant (17, 52, 57) because:

a. The inspection results indicated that Vermont Yankee has the highest percentage of IGSCC indications in the recirculation and residual heat removal systems when compared with all of the BWRs in the U.S. which were inspected before September 1, 1983. (50)

b. Current NRC policy requires that reactor water clean-up (RWCU) and core spray systems be inspected. Such inspection has not been performed at Vermont Yankee. (16, 19)

Staff Response

Although neither 100% inspection of the recirculation and RHR systems piping welds nor inspections of core spray and RWCU systems piping welds were performed during the spring 1983 outage, the NRC Ad Hoc Task Force and Piping Review Committee, after a careful evaluation of the inspection results, inspection resources, and inspector exposure, concluded that reinspections of piping welds in these piping systems before the next refueling outage are not warranted. The bases for this conclusion are summarized below:

- One of the main inspection objectives is to gauge how widespread the problem of IGSCC is in the recirculation and RHR piping systems. Within the constraints of inspection resources

and inspection exposure, this objective can best be accomplished through a sampling scheme plus sample expansion if cracking is found, as specified in I&E Bulletin 83-02.

- The licensee inspected approximately 60% of the high susceptibility welds in the recirculation and RHR systems piping. It found approximately 60% of those inspected to have the relevant IGSCC indications, which was, in fact, the highest percentage of such indications found in any of the BWRs in the U.S. which were inspected before September 1, 1983. All indications were reported to be parallel to the weld in the HAZ. The deepest indication reported in the 12-inch-diameter riser welds, all of which were inspected, was 50% throughwall. The reported indications in the pipe welds larger than 12 inches in diameter were relatively shallow and did not exceed 15% of wall thickness. It was, therefore, concluded that the uninspected large-diameter pipe welds probably will have IGSCC. However, on the basis of the results from the sampled welds, none of these circumferential cracks should be expected to exceed much beyond 15% of wall thickness. Consequently, they should not be deep enough to jeopardize the safe operation of the plant until the next scheduled refueling outage.
- The Class 1 portions of the core spray and RWCU systems piping were replaced with corrosion-resistant material of Type 316L (low carbon), austenitic stainless steel, a conforming, corrosion-resistant material, accepted by the staff (NUREG-0313, Rev. 1) in 1977 and 1980, respectively. Therefore, they are unlikely to have suffered IGSCC, and augmented inservice inspection is not necessary. (As discussed in some detail on p. 1105, *infra.*)

Issue 3

Weld overlay repairs performed at Vermont Yankee are insufficient to ensure that adequate safety margins exist in the piping for safe operation under normal and faulted conditions (52, 56) because:

a. Of ACRS concern over the efficacy of UT sizin (3, 46)
b. Overlay thickness was determined by the UT sizing method which is unreliable. (47)

Staff Response

Although the staff does not necessarily agree with the residual stress distribution and crack growth rate curve used by NUTECH in its flaw evaluation for the licensee, we do concur with its conclusions, because the staff's own independent calculations, using more conservative stress distributions and growth rate curves, have also confirmed that all repairs will provide adequate assurance of safe operation during the present fuel cycle. The bases for this conclusion and our general responses to this area of the petitioners' concerns are summarized below:

- A more realistic fracture mechanics model, with a cracked cylinder and an operating pressure of 1000 psi, rather than a single-edged flat plate and a design pressure of 1250 psi as used by NUTECH, were employed in the staff's calculation.
- The flaw evaluation was based on a conservative yet realistic crack depth rather than adopting the crack depth exactly as reported. This conservative and realistic crack depth was obtained by adding an increment to the reported crack depth to cover the sizing uncertainties.
- The crack growth is governed only by the steady-state stresses. Although the seismic stress was not explicitly included in the crack growth evaluation, it was found that the contribution to the crack growth calculation due to seismic or other transient stresses is insignificant.
- Although the overlay itself may make the underlying IGSCC uninspectable, no growth of IGSCC is expected because of the favorable, compressive residual stress pattern developed by the weld overlay repair operation. Further, the overlay itself can be inspected by UT to see whether the crack has grown into the overlay.

Issue 4

The failure to perform an adequate inspection at Vermont Yankee violates Quality Assurance Criterion X of Appendix B to Part 50. The inadequate inspection process, testing procedures and repair designs also raise the question of whether Vermont Yankee continues to satisfy certain General Design Criteria of Appendix A to Part 50. (20, 51, 54, 55, 58-73)

Staff Response

VPIRG and VYDA allege that, for the various reasons they asserted in their petition, the inspection performed at Vermont Yankee was inadequate and, therefore, violated Criterion X of Appendix B to Part 50 of the Commission's regulations. The part of the criterion which they assert was violated in this case states, "[e]xaminations, measurements, or tests of material or products processed shall be performed for each work operation where necessary to assure quality." We have concluded that Vermont Yankee has satisfactorily complied with Appendix B requirements.

The quality of each pipe weld in a piping system is assured through a periodic inservice inspection. However, this does not necessarily mean that each weld in a given piping system performing the same functions and under the same environment needs to be inspected every time. The quality of each weld may be indirectly ensured through the inspection results of a representative sample of welds in the same piping system. This is one of the principles of inservice inspection of ASME Code Section XI. In the previous sections of this decision, we have concluded that the quality and scope of the UT inspections performed at Vermont Yankee were adequate. Consequently, the staff has concluded that no violation of Appendix B has occurred.

Similarly, the staff has concluded that General Design Criteria (GDC) 1, 14, 30, and 31 have been satisfied.* The petitioners assert as the basis for their conclusion that Vermont Yankee fails to satisfy the GDC because of the unreliability of the ultrasonic testing procedure, the inadequate extent of UT inspection and the faulty repair designs.

Each of these assertions has been specifically addressed above. A review of experimental results, the results of inspections and destructive testing, and plant operating experience indicates that:

(1) the cracking found at the Vermont Yankee facility is consistent with the expected behavior of "leak-before-break" in piping of this material,

(2) the crack growth rates under BWR operating conditions are low, and

(3) if a crack were to go undetected and to grow completely through the pipe wall, it would likely leak for a period of time before pipe rupture. Moreover, Vermont Yankee has experienced only a few leakages in the RWCU system piping during

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*GDC 1, Quality Standards and Records; GDC 14, Reactor Coolant Pressure Boundary; GDC 30, Quality of Reactor Coolant Pressure Boundary; GDC 31, Fracture Prevention of Reactor Coolant Pressure Boundary.

inspections (the amounts of leakage were so small that they were not detected during operation).

On the basis of the earlier discussions, the staff has also concluded that primary piping systems in Vermont Yankee, even with IGSCC, will behave in a nonbrittle manner and, because of toughness of the material, are unlikely to propagate cracks rapidly. This conclusion is supported by the analyses, experimental results, inspection findings, destructive testing, and plant operating experience with regard to inservice leakage at Vermont Yankee and other BWRs' primary piping systems.

In summary, the staff considers that the Vermont Yankee licensee has performed sufficient inspections at the last outage to reveal the extent of IGSCC in the recirculation and RHR piping systems, has used the state-of-the-art UT procedure to size the cracks, and has adequately performed the weld overlay repairs to ensure safe operation of the plant for at least a 12-month fuel cycle. We, therefore, conclude that the GDC have been satisfied.

Issue 5

Because of the extent of IGSCC there is a possible significant increase in the probability of a loss-of-coolant accident (LOCA) and a decrease in the facility's safety margins such that continued operation of Vermont Yankee will pose undue risk to public health and safety. (2, 44, 48, 49)

Staff Response

The VPIRG and VYDA contend that there is no assurance that the Vermont Yankee plant will perform its safety function under accident conditions because of all of the contentions discussed above and the following additional concerns:

- Possible presence of IGSCC in the core spray system will jeopardize its emergency core cooling system (ECCS) function.
- An unreliable inspection method may result in the increase of the probability of an abnormal leakage, pipe failure and rupture and also may result in the acceptance of a higher probability of a LOCA than has been considered acceptable.

As discussed above, the staff has reviewed the information submitted by the petitioners and has carefully considered (1) the quality of the last inspection and the level of performance demonstrated by the inspectors, (2) the extent of the last inspection, (3) the results of the last inspection, (4) the remedial measures taken when cracking was discovered, (5) past and current limitations on detection and sizing of

cracks, (6) time to the next refueling outage, and (7) the additional monitoring and tighter limits on unidentified leakage. As a result of these considerations and for the reasons discussed above, the staff has concluded that there is reasonable assurance that Vermont Yankee can operate safely and will perform its safety functions under normal and postulated accident conditions. Additional bases for the staff's conclusions are:

- The nonisolable portion of core spray system piping was replaced with Type 316L (low carbon) austenitic stainless steel which has been accepted as conforming, corrosion-resistant material. The Type 316L piping welds have been shown in extensive laboratory studies to be significantly less likely to develop IGSCC in the BWR environment. Therefore, the ECCS function of core spray system will not be compromised.
- As discussed previously, Vermont Yankee had used the state-of-the-art UT procedure in its last inspection. Despite the fact that the procedure has been shown to be not very accurate in sizing the crack depth, when the seven factors mentioned above are considered, the staff has nevertheless concluded that the overall UT inspection performed at Vermont Yankee was adequate. Based on the conservatively reported UT results, the welds with crack indications were evaluated in accordance with the ASME Section XI Code, IWB-3600 criteria and were either accepted without repair, or repaired with weld overlay. Each weld overlay design was shown to meet the ASME Section III requirements including fatigue considerations. All of the above considerations of adequacy and acceptability have taken into account LOCA probability. Based on the above discussions and extensive staff review of IGSCC problems with respect to the continued operation of Vermont Yankee, the staff concludes that there is not a significant increase in the probability of a LOCA.

IV.

In summary, the staff concludes that inspections at Vermont Yankee were performed in accordance with I&E Bulletin 83-02, that repairs performed are acceptable, and that the Vermont Yankee plant can be safely operated at least through the current refueling cycle of 12 months without undue risk to public health and safety. The results of experimental work, plant operating experience, and the results of inspections and

destructive testing all contribute to this conclusion. A review of experimental results indicates that crack growth rates under BWR operating conditions are low. The history of operating BWR plants also tends to support these experimental results. If a crack were to grow completely through the pipe wall, analyses and experience indicate that the pipe would likely leak for a period of time before pipe rupture.

The inspection findings to date have also generally shown cracking patterns that would be expected for these pipe sizes in ASME Class 1 BWR recirculation and residual heat removal piping. The cracks are consistent with the expected behavior of "leak-before-break" in piping of this material which is designed to accommodate normal operational and dynamic loads.

Therefore, I have determined that the actions requested by VPIRG/VYDA are not warranted. The Vermont Yankee plant can be safely operated without undue risk to the public health and safety until the next refueling outage. Consequently, VPIRG/VYDA's request for issuance of a show-cause order to shut down the Vermont Yankee Nuclear Power Station and suspend the operating license is *denied.*

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

Harold R. Denton, Director
Office of Nuclear Reactor
Regulation

Dated at Bethesda, Maryland,
this 16th day of April 1984.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

OFFICE OF NUCLEAR REACTOR REGULATION

Harold R. Denton, Director

In the Matter of

Docket No. 50-341
(10 C.F.R. § 2.206)

THE DETROIT EDISON COMPANY
(Enrico Fermi Atomic Power Plant, Unit 2)

April 20, 1984

The Director of the Office of Nuclear Reactor Regulation concludes that the concerns raised by Monroe County, Michigan, as supplemented by information submitted by Joan Mumaw and Michael Barrett, and by John Minock on behalf of Citizens for Employment and Energy, regarding the County's expertise and resources to carry out its responsibilities under the emergency plan for the Enrico Fermi Atomic Power Plant, Unit 2 have been satisfactorily resolved and adequately addressed in the emergency plans for the facility, and that no further action is required to resolve the County's concerns.

TECHNICAL ISSUE DISCUSSED: EMERGENCY PLANNING

The Federal Emergency Management Agency (FEMA) takes the lead in offsite emergency planning and reviews, assesses State and local emergency plans for adequacy and makes decisions with regard to the overall state of emergency preparedness.

It is the experience of FEMA and the NRC in evaluating well over 100 full-scale emergency preparedness exercises at nuclear power plants that volunteer emergency workers willingly participate in and respond to simulated radiological emergencies as they do to actual emergencies involving toxic and hazardous materials.

TECHNICAL ISSUE DISCUSSED: DECLARATION OF EMERGENCY

NRC regulations and guidance emphasize declaring an emergency based on plant conditions before there is a release of radioactive material. NRC regulations also include a design objective for offsite authorities to have the capability to promptly alert and notify the public following the occurrence of an emergency requiring offsite protective measures.

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

Introduction

Monroe County, Michigan (hereinafter referred to as the County), filed a petition to intervene and reopen the record in the operating license proceeding for the Enrico Fermi Atomic Power Plant, Unit 2 (hereinafter referred to as Fermi-2). Fermi-2 is located on the western shore of Lake Erie in Frenchtown Township in Monroe County. The County, through its Board of Commissioners, sought to intervene in the proceeding to obtain appropriate resolution of certain specific issues, each of which was deemed to be beyond the power of the County Commissioners to resolve, in order to carry out the statutory responsibility to prepare an adequate emergency plan for Monroe County for the Fermi-2 plant. The County filed its petition on August 27, 1982, nearly 4 years after the opportunity for timely intervention had expired and after the close of the evidentiary hearings. The Atomic Safety and Licensing Board denied the County's petition in a decision dated October 29, 1982.[1] The County appealed the decision to the Atomic Safety and Licensing Appeal Board which, in a decision dated December 21, 1982, affirmed the denial. However, the Appeal Board noted in its decision that Monroe County's emergency planning concerns were real and should be addressed. The Appeal Board forwarded the petition, together with the transcript of a June 16, 1982 public meeting, to the Nuclear

[1] *Detroit Edison Co.* (Enrico Fermi Atomic Power Plant, Unit 2), LPB-82-96, 16 NRC 1408, 1437 (1982).

Regulatory Commission (NRC) staff with the request that the papers be treated under 10 C.F.R. § 2.206 of the Commission's regulations.[2]

Notice of the NRC's intent to treat the County's concerns as a petition under 10 C.F.R. § 2.206 of the Commission's regulations was published in the *Federal Register* on February 1, 1983 (48 Fed. Reg. 4589). Following that notice, two groups expressed an interest in submitting information in support of the issues raised by Monroe County. By letter dated February 10, 1983, Ms. Joan Mumaw and Mr. Michael Barrett, and by letter dated April 1, 1983, Mr. John Minock on behalf of Citizens for Employment and Energy, a group from Michigan, submitted additional information in support of the County's petition.[3] Because of the division of responsibilities for evaluation of emergency preparedness for nuclear power plants described more fully below, the NRC requested the assistance of the Federal Emergency Management Agency (FEMA) in responding to the County's concerns. In addition, Detroit Edison submitted comments on the issues in the County's petition by letter dated July 27, 1983.

For the reasons set forth below, I have determined that the concerns of Monroe County have been satisfactorily resolved and are adequately addressed in the emergency plans for the Fermi-2 facility. Therefore, no further action is required to resolve the County's concerns.

Background

As summarized by the Appeal Board, the County asserted that it (1) lacks the bus capacity to evacuate people who are without transportation, (2) doubts the willingness and training of volunteer emergency workers to carry out all of their tasks, (3) lacks sufficient funds or expertise to undertake recovery and reentry operations, (4) questions whether an evacuation can be successfully accomplished,

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[2] *Detroit Edison Co.* (Enrico Fermi Atomic Power Plant, Unit 2), ALAB-707, 16 NRC 1760 (1982). The County's petition does not fit squarely within the class of requests for relief provided for under 10 C.F.R. § 2.206. The County raises matters pertaining to the initial licensing of the plant, rather than a request for enforcement action. Nonetheless, the staff has treated this request in accordance with § 2.206.

[3] Both groups submitted documents which had been prepared for other purposes and which encompassed a broader range of subjects concerning offsite emergency preparedness than those raised by Monroe County. In our request to the Federal Emergency Management Agency for assistance, we requested that to the extent any issues raised by the two groups went beyond the scope of those raised by Monroe County, those issues be considered by FEMA in its overall assessment of the State and local emergency plans for the Fermi-2 facility. Both FEMA and the NRC considered this additional information in their evaluation of the Monroe County Petition. *See* Memorandum for Richard W. Krimm from Edward L. Jordan, dated June 16, 1983.

given the length of time needed to mobilize command officials, the inadequacy of existing roads and the frequent impassability of the roads in winter, (5) lacks sufficient personnel to staff decontamination/reception centers, (6) questions whether potassium iodide supplies can be made available quickly, (7) believes the monitoring systems now in place to detect radiological releases are inadequate, and (8) doubts that the method chosen for decontamination of cars and trucks is adequate. With the exception of issue number 7 concerning monitoring systems to detect radiological releases, all of the County's concerns involve offsite emergency planning issues. Accordingly, the NRC requested the assistance of the Federal Emergency Management Agency (FEMA) in responding to the County's concerns.

FEMA, by Presidential directive, has been assigned the responsibility for assessing the adequacy of offsite emergency preparedness for nuclear power plants. The cooperative relationship between NRC and FEMA is described in a "Memorandum of Understanding Between NRC and FEMA Relating to Radiological Emergency Planning and Preparedness" dated November 4, 1980. Under the Memorandum of Understanding, FEMA takes the lead in offsite emergency planning and reviews and assesses State and local emergency plans for adequacy. The NRC assesses onsite emergency plans for adequacy and makes decisions with regard to the overall state of emergency preparedness.

In accordance with the respective requirements of the agencies, onsite and offsite emergency preparedness for the Fermi-2 facility has been under active review by the NRC and FEMA. The NRC final rule on emergency planning (45 Fed. Reg. 55,402) became effective on November 3, 1980. The FEMA final rule on the review and approval of State and local radiological emergency plans and preparedness became effective on October 28, 1983 (48 Fed. Reg. 44,332).[4] FEMA and the NRC have jointly developed criteria for implementing these regulations. Specifically, the agencies have developed a guidance document entitled, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," NUREG-0654/FEMA-REP-1, Revision 1, dated November 1980.

The findings of the ongoing review of the applicant's emergency plan[5] by the NRC staff were documented in NUREG-0798, Supplement 3, "Safety Evaluation Report Related to the Operation of Enrico Fermi

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[4] The FEMA rule was promulgated in proposed form on June 24, 1980 (45 Fed. Reg. 42,321) and August 19, 1982 (47 Fed. Reg. 36,386) for public comment and interim use.

[5] Enrico Fermi Atomic Power Plant, Unit 2, Radiological Emergency Response Preparedness Plan, Revision 2, September 1983.

Atomic Power Plant Unit No. 2," January 1983. Another supplement to the safety evaluation report will be published reporting on the status of the completion of the unresolved issues regarding onsite emergency planning identified in Supplement 3. A special preoperational appraisal of the applicant's capability to implement the emergency plan was conducted at the Fermi-2 site by the NRC during the period October 11-21, 1983. The findings of this appraisal are contained in Inspection Report No. 50-341/83-24 dated November 28, 1983. The NRC along with FEMA also observed the full-scale exercise conducted at Fermi-2 on February 1-3, 1982. The results of this phase of the emergency preparedness program are presented in Inspection Report No. 50-341/82-02 dated March 3, 1982.

FEMA has been actively involved in the development and review of offsite emergency plans for Fermi-2. FEMA's findings and determinations have been provided to the NRC by letters dated January 26, 1982, "Interim Findings on the Offsite Emergency Preparedness for Fermi-2"; March 22, 1982, "Supplemental Finding on Fermi-2"; April 30, 1982, "Interim Finding on Fermi-2"; February 28, 1983, "Supplemental Interim Finding on the Status of Offsite Radiological Plans and Preparedness at Fermi-2"; and July 18, 1983, "Supplemental Interim Finding on Offsite Radiological Emergency Planning and Preparedness at Fermi-2." FEMA's responses to the specific concerns raised in the Monroe County petition were provided in a letter to the NRC dated July 18, 1983. The FEMA review of the petition issues included the minutes of the transcript of the June 16, 1982 public meeting (which were forwarded along with the County petition to the NRC staff by the Atomic Safety and Licensing Appeal Board), the two documents submitted as supplemental information for staff consideration in support of the County petition (*see* note 3, *supra*) and other information developed by FEMA in the course of its review of offsite preparedness for Fermi-2.

Role of Monroe County in Emergency Preparedness

In 1980 Monroe County embarked on a planning process in a cooperative effort with Detroit Edison (the applicant) and with the knowledge of the Emergency Management Division of the Michigan State Police, the lead agency for emergency preparedness in the State of Michigan.[6] A committee was established representing the various agencies and units

[6] Background information on the development of the Monroe County radiological emergency plan is included in a letter to H.R. Denton, Director, NRR from A.T. Westover, Sr., Chairman, Monroe County Board of Commissioners, dated March 2, 1983.

of local government. One of the objectives of the committee was to obtain local input into the planning process. In October 1981, representatives of the Michigan Emergency Management Division came to Monroe County and held an emergency plan writing workshop which included the County department heads. Out of this effort, the Monroe County emergency plan entitled "Appendix 1, Nuclear Facility Procedures to the Monroe County Emergency Operations Plan" dated November 1981, was developed. Four drills and a full-scale exercise on February 2, 1981, were conducted to test the Monroe County plan. A public meeting was held on February 3, 1982, to critique the exercise and additional public meetings were held on April 28 and June 16, 1982. In the interim, the State formally initiated a request to FEMA in March 1982 to review the Monroe County plan. Notice of receipt of this plan was published in the *Federal Register* on October 25, 1982 (47 Fed. Reg. 47,321). Monroe County contends that the County emergency plan was not approved by the Board of Commissioners and the County was unaware of its formal submittal to FEMA by the State.

Monroe County was concerned that the plan committed the County to certain responsibilities which were beyond the expertise and resources of the County. This, in addition to other emergency planning concerns raised by the County and its citizens, prompted the County Commissioners to petition the NRC to intervene and reopen the record in order to resolve the issues. At about the same time, as noted in a letter to FEMA Region V from Monroe County dated January 11, 1983, the County solicited the applicant's assistance in addressing the County's concerns and upgrading its response capabilities. In December 1983, a draft "Appendix 1, Nuclear Facility Procedures to the Monroe County Emergency Operations Plan" which, as stated in the draft plan, was substantially revised and expanded to reflect the specific needs of Monroe County and to define the use of the County's resources, was completed under the guidance of the Monroe City-County Office of Civil Preparedness. The plan has been reviewed by the Michigan Emergency Management Division and the applicant. It is anticipated that following consideration of the comments from these two organizations, the plan will be submitted through the State to FEMA for review.[7] Upon completion of this process, the plan is expected to be presented to the County Board of Commissioners for acceptance. It is clear that since the time

[7] The NRC in accordance with the Memorandum of Understanding between the two agencies has formally requested FEMA to provide findings and determinations to the NRC on the revised Monroe County plan including their assessment of the revised plan regarding the previously provided FEMA findings on the adequacy of offsite preparedness and the specific concerns raised in the Monroe County petition.

the Monroe County petition was submitted to the NRC, positive steps have been taken to revise the County emergency plan to clarify responsibilities for emergency response actions and to resolve the concerns of the County Commissioners. I believe the emergency planning process for Fermi-2 has evolved sufficiently at this time to allow for a comprehensive response to the emergency planning concerns raised in the Monroe County petition.

A discussion of the emergency planning concerns identified in the Monroe County petition based on an NRC staff review of the responses from FEMA and the applicant's comments is presented below.

Discussion of Issues Raised by Monroe County

I. BUS AVAILABILITY

The County is concerned that there is inadequate bus and other capacity to transport persons without automobiles out of the Emergency Planning Zone (EPZ)[8] and that to transport schoolchildren and others without automobiles out of the EPZ would take three runs over a 6-hour period, a period of time the County contends does not provide assurance of safe evacuation. The County cites in its petition that the available bus capacity is 9,685 persons.

The County's concern appears to be predicated on the assumption that the entire 10-mile-radius EPZ would be evacuated at the same time. It would be an extremely unlikely event for the simultaneous evacuation of the entire EPZ to be ordered as a protective measure. Emergency planning guidance stresses a graduated response within the EPZ in the event of a severe accident requiring evacuation. As stated in NUREG-0654 (Section I.D, Planning Basis), "[w]hen evacuation is chosen as the preferred protective measure, initial evacuation of a 360° area around the facility is desirable out to a distance of about two to five miles although initial efforts would, of course, be in the general downwind direction." This approach is known as the "key-hole" concept.

FEMA has evaluated the available bus capacity for Monroe County school districts based on information obtained from the Michigan Emergency Management Division (EMD) and the Monroe County

[8] The Emergency Planning Zone referred to in the County's petition is known as the plume exposure pathway Emergency Planning Zone (EPZ) and encompasses the area surrounding the plant out to a radius of about 10 miles. For Fermi-2, approximately 50% of the EPZ extends over Lake Erie while approximately 6% of the EPZ lies in Wayne County, Michigan. Monroe County makes up the remainder of the EPZ.

emergency plan dated November 1981. These data indicate that 297 public and 8 private school buses with a total capacity of 18,685 are available. FEMA notes that this capacity represents approximately 29% of the total Monroe County EPZ population of 64,546 (Monroe County emergency plan, November 1981, at BP-1-23). FEMA also notes that fifteen of the public school buses, with a total capacity of 650, are equipped with lifts and that additional transportation resources are available from the Monroe Rapid Transit System. Based on information in the County plan which indicates that the transportation-dependent population is less than 29% of the total County EPZ population, FEMA concludes that there appears to be sufficient bus capacity to accommodate all transportation-dependent individuals within the Monroe County EPZ. Information provided by the applicant in its submittal dated July 27, 1983, supports the conclusion of FEMA. The applicant's data indicate that there are 335 school buses with a capacity of 20,600 in the Monroe County school districts plus an additional 25 public transit buses with a capacity of 1,200 available for evacuation of the Monroe County EPZ.[9] This represents a total bus capacity of 21,800. The applicant has developed estimates of the population without automobile transportation for the maximum population area within the 10-mile radius (the west-southwest, west and west-northwest sectors) and the entire Monroe County EPZ. These data show that the transportation-dependent population in the maximum population area is 3,280 within 5 miles and 16,930 within 10 miles. Within the entire Monroe County EPZ, the applicant estimates there is a total population of 25,200 without automobiles.

These figures include school students, population in institutions, residents of non-auto-owning households, and residents of auto-owning households where automobiles are not available. Using postulated combinations of bus availability and numbers of persons without automobile transportation, the applicant developed a range of evacuation time estimates for evacuating areas up to and including the entire portion of the EPZ within Monroe County. The maximum evacuation times for the more extensive evacuation scenarios were determined to be 2 hours 55 minutes to transport the school population and 3 hours 25 minutes to transport the non-school transportation-dependent population out of the EPZ. These evacuation time estimates are reasonable in comparison to

[9] The applicant states that the information concerning bus availability, bus capacity and population without auto transportation is current as of August 1981. The population data are based on the 1980 Census. The applicant has developed an evacuation time estimate study for Fermi-2 titled, "Estimate of Evacuation Times, Enrico Fermi Atomic Power Plant Unit 2 Evacuation Analysis," prepared by PRC Voorhees, dated October 1980, Revised March 1982.

the estimates developed for other nuclear power plant sites which have been reviewed by the NRC staff.

Based on information provided by FEMA and the applicant, the NRC staff concludes that sufficient bus capacity is available to accommodate the Monroe County transportation-dependent population within a reasonable period of time even assuming the unlikely event that the entire 10-mile-radius EPZ within Monroe County would be simultaneously involved in an evacuation.

II. DEPENDENCE ON VOLUNTEER FIREFIGHTERS; INADEQUATE PERSONNEL TRAINING AND COORDINATION; CONFLICTING PRIORITIES OF EMERGENCY PERSONNEL

The County is concerned that volunteer firefighters may not be willing or able to perform their emergency duties and that local emergency response personnel including the firefighters have not been adequately trained in radiological response functions. The County is also concerned that an evacuation of the EPZ will be impeded because a mobilization of several thousand emergency personnel will be required to carry out a successful evacuation and many of these personnel have families residing within the affected area whose safety would be their first priority.

The County's statements regarding the unwillingness of volunteer fire fighters in Monroe County to perform their emergency tasks are unsupported. While a survey of emergency workers in Monroe County has not been conducted, it is the experience of FEMA and the NRC in evaluating well over 100 full-scale emergency preparedness exercises at nuclear power plants across the country, that volunteer emergency workers willingly participate in and respond to simulated radiological emergencies, as they do to actual emergencies involving toxic and hazardous materials.

An essential element in the participation and effectiveness of emergency workers is the adequacy of the training they have received. FEMA reports that the training of emergency workers has been a concern of the Michigan Emergency Management Division (EMD) and that as a result the EMD has developed a comprehensive radiological emergency preparedness training program. The program is described in more detail in a letter from the Michigan EMD to the Monroe City-County Office of Civil Preparedness dated January 31, 1984. The training program has been developed in accordance with the guidance provided in NUREG-0654. A key aspect of the program is the joint participation of the State, the applicant and Monroe County. The training pro-

gram provides general training in basic nuclear physics, plant operations, biological effects of radiation, radiological emergency preparedness at the State and local levels, and the responsibilities and procedures of the support organizations. In addition, specialized training is provided to certain groups of emergency workers in specific areas such as radiological monitoring and decontamination procedures.

The training program is directed toward all of the emergency workers who would be involved in a response to an incident at Fermi-2. These workers fall into two general categories: those who would be within the plume exposure EPZ or who would be assigned to decontamination/reception facilities; and those who would have responsibilities outside the plume exposure EPZ. The Michigan EMD states that most emergency workers know what to do in an emergency be it nuclear or non-nuclear as their functions in either case do not vary greatly. It has been the experience of the Michigan EMD that the differences in functions and procedures for emergency workers between their daily duties and their emergency duties are minimal and that once these differences are covered, most emergency workers feel comfortable with radiological emergency response. The most common concerns of emergency workers are notification procedures, response functions, and radiation dosimetry and exposure control, all subjects which are included in the radiological emergency training program. The training program will be given on an annual basis and will include participation in drills and exercises. The Michigan EMD has found that its radiological emergency training program has been successful in other parts of the State where operating nuclear power plants are located. FEMA concludes that implementation of the Michigan EMD training program will alleviate the concerns of the County regarding the participation of local emergency response personnel.

The applicant has stated in its July 27, 1983 response that all emergency workers, volunteers as well as full-time personnel, will be instructed in their emergency response duties. The NRC staff has requested that the applicant continue to coordinate planning efforts with State and local officials with the objective of ensuring that offsite emergency workers receive appropriate training prior to operation of the Fermi-2 plant. The training program for Fermi-2 was initiated on March 15, 1984.

A radiological exposure control program under the direction of the County Radiological Defense Officer will be in effect to protect local emergency workers in the event of a radiation incident. Emergency workers will be provided with appropriate dosimetry, and exposure records will be maintained. (Monroe County emergency plan, Annex G, Radiological Defense, draft dated December 1983.)

Information provided by the applicant in its July 27, 1983 response indicates that the majority of local emergency workers have assignment locations outside of the EPZ. Of 1,120 emergency workers, only 344 (or 31%) have full-time emergency assignments inside the EPZ and most of these are public safety workers. Firefighters, police officers and radiological defense personnel account for 85% of all emergency workers assigned full time within the EPZ. A review of the literature by the NRC staff indicates that conflicting priorities regarding family safety has not been an inhibiting factor in the response of emergency personnel to actual emergencies, including the Three Mile Island accident.[10] Public safety officers, in particular those whose normal duties involve emergency response, typically have advance arrangements made for the welfare of their families in an emergency.

Based on the information provided by FEMA and the applicant on the joint Michigan EMD radiological emergency preparedness training program, the NRC staff concludes that offsite emergency workers for Fermi-2 will receive appropriate training. Further, based on experience in emergency preparedness gained at other operating nuclear power plants, the staff concludes that the willingness and ability of local offsite emergency workers to participate in an emergency is not a significant factor which would adversely affect the development of the County emergency plan.

III. COUNTY RESPONSIBILITIES FOR RECOVERY AND REENTRY

The County expressed the concern that it did not have the expertise, equipment, sophistication or funds to carry out its responsibilities for the recovery and reentry period. These responsibilities, according to the County emergency plan dated November 1981, included decontaminating people, property and food; providing health and medical services; providing mass care and welfare for evacuees; and disposing of radioactive waste. The County's concern derived from a statement in the County plan which stated that "[l]ocal government is responsible for the recovery of and reentry into areas evacuated and/or contaminated due to an offsite release. They will receive advice and assistance from the Michigan Department of Public Health."

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[10] *See*, for example, R.R. Dynes, "Organized Behavior in Disaster," Disaster Research Center, Department of Sociology, Ohio State University, 1974.

FEMA's response of July 18, 1983 to the NRC identified this issue as the subject of a meeting on March 1, 1983, between representatives of Monroe County, the Michigan Emergency Management Division and FEMA Region V. FEMA stated that the County emergency plan, as written, made Monroe County solely responsible for the accomplishment of tasks far beyond the County's financial capability. FEMA reported that the State representatives agreed that the County plan should be revised to better define the extent of the County's responsibilities, identify assistance available from and through the State, and generally clarify the role of County, State and Federal governments. FEMA reported that the County, State and FEMA representatives mutually agreed that additional clarification and definition of responsibilities during recovery and reentry must be included in the Monroe County plan. FEMA stated that action was being taken by Monroe County and the State of Michigan to accomplish the revision to the County emergency plan. Subsequent to this meeting, a revised County emergency plan, dated December 1983, was developed.

A preliminary review of the draft revised County emergency plan indicates that the responsibilities of State and County governments for recovery and reentry operations have been clarified. The revised County plan states that when it is determined by the Chairperson, Monroe County Board of Commissioners that County resources (personnel and equipment) are inadequate for reentry/recovery activities, the State and/or Federal governments are responsible for providing assistance in certain specific areas including decontamination, long-term health and medical services, and extended social services. The revised County plan also states that offsite radioactive waste disposal and long-term monitoring are the responsibilities of the Michigan Department of Public Health (Basic Plan, Section VII.O, at BP-31, -32.)

Based on a review of the information provided by FEMA, and a preliminary review of the draft revised County plan, the NRC staff concludes that the County's concern regarding recovery and reentry responsibilities has been satisfactorily resolved in that State and Federal governments are identified as being responsible to assist the County in certain specific recovery and reentry areas which are beyond the resources and capabilities of the County.

IV. MOBILIZATION TIME; GEOGRAPHY OF BEACH AREAS

The County is concerned that there are no provisions available for the timely response to an immediate threat of a radiological emergency and questions whether an evacuation can be successfully accomplished given

the length of time needed to mobilize command officials to an Emergency Operations Center (EOC), the inadequacy of existing roads in the beach areas in the vicinity of the site, and the frequent impassability of the roads due to adverse weather conditions. The County is also concerned that the proximity of the Davis-Besse plant in Ohio will increase the probability of an evacuation occurring in the Fermi-2 area. If a nuclear incident occurs at Fermi-2, the plant operator is required by NRC regulations (10 C.F.R. Part 50, Appendix E, Section IV.D.3) to promptly notify (within 15 minutes after declaring an emergency) responsible State and local governmental agencies. Dedicated communication links exist between the plant and the Michigan State Police post at Flat Rock and the Monroe City/County Joint Communications Center, all of which are operational 24 hours per day. NRC regulations and guidance (*see* NUREG-0654, Appendix 1) emphasize declaring an emergency based on plant conditions *before* there is a release of radioactive material. The NRC regulations also include a design objective for offsite authorities to have the capability to promptly alert and notify the public following the occurrence of an emergency requiring offsite protective measures.

The County emergency plan, FEMA reports, provides for the mobilization of the County's Emergency Operations Center (EOC) at the Alert[11] level. Thus, the EOC should be staffed and operational before any protective action decision needs to be made (*i.e.*, at the Site Area or General Emergency level) for the most probable type of severe accident sequences (*i.e.*, an accident which develops over a period of one to several hours). In this situation, protective action decisions would be made by the Governor based on recommendations from the plant operator and the Michigan Department of Public Health and the Department of State Police. The Chairperson of the Monroe County Board of Commissioners would be responsible for implementing the protective actions and coordinating the County's response organizations.

In the event of a rapidly escalating accident situation requiring urgent action before the State or County emergency organizations are fully activated, the Monroe County Chairperson, upon being contacted by the Monroe City/County Joint Communications Center, can declare a state of emergency thereby activating the County emergency plan. This action would be similar to the response taken for other types of rapidly occurring emergencies such as tornadoes or hazardous material spills. Based

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[11] Nuclear power plant emergencies are classified according to a graduated severity scale into one of four emergency classes: Notification of Unusual Event, Alert, Site Area Emergency, and General Emergency. 10 C.F.R. Part 50, Appendix E.IV.C. *See also* NUREG-0654, Rev. 1, Appendix 1.

upon recommendations from the plant operator, the Chairperson in consultation with the Director, Monroe City-County Office of Civil Preparedness, can recommend (only the Governor can order) protective measures for the public including evacuation. As noted by FEMA, the protective action decisionmaking process is a separate function which, if necessary, could be accomplished without the Monroe County EOC being operational. Thus, provisions exist within the offsite emergency plans to notify the public and initiate protective actions without the need to wait for State action or until the County EOC is fully mobilized (County Plan, Section V.A, at BP-11-14). Evacuation, if recommended, would be expected to involve, at least initially, only a part of the EPZ such as out to a radius of 2 miles in all sectors and perhaps to a radius of 5 miles in the downwind direction (*i.e.*, the "key-hole" concept). This protective action could be initiated with only a minimal number of emergency response personnel.

The applicant has evaluated the road network, population distribution, and transportation resources within the EPZ and developed evacuation time estimates for various scenarios including the effects of adverse weather.[12] While adverse weather may require longer evacuation times, there is no indication that the times are unreasonable to the extent that evacuation would be ineffective as a protective measure.

The adequacy of beach roads, *e.g.*, Point Aux Peaux Road, as evacuation routes was the subject of hearings before the Atomic Safety & Licensing Board (ASLB) in early 1982. Point Aux Peaux Road is the evacuation route from Stony Point, the beach area community just south of the Fermi-2 site. After hearing evidence from the concerned parties, including the potential impact of severe winter weather and flooding, the ASLB found in its initial decision dated October 29, 1982, "that the evidence of record shows that Point Aux Peaux Road is feasible for evacuating persons from Stony Point . . . ."[13]

Regarding the alleged frequent impassability of the roads in winter, FEMA states in their response that this situation may occur as a result of normal scheduling and utilization of snow removal equipment serving the County. However, priorities for snow removal during normal times would not be applicable in an emergency situation. The Monroe County plan provides for keeping evacuation routes open to be a top priority of the County Road Commission and local police agencies. The Law Enforcement Annex to the County plan provides for removal of traffic im-

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[12] *See* note 9, *supra*.

[13] *Detroit Edison Co.* (Enrico Fermi Atomic Power Plant, Unit 2), LBP-82-96, 16 NRC 1408, 1437 (1982), *aff'd*, ALAB-730, 17 NRC 1057 (1983).

pediments on the evacuation routes during an emergency. The same annex provides for manning of traffic control points to expedite the exiting of traffic. FEMA believes that the present evacuation routes in the Monroe County EPZ are adequate.

The Davis-Besse plant is located approximately 25 miles south-southeast of the Fermi-2 plant. While Fermi-2 lies within the 50-mile-radius ingestion exposure pathway EPZ of Davis-Besse, it is considered extremely unlikely that protective actions such as sheltering or evacuation would be required in the vicinity of Fermi-2 due to an emergency at Davis-Besse considering the distance between the sites and the prevailing wind patterns in the region.

FEMA finds that the concerns regarding the length of time to mobilize command officials, the adequacy of evacuation routes, and the effects of adverse weather have been recognized in the planning process and that adequate responses have been developed. The NRC staff supports FEMA's conclusion.

V. DECONTAMINATION/RECEPTION CENTERS

The County is concerned that there is an inadequate number of employees to staff the five decontamination/reception centers and, as a substantial number of employees reside outside the County, they may be delayed by the necessity of passing through numerous checkpoints. In addition, the County asserts that some employees may not be willing to drive into an area affected by high radiation levels.

FEMA reports that the Monroe County Department of Social Services is the lead agency for the staffing of the reception centers. The County Health Department is responsible for the decontamination function at each of the centers. The County plan also indicates that personnel from the police, fire and school departments have assigned functions in the reception centers. The County plan identifies five schools that may be used for decontamination/reception centers; selection of the centers to be activated would be dependent upon the situation. In addition, five other schools have been identified for potential use as congregate care shelters. FEMA notes that none of these facilities would be activated unless evacuation is directed to the southwest of the Fermi-2 plant. An evacuation to the north would be provided for in the Wayne County emergency plan, the other County within the plume exposure EPZ.

During the public meeting of June 16, 1982, FEMA reports that the Monroe County Director of Social Services stated that his staff consists of 120 full-time professionals who have received training in operating reception centers during radiological incidents. The Director further noted

that his staff would be augmented by volunteers from the American Red Cross and referred to the experience obtained in manning the reception centers during natural disasters. The Director expressed his belief that the Department of Social Services could carry out its assigned responsibilities.

The County decontamination/reception centers are all located outside of the 10-mile-radius plume exposure EPZ. These centers should be well removed from any radiation areas and, to serve their purpose, would not be utilized if they were within an evacuation zone. Thus, there should be no need for the center staff to pass through numerous checkpoints or drive into an area affected by radiation when reporting to a center.

FEMA concludes that based on documentation in the Monroe County plan and in the minutes of the June 16, 1982 public meeting, the County can staff the decontamination/reception centers at least during the initial period following a nuclear incident. FEMA notes that in a continuing situation, if County resources become taxed, additional manpower resources would be provided through coordination with the State. The NRC staff concurs with the FEMA assessment.

VI. POTASSIUM IODIDE DISTRIBUTION

The County questions whether supplies of potassium iodide (KI) can be made available in a timely and effective manner for EPZ residents and emergency workers. The County's petition states that supplies of KI are to be warehoused at a central location under the control of the Michigan Department of Public Health (DPH) and would be distributed only after a radiological emergency was under way.

In its July 18, 1983 response, FEMA reported that the procedures for KI distribution in the Michigan and Monroe County emergency plans were confusing and potentially in conflict. Decisions regarding the distribution and stockpiling of KI are a State responsibility. FEMA noted that in an earlier review of the offsite plans by the Regional Assistance Committee, the recommendation was made that if KI is to be distributed to the public, supplies should be stored locally. FEMA indicated that the State plan was being revised regarding the distribution of KI. Subsequent to the FEMA response, both the State of Michigan and Monroe County emergency plans were revised.

The Michigan Emergency Preparedness Plan dated September 1983 states that "[l]ocal health departments that have a nuclear power plant in their service area have a supply (of KI) for distribution to local

emergency workers and others." (Department of Public Health, Annex S, at S9.) The plan further states that, "[l]ocal health officers and medical directors are responsible to develop and implement plans for the storage, distribution and record keeping of potassium iodide to emergency workers and the general public based upon guidance from the department (of Public Health)." The revised Monroe County emergency plan, draft dated December 1983, states (at J-1-7) that "[t]he Monroe County Department of Health maintains a quantity of potassium iodide at a secure location within the County for emergency workers. The MDPH (Michigan Department of Public Health) also has additional supplies and contacts from which additional radioprotective drugs can be obtained for distribution to the general public. The Director of the Monroe County Health Department will coordinate distribution." Based upon a preliminary review of the information in the revised State and County emergency plans, the NRC staff finds that the State and County plans are compatible regarding the storage of a supply of KI in the local area, and that this issue has been satisfactorily resolved. This information will be confirmed by FEMA as part of its review of the revised emergency plan for Monroe County.

VII. EMERGENCY DETECTION

The County is concerned that the mechanisms in place are inadequate to detect unusual releases of radiation into the environment, the applicant's detection system is backed up only by that of the State DPH which is monitored too infrequently to provide adequate warning of serious problems, and no provision is made for any ambient water or air testing or for a backup alarm system.

The applicant's radiation and environmental monitoring systems have been established in accordance with NRC requirements (10 C.F.R. Part 20 and 10 C.F.R. Part 50, Appendix I). During normal operations, gaseous and liquid effluents from the vents and discharge points are continuously monitored by radiation detectors installed in the plant to measure the radioactive content of the effluent streams. As a backup to the plant effluent monitors, an environmental monitoring program has been established to monitor the levels of radiation and radioactive materials in the air and water environment outside of the plant boundaries. The program includes a number of thermoluminescent dosimeters and continuously recording dose rate meters, air samplers, and continuous water samplers located at the Fermi potable water intake on Lake Erie and at the water intake for the City of Monroe. Any increases in radiation levels in the plant monitoring systems above predetermined trip points,

which are set at very low levels, would alert plant operators to a potential problem situation and may result in a declaration of an emergency. The applicant is required to notify offsite authorities within 15 minutes following the declaration of an emergency (10 C.F.R. Part 50, Appendix E, Section IV.D.3).

In addition to the effluent and environmental monitoring systems, radiation instrumentation is installed to monitor radiation levels within the plant. The plant also conducts an in-plant sampling program to monitor for excess radiation levels within plant systems and processes. Specific high-range instrumentation and sampling systems have been installed in the plant to assess the radiation levels in the event of an accident. Trained field monitoring teams are also available to be dispatched both onsite and offsite in the event of a radioactive release. Predetermined values from the radiation monitors and other plant system indicators are used as emergency action levels in the plant's emergency classification scheme to classify emergencies. Emphasis is placed in the applicant's emergency plan and procedures on classifying emergencies and initiating protective actions, if required, based on plant system indicators *before* there is a release of radiation.

The NRC staff has reviewed the radiation monitoring systems and sampling program provided for the Fermi-2 plant and has found that they meet regulatory criteria and guidance. We conclude that the radiation monitoring systems are adequate to detect any unusual releases to the site environs, that acceptable provisions have been made for environmental monitoring and sampling, and that the applicant's emergency plan is appropriately integrated with offsite plans so that offsite authorities would be notified in a timely manner of any radiological incident.

VIII. VEHICLE DECONTAMINATION

On the one hand, the County is concerned that no provisions have been made for monitoring vehicles for contamination as they evacuate the EPZ. On the other hand, there is concern that making such provisions would create traffic tie-ups. The County is also concerned that the waterhosing method chosen to decontaminate vehicles is inadequate and that the water runoff would create additional contamination problems.

Radiological monitoring and decontamination of vehicles and people are addressed in the Monroe County emergency plan. Monitoring will take place at the decontamination/reception centers (Annex G, Radiological Defense plan, dated November 1981). As these centers are located outside of the EPZ, the monitoring activities will not impede traffic on the EPZ evacuation routes.

FEMA has reviewed the arrangements made for offsite decontamination in the County plan dated November 1981. The plan states (Annex I, Fire Annex, Appendix 1) that fire personnel will decontaminate vehicles, as necessary, at the decontamination/reception centers under the guidance of public health officials. The plan further states that decontamination of vehicles will be accomplished in a nearby field to allow for the containment of material in one area, and to facilitate removal of it at a later time, if necessary. County Radiological Defense personnel will be present to monitor for decontamination assisted by the Michigan Department of Public Health.

FEMA has provided the following discussion of radiological decontamination in an emergency: Such decontamination involves either fixation in place or removal of the radioactive particles. For vehicles, removal of the particles is the most expeditious and, therefore, preferable method. When the particles are removed, by whatever method, the problem of containment must be addressed. Washing the particles from a vehicle reduces the possibility of the particles become airborne, and through selection of the site at which the washing is accomplished, permits a greater degree of control of the radioactive material. Although sub-freezing weather is a factor, hosing down vehicles is usually the preferred method for decontamination. When this method is used, care must be taken to assure collection and containment of the runoff water. Following the decontamination operation, residual contaminated water can be collected and removed. Radioactive particles remaining on and in the soil could be removed, if necessary, be removing the soil itself. Removal of the soil is an extreme and improbable remedial action; isolation of the area for a period of time is a more likely option.

FEMA concludes that waterhosing is an adequate method for radiological decontamination of vehicles. Although water runoff is a factor for consideration, FEMA notes that the methodology exists for containment and, if necessary, eventual disposal of any collected radioactive materials. The NRC staff is in agreement with FEMA's conclusions. Waterhosing of vehicles for decontamination purposes is an adequate and common emergency planning procedure. It is used at other nuclear power plant sites.

Conclusion

In summary, both onsite and offsite emergency preparedness for the Fermi-2 facility has reached an advanced stage of completion sufficient to permit a comprehensive response to the Monroe County 2.206 petition. Our review indicates that there is reasonable assurance that the

Fermi-2 facility will meet the applicable regulatory requirements and guidance of the NRC and FEMA for emergency preparedness prior to plant operation. With respect to the specific emergency planning concerns of Monroe County which were raised in the petition to the NRC, all of which except one were primarily offsite issues, the findings of FEMA and the NRC, described above, support the conclusion that these concerns have been satisfactorily resolved and are adequately addressed in the emergency plans for the Fermi-2 facility. I, therefore, conclude that none of the concerns regarding emergency planning identified in the Monroe County petition remain an impediment to the Monroe County Board of Commissioners in developing an adequate radiological emergency response plan for Monroe County for the Fermi-2 facility and no further action is required to resolve the County's concerns.

A copy of this decision will be filed with the Secretary of the Commission for review by the Commission in accordance with 10 C.F.R. § 2.206(c). As provided therein, this decision will constitute final action of the Commission twenty-five (25) days after the date of issuance, unless the Commission on its own motion institutes review of this decision within that time.

Harold R. Denton, Director
Office of Nuclear Reactor
Regulation

Dated at Bethesda, Maryland,
this 20th day of April 1984.

Cite as 19 NRC 1128 (1984) DD-84-12

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

OFFICE OF NUCLEAR REACTOR REGULATION

Harold R. Denton, Director

In the Matter of **Docket No. 50-289**
(10 C.F.R. § 2.206)

GPU NUCLEAR CORPORATION
(Three Mile Island Nuclear Station, Unit 1)

April 27, 1984

The Director of the Office of Nuclear Reactor Regulation denies in part a petition dated January 20, 1984, filed by Ellyn R. Weiss and Robert D. Pollard on behalf of the Union of Concerned Scientists requesting that the Commission continue the suspension of the Three Mile Island Nuclear Station, Unit 1 operating license until alleged deficiencies in the plant's Emergency Feedwater System are rectified.

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

I. INTRODUCTION

By Petition dated January 20, 1984 (Petition) and filed before the Commission on January 23, 1984, Ellyn R. Weiss and Robert D. Pollard, on behalf of the Union of Concerned Scientists (petitioner) requested that the Commission continue the suspension of the Three Mile Island Nuclear Station, Unit 1 (TMI-1) operating license "unless and until the plant's Emergency Feedwater (EFW) System complies with NRC rules applicable to systems important to safety (including safety-grade, safety-related, and engineered safety feature systems)." In

support of its request, petitioner alleges five basic deficiencies with the EFW system for which petitioner seeks resolution prior to resuming power operation at TMI-1 (1) failure of the EFW system to be environmentally qualified; (2) failure of the EFW system to be seismically qualified; (3) the inability of the EFW system to withstand a single component failure; (4) the inaccuracy of the EFW flow instruments; and (5) the inadequacy of the Main Steam Line Rupture Detection System (MSLRDS). Petitioner recognized that one or more of the identified deficiencies, when viewed individually, would not necessarily pose an "intolerable risk." However, petitioner contended that "[i]n the aggregate . . . [the deficiencies] thoroughly compromise the reliability of one of the most important safety system in the plant and destroy the fundamental principle of defense-in-depth espoused by the NRC."[1]

The Petition was referred to the staff on February 3, 1984 for treatment as a request for action pursuant to section 2.206 of the Commission's regulations. The licensee responded to the Petition pursuant to the staff's request under 10 C.F.R. § 50.54(f) on February 24, 1984, and amended its response on March 26, 1984. The Commission recently instructed the staff to complete its review of the petition with respect to those issues raised by the petitioners for which sufficient information was available to make a determination. Accordingly, the staff expedited its review of four of the issues raised by the petitioners. For the reasons stated herein, the staff does not intend to take the action requested by the petitioner with respect to those issues at this time. However, the staff has not yet reached a decision as to the issues raised by the petitioner concerning environmental qualification of the EFW system, and the aggregate effect of the five deficiencies cited by the petitioner on the reliability of the EFW system. The staff reserves judgment on whether its analysis of the outstanding issues may impact this interim decision. A final Director's Decision will be issued upon completion of the staff's review.

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[1] The Petition also implies that there may be deficiencies in emergency procedures and operator training related to the EFW system, but it does so only in passing and provides no specific information for staff consideration. However, by virtue of the restart proceeding and the associated certification activities which specifically required EFW-related procedure revisions and operator training, review activities of NUREG-0737 Action Item I.C.1 (Emergency Operating Procedures), and the verification that specific procedural changes related to seismic events had been implemented (*see* Section III.A, *infra*), the staff has performed extensive reviews of the TMI-1 emergency procedure and operator training programs. Based on those reviews, the staff concludes that the Petition provides no basis to question the adequacy of those programs.

II. THE RESTART PROCEEDING

The adequacy of TMI-1 EFW system has been extensively litigated as a principal design issue in the TMI-1 restart proceeding. Although testimony was offered as to numerous aspects of the EFW system, the licensing and appeal boards adjudicating the matter restricted their findings, for the most part, to those elements of the EFW system called into question by the accident at the Three Mile Island Nuclear Station, Unit 2, namely small-break, loss-of-coolant accidents and feedwater transients. *See Metropolitan Edison Co.* (Three Mile Island Nuclear Station, Unit 1), ALAB-724, 17 NRC 559, 559-60 (1983). *See also Metropolitan Edison Co.* (Three Mile Island Nuclear Station, Unit 1), CLI-83-5, 17 NRC 331, 331-32 (1983). To the extent that the issues raised by the petitioner were litigated in the restart proceeding, the staff would not initiate new enforcement proceedings to consider the same issues. *See Rockford League of Women Voters v. NRC*, 679 F.2d 1218, 1222 (7th Cir. 1982); *Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), CLI-81-6, 13 NRC 443, 446 (1981). In this regard, petitioner raises an issue which was fully explored in the restart proceeding, the accuracy of the emergency feedwater flow instrumentation. Staff testimony on the accuracy requirements for this system was that each flow instrument should have an accuracy of "on the order of ±10%."[2] Licensee testimony was that the accuracy would be "better than or equal to 5%"[3] The issue was not pursued any further before the Atomic Safety and Licensing Board. *See Metropolitan Edison Co.* (Three Mile Island Nuclear Station, Unit 1), LBP-81-59, 14 NRC 1211, 1362 (1981). However, by letter dated May 24, 1983, the licensee advised the staff the system design could not be successfully implemented. By letter dated August 25, 1983, the licensee advised the staff of additional system difficulties and proposed an alternate design. The staff reviewed and subsequently approved the licensee's proposed design.[4] Upon installation of the alternate design, licensee later advised the staff, by letter dated November 23, 1983, that oscillations had been observed at low flow conditions which exceeded the accuracy criteria established by the staff. The licensee has now taken the position that the present instrumentation is adequate. The petitioner, a party to the restart proceeding, contests this view, and has responded to the licensee's

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[2] *See* NUREG-0680, *TMI-Restart* (June 1980).

[3] *See Recommended Requirements for Restart of Three Mile Island Nuclear Station*, Amendment 22.

[4] *See* letter from J.F. Stolz (NRC) to H.D. Hukill (GPUN) (September 22, 1983).

November 23, 1983 letter by filing a response with the Commission.[5] The licensee responded by filing a reply with the Commission, which was responded to by the petitioner.[6] By Board Notification 84-088 dated April 24, 1984, the staff advised the Commission, restart proceeding boards and parties, including petitioner, that it considered the existing TMI-1 EFW flow instruments to be acceptable.[7] The recent filings have placed the issue of EFW flow instrumentation accuracy before the Commission.[8] To the extent that a full consideration of EFW flow instrumentation accuracy is necessary to evaluate petitioner's concern that the aggregate effect of the EFW deficiencies it raises compromises the reliability of the EFW system, the staff will consider EFW flow instrumentation when a final decision on the petition is issued.

III. CONSIDERATION OF THE ISSUES

A. Seismic Qualification of the Emergency Feedwater System

The Petition alleges that operation of TMI-1 would pose an undue risk to public health and safety because the EFW system is not seismically qualified.[9] The fundamental contentions in this regard can be characterized as: (1) contrary to NRC regulations, the TMI-1 EFW system is not seismically qualified and the licensee does not intend to make it so

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[5] *See* Union of Concerned Scientists Response to GPU Letter of December 6, 1983, Regarding Emergency Feedwater Flow Instrumentation (December 9, 1983).

[6] *See* Licensee's Reply to UCS Response to GPU Letter of December 23, 1983 (December 23, 1983) and Petitioner Rebuttal to Licensee's Reply Regarding EFW Flow Instrumentation (January 6, 1984).

[7] The basis for the staff's conclusion is that the accuracy of the flow indications available to the operator at low flows is taken into account by the plant operating procedures and is acceptable, even though the flow indication accuracy at low flows may exceed the criteria established by the staff.

[8] It should be noted that, by order dated January 27, 1984 (unpublished), the Commission took review of five specific design issues addressed by the Appeal Board in *Metropolitan Edison Co.* (Three Mile Island Nuclear Station, Unit 1), ALAB-729, 17 NRC 814 (1983), including the Appeal Board's treatment of the Licensing Board's quantitative analysis of the reliability of the EFW system. The staff, licensee, and petitioner have each filed briefs addressing those issues.

The Commission's January 27, 1984 order also took review of whether the issue concerning environmental qualification of electrical equipment had been removed from the restart proceeding by the Commission's generic rulemaking on the subject and offered an opportunity for the parties to comment on the adequacy of the licensee's proposed solution to the MSLRDS problem. The staff, in its March 19, 1984 filing, argued that the environmental qualification issue was removed from the proceeding, that the proposed MSLRDS solution is adequate with respect to the EFW system concerns of the restart proceeding, and further, that the concerns regarding the potential failure of the non-safety-grade MSLRDS to isolate main feedwater leading to the possibility of containment overpressurization are *not* within the scope of the restart proceeding and should properly be addressed during review of this Petition. The UCS filing, dated March 19, 1984, argued that all aspects of both issues should properly be addressed in the restart proceeding.

[9] Seismic qualification of the TMI-1 EFW system was not addressed in the restart proceeding because such matters are unrelated to the March 1979 accident at TMI-2 and the concerns which led to the restart proceeding. *See Metropolitan Edison Co.* (Three Mile Island Nuclear Station, Unit 1), CLI-83-5, 17 NRC 331 (1983).

prior to operating the plant, and (2) the staff's safety evaluation on the seismic capability of the TMI-1 EFW system does not provide an adequate basis for such operation.

When TMI-1 was licensed, the EFW system was not classified as an engineered safety feature system and accordingly was not required to be seismically qualified.[10] In February 1981, the staff issued Generic Letter 81-14 to all operating pressurized water reactors. This generic letter stated the intent to increase the seismic resistance, where necessary, in a timely, systematic manner to ultimately provide reasonable assurance that auxiliary and emergency feedwater systems would be able to function after the occurrence of earthquakes up to and including the safe shutdown earthquake (SSE). In this regard, TMI-1 was treated in a manner consistent with other operating reactors in that the matter was considered resolved when (a) all seismic improvements had been identified and scheduled for implementation in a timely manner, and (b) continued plant operation during the interim period had been justified on an acceptable basis. The licensee has committed to seismic upgrade modifications during the first refueling outage following restart (*i.e.*, prior to Cycle 6 operation) and has provided compensatory measures for Cycle 5 operation. The staff has concluded that there is reasonable assurance that, should restart be authorized, the TMI-1 EFW system would be able to perform its safety function after the occurrence of an SSE and that the system does comply with Commission regulations.

The staff issued a safety evaluation on the seismic capability of the TMI-1 EFW system on August 12, 1983. In light of the arguments set forth in the Petition, the staff has reconsidered its position on this matter and its safety evaluation. In so doing, the staff has reaffirmed the conclusion that, at restart, there is reasonable assurance that the TMI-1 EFW system would be able to perform its safety function following the occurrence of an SSE.[11]

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[10] The staff position that auxiliary/emergency feedwater systems be seismically qualified first became effective for new plants in 1972. *See* Regulatory Guide 1.29. The requirement was not backfit to include plants for which certain licensing milestones had been reached, which was the case for TMI-1. Thus, TMI-1 and a number of other operating reactors do not, and are not required to have seismically qualified auxiliary/emergency feedwater systems.

[11] The Petition provided no information that was not considered during the 1983 staff review of this matter, with one exception. The exception deals with postulated interaction from failures of non-seismic portions of other systems, namely, the vent stacks (discharge paths) for the safety relief valves (MS-V-22A, B) and the atmospheric dump valves (MS-V-4A, B). After review of this question, the staff concludes that there is reasonable assurance that local manual actions will not be precluded by a steam environment during the interim period of Cycle 5 operation. Further details concerning the staff's most recent review of this issue are found in the Safety Evaluation by the Office of Nuclear Reactor Regulation Supporting Interim Director's Decision Under 10 C.F.R. § 2.206 (Seismic Capability of Emergency Feedwater), Three Mile Island Nuclear Station, Unit No. 1, dated April 27, 1984.

B. Single Failure Capability of the Emergency Feedwater System

The Petition asserts that until the long-term upgrades are complete, the TMI-1 EFW system is vulnerable to single failures which would, for certain accidents, prevent it from providing cooling water for decay heat removal. In this regard, the petitioner is correct in stating that, should restart be authorized, the TMI-1 EFW system will have a single flow control valve in each of the feedwater headers to the two steam generators. The petitioner argues that for those events requiring isolation of one steam generator, such as a main steam line break, steam generator tube rupture (under certain circumstances), or a feedwater line break, failure of the flow control valve to open in the feedwater header to the intact steam generator could result in an inability to deliver emergency feedwater flow for decay heat removal through the steam generator. Further, the Petition points out that a single failure in the Integrated Control System (ICS), which currently controls the EFW flow control valves, could also result in an inability to deliver EFW flow by preventing the flow control valves from opening.

The staff has been aware of these system deficiencies for some time, and the issue has been fully explored during the restart proceeding. The staff considers the system to be acceptable, provided that certain short-term modifications are completed prior to restart.[12] Among these modifications is a change in failure mode for the flow control valves. These valves will fail so as to permit full EFW flow on either loss of instrument air or loss of control power.[13] Further, a separate remote manual control station independent of the ICS has been provided in the control room. This modification will permit the operator to remotely open the EFW flow control valves should they fail closed due to an ICS malfunction. The flow control valves could also be manually opened locally by means of a handwheel.

An additional single failure vulnerability hypothesized by the Petition is that "each EFW flow path contains only a single block (isolation) valve. Failure of this valve would prevent isolation of EFW flow to the steam generator with the broken main steam line or ruptured tube." *See* Petition at 20. The petitioner's statement as to the existence of a "single

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[12] *See* NUREG-0680, TMI-1 Restart (June 1980) and Supplement 3 to NUREG-0680 (April 1981).

[13] The restart proceeding record shows that the flow control valves fail to the mid position on loss of control signal. However, by filing dated March 26, 1984, counsel for licensee indicated that the existing flow control valve converters would be replaced with environmentally and seismically qualified converters by June 1984, and that with these new converters the flow control valves would fail to the open position on loss of control power.

block (isolation) valve" in each EFW flow path is inaccurate.[14] Nevertheless, for those events requiring isolation of a steam generator (main steam or feedwater line break, or steam generator tube rupture), a cavitating venturi has been installed in each EFW supply line to limit EFW flow to the ruptured steam generator and ensure sufficient flow to the intact steam generator. Becuase of this modification, the main steam line rupture detection system (MSLRDS) signals to the EFW flow control valves have been deleted to prevent inadvertent EFW isolations caused by failures in the MSLRDS. *See* Section III.C, *infra*. Since it may be desirable to eventually isolate EFW to a ruptured steam generator, the operator would close the appropriate EFW flow control valve. If this valve failed to close, EFW flow to the ruptured steam generator could be stopped by closing the appropriate EFW pump discharge cross-tie sectionalizing valve and tripping the respective EFW pump.

C. Main Steam Line Rupture Detection System

One purpose of the main steam line rupture detection system (MSLRDS) is to prevent containment pressure from exceeding its design pressure in the event of a main steam line rupture inside containment. The system does this by isolating feedwater flow to a given steam generator when a relatively low pressure is detected in that steam generator. A concern raised in the restart proceeding was that spurious actuation of the non-safety-grade MSLRDS could inadvertently isolate all feedwater flow to both steam generators. Resolution of this concern is being pursued within the restart proceeding.[15] The petitioner suggests that because the MSLRDS is not safety grade, there can be no assurance that the containment will not be overpressurized following a main steam line rupture inside containment. Therefore, argues petitioner, "operation of TMI-1 would pose an undue risk to public health and safety."

Although the TMI-1 MSLRDS is not safety grade, it is redundant and primarily located outside containment where it would not be exposed to the harsh environment created by a main steam line rupture inside

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[14] The staff bases this view on its review of the present EFW system design drawings, the restart proceeding record and a physical inspection of the system by the resident inspector. The only valves in the steam generator flow path which can be readily identified are the flow control valves and check valves. There are, however, motor-operated sectionalizing block valves in the discharge cross-tie header between the EFW pumps. These valves do not serve as steam generator isolation valves since the motor-driven EFW pumps discharge downstream of the valves.

[15] *See* NRC Staff Brief Concerning the Commission's Review of Specific Design Issues in ALAB-729 (March 19, 1984).

containment.[16] By letter dated February 16, 1984, the licensee informed the staff that the MSLRDS pressure switches located inside containment would be environmentally qualified through replacement with qualified equipment by June 1984. All MSLRDS components located inside containment will then be environmentally qualified. Therefore, in the event of a main steam line rupture inside containment, the MSLRDS would be expected to remain functional and isolate main feedwater flow to the affected steam generator, even after a postulated single active failure. For a main steam line break occurring outside containment, the environmental qualification of the MSLRDS is not a concern since the containment would not be affected.

The MSLRDS prevents containment pressure from exceeding its design pressure in the event of a main steam line rupture inside containment. The MSLRDS is not relied on in any direct manner for preventing exposure of the public to any undue risk to health and safety. The two barriers that prevent exposure of the public to the effects of a main steam line rupture are the reactor primary pressure boundary and the containment boundary. These two barriers would remain intact after a postulated main steam line rupture, with or without the MSLRDS isolating the main feedwater flow to the affected steam generator. Based on the staff's review experience with similar plants, if the MSLRDS failed to function, the reactor pressure boundary would be unaffected; and although the containment design pressure may be slightly exceeded, containment integrity would be maintained.

For these reasons, it is the staff's view that the MSLRDS, as designed, and as upgraded with qualified pressure switches inside containment, will isolate feedwater flow to the affected steam generator, even after sustaining a single active failure, and containment integrity would remain intact after a postulated main steam line rupture inside containment.[17]

IV. CONCLUSION

Based on the foregoing discussion of the Petition, I find no adequate reason to take the requested action regarding the Three Mile Island

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[16] The postulated main steam line break event at TMI-1 was evaluated in conjunction with the staff's review of IE Bulletin 80-04, "Analysis of a PWR Main Steam Line Break with Continued Feedwater Addition."

[17] Nevertheless, licensee has committed to upgrade the MSLRDS to safety-grade status prior to startup from the Cycle 6 refueling outage (next refueling). *See* letter from H.D. Hukill (GPUN) to J.F. Stolz (NRC) (August 23, 1983).

Nuclear Station, Unit 1, operating license at this time. A final decision with respect to petitioner's request will be issued in the near future upon completion of the staff's review of the remaining issues. A copy of this decision will be filed with the Office of Secretary for the Commission's review.

Harold R. Denton, Director
Office of Nuclear Reactor
Regulation

Dated at Bethesda, Maryland,
this 27th day of April 1984.

Cite as 19 NRC 1137 (1984) DD-84-13

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

OFFICE OF NUCLEAR REACTOR REGULATION

Harold R. Denton, Director

In the Matter of

Docket Nos. 50-352
50-353
(10 C.F.R. § 2.206)

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

April 25, 1984

The Director of Nuclear Reactor Regulation denies a Petition filed by Del-Aware Unlimited, *et al.*, which requested revocation, suspension or modification of the construction permits for the Limerick Station based on (1) alleged inadequacies in the NRC staff's draft environmental statement related to operation of the Limerick Station, (2) alleged changed circumstances regarding the supply of supplemental cooling water for the facility and (3) that certain physical impacts of construction of the Point Pleasant Diversion Project have been allegedly overlooked.

RULES OF PRACTICE: SECTION 2.206 PETITIONS

The Director will not consider issues raised in a Petition pursuant to 10 C.F.R. § 2.206 which are clearly a matter for consideration in the operating license proceeding currently in progress.

RULES OF PRACTICE: SECTION 2.206 PETITIONS

Section 2.206 should not be used by a party to a licensing proceeding to request relief on a matter within the jurisdiction of the presiding officer in that proceeding.

RULES OF PRACTICE: SHOW-CAUSE PROCEEDINGS

Suspension, modification or revocation of permits or licenses may be appropriate based upon substantially changed circumstances. NEPA does not require that a decision based upon environmental impact statements be reconsidered whenever information developed subsequent to the action becomes available, unless the new information will clearly mandate a change in the result.

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

INTRODUCTION

By letter dated December 16, 1983, Robin T. Locke, on behalf of Del-Aware Unlimited, *et al.* (Petitioners) filed with the Office of Nuclear Reactor Regulation an "Application of Del-Aware Unlimited Et Al. Under Section 2.206" (Petition). The Petition requested that the NRC staff "reopen" the construction permits heretofore granted to the Philadelphia Electric Company (PECO) authorizing construction of the Limerick Generating Station, Units 1 and 2 (the Facility).[1] Petitioners also sought reopening of the Partial Initial Decision issued by the Atomic Safety and Licensing Board on March 8, 1983 in the operating license proceeding for the Limerick Facility.[2] That decision discussed supplemental cooling water for the facility.

On January 31, 1984, I acknowledged receipt of the Petition for the Limerick Facility in a letter to the Petitioners and indicated that a formal decision with respect to the Petition would be issued. On December 29, 1983, PECO submitted its comments regarding the Petition. My decision in this matter follows.

Del-Aware Unlimited has once before invoked the provisions of 10 C.F.R. § 2.206 to have the Nuclear Regulatory Commission consider issues related to the Limerick Facility. An earlier petition was filed on July 2, 1982, and my decision with respect to it issued on December 7, 1982.[3] That petition raised a wide variety of environmental issues asso-

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[1] Construction permits were issued for the Limerick Generating Station Units 1 and 2 on June 19, 1974. There is no current proceeding with respect to these construction permits which may be reopened. Rather the relief sought would appear to be revocation, suspension or modification of the permits by order. *See* 10 C.F.R. Part 2, Subpart B.

[2] *Philadelphia Electric Co.* (Limerick Generating Station, Units 1 and 2), LBP-83-11, 17 NRC 413 (1983).

[3] *Philadelphia Electric Co.* (Limerick Generating Station, Units 1 and 2), DD-82-13, 16 NRC 2115 (1982).

ciated with the supply of supplemental cooling water for operation of the Limerick Facility. That decision provided extensive background regarding the various environmental reviews which had been conducted concerning the supply of supplemental cooling water and found no adequate reason to disturb the construction permits issued for the Limerick Facility.

In addition, a proceeding is currently under way regarding the issuance of operating licenses for the Limerick Facility. Hearings have been held before an Atomic Safety and Licensing Board and a Partial Initial Decision has been issued disposing of certain contentions regarding the supplemental cooling water system for the Limerick Facility.[4] Licensing Board hearings are continuing on other matters.

In their latest Petition, the Petitioners advance three basic reasons for granting the requested relief: (1) the NRC staff's draft environmental statement related to operation of the Limerick Station is inadequate; (2) changed circumstances dictate action to compel PECO to seek an alternative supply of supplemental cooling water; and (3) the physical impacts of construction associated with the Point Pleasant Diversion Project have been overlooked. As discussed below, the first of these reasons is inappropriate for consideration under 10 C.F.R. § 2.206 and the Petitioner's remaining reasons do not provide an adequate basis for relief. Therefore, the Petition has been denied.

It is in this context that the current Petition has come before me.

DISCUSSION

Issues Inappropriate for Consideration Under 10 C.F.R. § 2.206

Petitioners base their Petition in part upon the alleged insufficiency of the NRC staff's draft environmental statement (DES) (NUREG-0974, Draft Environmental Statement related to the operation of Limerick Generating Station Units 1 and 2). The Petitioners allege that the DES failed to deal with information that has been developed recently regarding the adequacy of water in the Delaware River. The sufficiency of the DES is clearly a matter for consideration in the operating license proceeding currently in progress. *See* 10 C.F.R. §§ 51.24(c)(4) and 51.26(c) and (d). Further, the Commission specifically has endorsed the principle that 10 C.F.R. § 2.206 should not be used by a party to a licens-

[4] LBP-83-11, *supra*.

ing proceeding to request relief on a matter within the jurisdiction of the presiding officer in that proceeding.[5]

Consequently, with respect to this issue, the Petitioners' remedy lies with the appropriate adjudicatory board of the Commission and I will not consider this issue further.[6]

Alleged Changed Circumstances Regarding the Supply of Supplemental Cooling Water for the Limerick Facility

The supplemental cooling water supply system (SCWS System) for the Limerick Facility will draw water from the Delaware River. The water would then be pumped from the Delaware River at Point Pleasant, Pennsylvania, several miles through a combined transmission main to the Bradshaw Reservoir. Approximately one half of the water would be pumped through the Perkiomen transmission main and then flow down the East Branch of the Perkiomen Creek. From the Creek, the water is to be pumped by a transmission main to the Limerick Facility. The remainder of the water would be available to the Neshaminy Water Resources Authority (NWRA) for its use in providing water to Central Bucks and Montgomery Counties, Pennsylvania, for public use.[7]

The particular events to which Petitioners point to support the allegation that there has been a substantial change in circumstances regarding the supply of supplemental cooling water to the Limerick Facility are certain actions taken by the Bucks County Commissioners, including the issuance of an ordinance indicating an intent on the part of Bucks County to acquire the projects of the NWRA with a view to terminating the Point Pleasant Diversion Project. In further support of their claim, Petitioners point to a Complaint in Equity filed by PECO in the Court of Common Pleas of Bucks County, Pennsylvania. The Complaint names Bucks County as a defendant and alleges a series of harms to PECO potentially flowing from the actions of Bucks County seeking to terminate the Point Pleasant Diversion Project. PECO's request for a temporary injunction was denied by the Court and this litigation remains pending.

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[5] *Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), CLI-81-6, 13 NRC 443, 444 (1981).

[6] The Petitioners' precise request was that the NRC staff reopen the Partial Initial Decision of the Licensing Board dated March 8, 1983. The NRC staff was, of course, a party to that proceeding. So long as an adjudicatory board retains jurisdiction over the matters before it, any request to the staff for reopening is clearly misdirected.

[7] The pumping station at Point Pleasant, the Limerick SCWS System and the Neshaminy project will hereafter be referred to together as the Point Pleasant Diversion Project or PPD Project.

The information provided by Petitioners indicates no lessening of the resolve of PECO to go forward with the Point Pleasant Diversion Project. Indeed, PECO has availed itself of its legal remedies to ensure that the PPD Project will go forward as currently configured. Should the Point Pleasant Diversion Project ultimately fail, and should PECO then identify an alternative proposal to supply supplemental cooling water to the Limerick Facility, action by the NRC would then be appropriate. Such an alternative would have to be reviewed in the same fashion as the Point Pleasant Diversion Project was examined by this agency prior to issuance of a construction permit. However, far from proposing an alternative to the Point Pleasant Diversion Project, PECO's current actions appear clearly directed at ensuring that the PPD Project goes forward. Concerns that the Point Pleasant Diversion Project may not be completed and, consequently, that alternative sources of cooling water may be required for the Limerick Facility are premature and speculative at this time. I decline to commit this agency's resources to examine such questions, given their speculative nature, at this time.

This precise issue has also been considered and rejected by the Licensing Board presiding in the operating license proceeding. On May 25, 1983, Del-Aware filed its "Supplementary Motion to Reopen and/or to Admit New Contentions V-27 and V-28." Contention V-28 read:

> In passing upon the operating license, the Commission must consider the feasibility for providing water to Limerick in time for its projected start-up date and in view of the complications, disarray, and apparent legal obstacles to PECO's utilization of Point Pleasant, PECO must pursue alternative water sources in order for the NRC to continue processing of its application, or to grant approval.

Supplementary Motion at 5. The Licensing Board rejected this contention holding:

> With respect to Proposed Contention V-28, if and when PECO would materially change its proposal to obtain supplemental cooling water in the event the Point Pleasant Diversion would not be allowed to operate due to "legal obstacles" involving other permitting authorities, the Nuclear Regulatory Commission at such time would have to reconsider its previous assessment of environmental impacts in light of changes proposed by PECO.[8]

In summary, there simply has not been a material change in circumstances warranting action by this agency regarding supplemental cooling water for the Limerick Facility.

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[8] Memorandum and Order Denying Del-Aware's Motion to Reopen the Record, June 1, 1983, slip op. at 9 n.3 (unpublished).

Petitioners also argue that the recent actions taken by Bucks County support claims raised in the previous petition that all the environmental impacts associated with the Point Pleasant Diversion Project, including those attributable to the portion of the PPD Project to be utilized exclusively by NWRA, should be considered as attributable to the Limerick Facility. Petitioners' original claim was that the sole reason for the proposed construction of the PPD Project is operation of the Limerick Facility. Consequently, it was argued that all the primary and secondary impacts associated with the PPD Project should be attributable to the Limerick Facility. The earlier petition suggested that only the incremental size of the Point Pleasant Diversion Project was considered in the application for the construction permits for the Limerick Facility. Consequently, given an alleged change in relationship that makes the PPD Project supposedly attributable only to PECO, it was argued that the environmental review at the construction permit stage was incomplete.

Such was not the case. As was set out in my earlier decision,

> The test for determining the scope of the NRC's environmental review for a particular project is not whether one segment of the project would not be built but for the other segment. The scope of environmental review may be limited to one segment of a project so long as (1) that portion has independent utility; and (2) the approval of that segment does not foreclose alternatives to the part of the project not being considered. [Footnote omitted.] The PPD Project in fact consists of two projects each of which has independent utility. One serves to supply cooling water to Limerick; the other supplies water to an area served by the NWRA. Also, approval of the Limerick portion of the PPD Project will not foreclose alternatives to the NWRA portion because this latter portion has already been fixed by the decisions of the DRBC. Thus, the question of foreclosing alternatives is moot. In reaching its decisions, the DRBC reviewed the entire PPD Project in accordance with the requirements of NEPA. Following this review, the Project was added to the DRBC Comprehensive Plan. The PPD Project has recently again been given environmental scrutiny by DRBC, which culminated in a Final Environmental Assessment and Negative Declaration and final approvals for the Project. Thus, contrary to assertions in Petitioners' Supplement that the PPD Project has not received an overall environmental review, DRBC has performed just such a review on at least two occasions.
>
> It is entirely appropriate in these circumstances then for NRC to limit its consideration to the common elements of the Project and those elements attributable solely to the Limerick Facility, and to exclude from consideration impacts associated exclusively with that portion of the PPD Project which has as its purpose supplementing the public water supply capabilities of the NWRA.[9]

Petitioners' arguments that the PPD Project would not be built but for the participation of PECO have no more substance now than they

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[9] DD-82-13, *supra*, 16 NRC at 2119.

did earlier. The NRC's assessment of the PPD Project has been appropriate and in accordance with law.[10]

Finally, the Petition makes reference to an affidavit from the Director of the NWRA which was referenced in my earlier decision[11] and characterizes the affidavit as representing that the NWRA would build the Point Pleasant Diversion Project without PECO. The Petition suggests that this representation is no longer valid in light of the actions taken by Bucks County.

Without concluding that the NWRA affidavit is no longer valid, the affidavit was not essential to the determination I reached in my earlier decision. The earlier petition alleged that NWRA would not go forward with the PPD Project without PECO. The NWRA affidavit stated to the contrary and was offered to clarify the then-current status of that issue. The Petitioners' argument then and now continues to be that all impacts associated with the PPD Project should have been considered by the NRC because PECO was the sole cause of the PPD Project. But, as discussed above, even if PECO were to be the cause of the PPD Project, the NRC need not consider all of the impacts of the PPD Project and consequently the continuing validity of the NWRA affidavit is not a significant issue.

Alleged Impacts Related to the Construction of the Point Pleasant Diversion Project

The Petition alleges that certain construction impacts associated with the Point Pleasant Diversion Project have been overlooked. Specifically, the Petition alleges that a major rockslide occurred during construction of the PPD Project and threatens to recur and that there will be "substantial physical damage to the area from construction. . . ."[12] With respect to construction of the East Branch of the Perkiomen Creek, the Petition alleges that new effects have been identified in testimony before the Pennsylvania Public Utilities Commission and Environmental Hearing Board.[13] The Petition urges that the construction permit pro-

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[10] The argument raised in the Petition that "the diversion facilities should now be considered as a facility under Section 103 of the Atomic Energy Act, requiring a construction permit" (Petition at 4) was considered in my earlier decision and rejected. *See* DD-82-13, *supra*, 16 NRC at 2128 n.27. The Petition raises no new information warranting re-examination of this issue.

[11] DD-82-13, *supra*, 16 NRC at 2128-29.

[12] Petition at 4.

[13] Some of the allegations in the Petition are of such a generalized and nonspecific nature that I will not consider them further. Section 2.206(a) requires that petitions "set forth the facts that constitute the basis for the request." Absent such a showing, the Director need take no action on the Petition. Consequently, to the extent that I have not addressed issues raised by the Petition, it is because the re-

(Continued)

ceedings should consequently be reopened. The time for reopening of construction permit proceedings is of course long since past.[14] However, the NRC staff recognizes that standards set by the agency for reopening of proceedings may be appropriate for considering requests under 10 C.F.R. § 2.206:

> Although the Director in considering a request for action under 10 C.F.R. 2.206 is not bound by the Appeal Board's standard for reopening a licensing proceeding on the basis of new information, this standard is persuasive in considering requests under 10 C.F.R. 2.206 because, as the Commission has indicated on another occasion, '[P]arties must be prevented from using 10 C.F.R. 2.206 procedures as a vehicle for reconsideration of issues previously decided . . . .' *Consolidated Edison Company* (Indian Point, Units 1-3), CLI-75-8, 2 NRC 173, 177 (1975).[15]

Suspension, modification or revocation of construction permits may be appropriate based upon substantially changed circumstances. The appropriateness of suspending, modifying or revoking construction permits for nuclear facilities based upon alleged changed circumstances has previously been addressed.[16] NEPA does not require a decision based upon environmental impact statements be reconsidered whenever information developed subsequent to the action becomes available. It is unnecessary for an agency to reopen a NEPA record unless the new information will clearly mandate a change in result.[17] The petition fails substantially to meet this showing

The NRC staff has examined the record of the environmental assessments of the various approvals and permits for the Point Pleasant Diversion Project. The environmental impacts related to (1) erosion and sedimentation due to the construction of the outlet structure of the PECO water transmission pipeline of the East Branch of the Perkiomen Creek and (2) placement of the NWRA combined transmission main in the hillside adjacent to the Delaware River and under various streams between the river and the proposed Bradshaw Reservoir have been considered by various local, state and Federal agencies.

In the "Final Environmental Impact Statement, Point Pleasant Diversion Plan, Bucks and Montgomery County, Pennsylvania," issued by

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quirement of Section 2.206(a) calling for a factual basis for the Petitioners' request has not been met. *See Public Service Co. of Indiana* (Marble Hill Nuclear Generating Station, Units 1 and 2), DD-79-17, 10 NRC 613, 614-15 (1979); *Duke Power Co.* (Oconee Nuclear Station, Units 1, 2 and 3), DD-79-6, 9 NRC 661, 661-62 (1979); *see also Public Service Co. of Indiana* (Marble Hill Nuclear Generating Station, Units 1 and 2), CLI-80-10, 11 NRC 438, 443 (1980).

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

[15] *Public Service Co. of Indiana* (Marble Hill Nuclear Generating Station, Units 1 and 2), DD-79-10, 10 NRC 129, 131 (1979).

[16] *Georgia Power Co.* (Alvin W. Vogtle Nuclear Plant, Units 1 and 2), DD-79-4, 9 NRC 582 (1979).

[17] *Id.* at 584-85.

the Delaware River Basin Commission (DRBC) in February 1973, temporary sedimentation and bank erosion were identified as adverse impacts of the construction of the outlet structure of the Point Pleasant Diversion Project pipeline into the East Branch of the Perkiomen Creek. The DRBC predicted that only the "upper quarter" of the stream would be adversely affected and only during the brief period of construction and the initial phases of operation. It was noted that some stream channel improvements to even out the discharge from the outlet structure were anticipated but that impacts associated with these improvements would be minimized and developed under the control of the Pennsylvania Soil Erosion and Sediment Control Act. The impact of erosion and sedimentation in the East Branch of the Perkiomen Creek due to construction of the Point Pleasant Diversion Project was assessed by the DRBC to be very slight due to its temporary nature.

The DRBC again examined the East Branch of the Perkiomen Creek in its Final Environmental Assessment dated August 1980.[18] There was no revision of the discussion or conclusions of the 1973 DRBC Environmental Impact Statement in this assessment with regard to construction-related stream bank erosion or stream bed sedimentation of the East Branch of the Perkiomen Creek.

On November 5, 1975, the DRBC granted approval for PECO to withdraw surface water and discharge wastewater to be used in the proposed operation of the Limerick Facility. In its decision (Docket No. D-69-210-CP (Final)), construction operations associated with the project including the Point Pleasant Diversion were subject to the following environmental protection conditions related to erosion and sedimentation:

> II.j. The turbidity standards for the Delaware River, as established by the Delaware River Basin Commission, may not be exceeded outside the mixing areas, as described herein: a distance of 100 feet upstream and 500 feet downstream and ½ of the stream width at each discharge and intake structure during their construction.
>
> II.i. Sound practices of excavation, backfill and reseeding shall be followed to minimize erosion and deposition of sediment in streams.
>
> II.k. The Executive Director of the Delaware River Basin Commission may direct a suspension of streambed excavation operations whenever in his judgement the operations are not being conducted in accordance with this approval, are adversely affecting water quality or are harmful to the passage of anadromous or catadromous fishes.

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[18] "Final Environmental Assessment for the Neshaminy Water Supply Steam Project Sponsored by the Neshaminy Water Resources Authority and the Philadelphia Electric Company."

On February 18, 1981, the DRBC approved specifically the PECO portion of the Point Pleasant Diversion Project in its Decision (Docket No. D-79-52-CP). The installation of the transmission main outlet structure on the East Branch of the Perkiomen Creek was subject to the following environmental conditions related to erosion and sedimentation:

> II.E. Sound practices of excavation, backfill, and reseeding shall be followed to minimize erosion and deposition of sediment in streams.
>
> II.N. The applicant shall inspect and monitor the portion of East Branch Perkiomen Creek immediately below the discharge, at river mile 92.47-32.3-11.3-23.8, on a regular basis and following any significant period of flood flows. If such inspection discloses significant erosion of the bank or bed of the East Branch Perkiomen Creek below the discharge, the applicant shall promptly correct such erosion, stabilize and revegetate any exposed portion of the streambank. Reports of such monitoring, and any corrective action taken, shall be filed with the Executive Legal Director within two weeks of each inspection or action.

With respect to the construction of the combined transmission main to the Bradshaw Reservoir, on March 17, 1971, the DRBC amended the Neshaminy Creek Watershed Plan, a part of the DRBC Comprehensive Plan, to include the pumping of water to the Northeast Branch Perkiomen Creek to meet the cooling water needs of the Limerick Facility. In this Decision (Docket No. D-65-76-CP(3)), the construction of water pipelines (*i.e.*, the combined transmission main from the Point Pleasant pumping station to the Bradshaw Reservoir and the pipelines from there to the Neshaminy and Perkiomen Creeks) was subject to the following environmental protection condition related to erosion and sedimentation:

> II.d. The pipelines from the Point Pleasant pumping station to the Bradshaw Road pumping station and from there to the Neshaminy and Perkiomen Creeks shall be buried. In excavating and backfilling the trenches for these pipelines, proper soil segregation practices shall be followed to ensure regrowth of vegetation. Provisions, acceptable to the Commission, shall be included in construction specifications to ensure that streambeds are protected from siltation during construction. Appropriate landscaping and planting shall be performed to minimize the effect upon the environment and construction specifications shall include requirements, acceptable to the Commission, for proper seeding and placement of topsoil.

The installation of the outlet structure on the East Branch of the Perkiomen Creek was also assessed by the Pennsylvania Department of En-

vironmental Resources in August 1982.[19] It was noted that the proposed installation procedures and the construction of an energy dissipator as part of the outlet works "were found to be adequate in controlling soil erosion and sedimentation by the Bucks County Conservation District."[20] This assessment also concluded that the Point Pleasant Diversion Project incorporates designs, construction practices, and operating procedures to minimize the potential adverse impact of the project upon the environment and to protect the public natural resources of the Commonwealth.

The Commonwealth of Pennsylvania, Department of Environmental Resources, issued Water Obstruction and Encroachment Permit No. ENC: 09-77 on September 2, 1982, to PECO, permitting the construction and maintenance of an outfall structure, energy dissipator and channel stabilization along the left bank of the East Branch Perkiomen Creek. A special condition related to siltation and sedimentation was included in the permit as follows:

> Construction:
>
> E. The Erosion and Sedimentation Control Plan must be properly implemented and closely monitored to minimize erosion and prevent excessive sedimentation into the receiving stream channel.

Finally, on December 17, 1981, the Bucks County Conservation District issued its review of the erosion and sedimentation control measures proposed by PECO for the outlet channel and energy dissipator associated with the Bradshaw Reservoir and pipeline. The County concluded "these measures to be adequate to control accelerated erosion and protect other environmental concerns."[21]

Based on a review of the above-mentioned environmental impact statements and assessments and the subsequently issued decisions and permits, I conclude that the construction phase environmental impacts related to erosion and sedimentation of the East Branch of the Perkiomen Creek and the streams associated with drainages traversed by the combined transmission main have been assessed by the appropriate local, state and Federal agencies. Requirements for monitoring to detect adverse impacts and for implementing mitigative actions if such effects are detected have been incorporated in the various approvals and permits

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[19] Commonwealth of Pennsylvania Department of Environmental Resources, "Environmental Assessment Report and Findings, Point Pleasant Water Supply Project," August 1982.

[20] *Id.*, ¶ 4.C(1), at 40.

[21] Lonnie J. Manai, Bucks County Conservation District, letter to D. Marino, Philadelphia Electric Company, dated December 17, 1981.

for the project. In accordance with the provisions of the Council on Environmental Quality's regulations implementing the National Environmental Policy Act regarding duplication of effort and use of existing environmental assessments, further evaluation, assessment and control of these impacts by the NRC is unnecessary and inappropriate. *See* 40 C.F.R. §§ 1506.2 and 1506.3.

With respect to the recent rockslide in the vicinity of Hickory Creek, the NRC staff has contacted the Bucks County Conservation District, the Pennsylvania Bureau of Soil and Water Conservation and the Neshaminy Water Resources Authority and has determined that construction on the combined transmission main was halted following stabilization of the area of the rockslide. Both the Commonwealth and local agencies have reviewed this event and its consequences. In its letter of August 2, 1983, the Pennsylvania Department of Environmental Resources (DER) notified the NWRA engineer that it was considering requiring specific measures to be taken by the Authority and its contractor for erosion and sedimentation control to ensure that a recurrence will be unlikely following resumption of construction.[22] This action is authorized by Pennsylvania DER Water Obstruction and Encroachment Permit No. ENC:09-81, issued on September 2, 1982. Subsequently, revised installation details for the permanent Hickory Creek and nearby Swale Crossings by the combined transmission main and the revised Erosion and Sediment Control Plan for the transmission main installation have been submitted to the Pennsylvania DER, Division of Waterways and Storm Water Management and Bureau of Soil and Water Conservation, for approval.[23] Consequently, I conclude that this matter is receiving appropriate attention.

CONCLUSION

With respect to those issues raised in the Petition which are appropriate for my consideration, specifically, the issues related to alleged construction impacts as discussed above, these areas were examined by a number of agencies in reviews associated with issuing various permits and approvals for construction. The rockslide which occurred following commencement of construction is receiving appropriate attention from

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[22] Eugene E. Counsil, Pennsylvania DER, Division of Waterways and Storm Water Management, letter to J.J. Powers, Jr., E.H. Bourguard Associates, Inc.

[23] J.J. Powers, Jr., E.H. Bourguard Associates, Inc., letter to Eugene Counsil, Pennsylvania DER, Division of Waterways and Storm Water Management, January 16, 1984; and J.J. Powers, Jr., E.H. Bourguard Associates, Inc., letter to Allen D. Forshey, Pennsylvania DER, Bureau of Soil and Water Conservation, January 16, 1984.

state and local officials. Certainly, none of the matters raised in the Petition warrants modification of the construction permits for the Limerick Facility. Accordingly, the Petitioners' request for action pursuant to 10 C.F.R. § 2.206 is 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.

Harold R. Denton, Director
Office of Nuclear Reactor
Regulation

Dated at Bethesda, Maryland,
this 25th day of April 1984.