



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

J.W.

February 10, 1987

cc: T. Murley
 J. Allan
 J. Gutierrez
 S. Ebnetter
 W. Kane
 T. Martin
 R. Blough
 R. Bellamy
 J. Wiggins
 PHL - 2/17/87

MEMORANDUM FOR THE FILES

FROM: G. Wayne Kerr, Director
 Office of State Programs

Martin G. Malsch
 Deputy General Counsel

*MD (note/cor)
 2-10-87*
MD

SUBJECT: TESTIMONY BEFORE THE SPECIAL JOINT COMMITTEE ON
 THE INVESTIGATION AND STUDY OF THE PILGRIM STATION
 NUCLEAR GENERATING FACILITY AT PLYMOUTH OF THE
 MASSACHUSETTS LEGISLATURE, FEBRUARY 2, 1987

The first witness was Sharon Pollard, Secretary of Energy Resources, who appeared on behalf of Governor Dukakis. Her testimony focused on the need to resolve all problems at Pilgrim before going back on line. She acknowledged NRC authority over radiological matters but felt the State can insist on adequate construction and emergency preparedness. She stated that Massachusetts has a constitutional responsibility to protect public health and safety. She discussed the involvement of six State agencies affecting Pilgrim. She noted that the State EP plan for Pilgrim was submitted in 1981 but it has not been formally approved. She received questions on environmental monitoring and the role(s) of the State agencies. Ms. Pollard expressed concern over NRC's oversight of the plant and was asked for a memo covering specifics. She also raised the containment issue.

Martin G. Malsch, OGC was the next witness. He stated that under the Atomic Energy Act the State has no authority to regulate nuclear power plants for the purpose of protection against radiation hazards (except for radioactive emissions into the air which States may regulate by virtue of the Clean Air Act), but that there was no Atomic Energy Act bar to States regulating nuclear power plants for non-radiation protection purposes, such as economics, rates, etc., so long as such non-radiological regulations do not conflict with an NRC safety requirement. In response to questions, he stated that in his opinion the State authority to regulate for economic purposes applied to operating plants as well as to plants under construction, although the economic basis for State action would of course be different. In response to further questions, he stated that adverse economics associated with high-level nuclear waste and spent fuel disposal could be the basis for a State shutting down a nuclear power

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plant (indeed this was the very kind of State action upheld by the U.S. Supreme Court in the PG&E case), but that there was some question in his mind whether such an economic justification could be developed since enactment of the Nuclear Waste Policy Act and its establishment of the Waste Fund.

A representative of the Attorney General's Office discussed her perspective on the legal aspects of jurisdiction. She covered the AE Act, the Pacific Gas & Electric Company v. State (California) Energy Resources Conservation and Development Commission, and the Karen Silkwood cases noting the non-radiological areas where the State was recognized as having authority, particularly by the two court cases. Rep. Forman noted that the Commonwealth appears to have been reluctant to move into these areas of control. In response to a question, she noted the Commonwealth would not be opposed to restart of Pilgrim if they were assured that the public health and safety can be protected.

Wayne Kerr, OSP, presented a brief discussion of State involvement in nuclear issues with a focus on those States most actively involved at NRC licensed facilities. He described the type of activities carried out by Oregon, Vermont, Illinois, Pennsylvania, New Jersey, Washington and Ohio. He responded to questions related to low-level waste generation, LLW inspections, LLW compacts, and on the nature of Section 274b agreements with NRC.

Mr. Abbott spoke on behalf of a citizens group from the Plymouth area. He discussed radiological releases (in non-specific terms) from Pilgrim that he believes were not reported promptly and dissatisfaction with the Commonwealth's TLD monitoring program and installation of a link to the Commonwealth. He also recommended the Commonwealth have an inspector to follow plant activities but not as a resident, since he feels residents become apologists for Boston Edison. He stated he does not have confidence in NRC and the Commonwealth should move into the vacuum.

The Assistant Secretary of Public Safety, Peter Agnes made a brief presentation on their plans to review the functions of emergency planning, environmental monitoring and nuclear engineering oversight with possible consolidation of these functions organizationally. In response to a question, he stated that they can assess the utility for the cost of these functions. A response to a question on the legal liability of the Commonwealth for damages or injuries offsite if they had an approved emergency plan was inconclusive.

Mr. Gerald Parker, Assistant Commissioner of Health was to testify after the departure of Messrs. Malsch and Kerr.

3/6/87

NOTE TO: Bill Kane
Jim Wiggins
FROM: Bob Capra

Attached is an updated Summary of Statistics for 2,206 Petitions. I have marked-up the previous letter sent to Norton/Foreman with the numbers they call for but I think the numbers in Malsch's letter are probably more accurate, and would use those if asked.

Four of the Petitions that were granted in whole or in part are indicated on the 2nd pg of the Malsch letter.

BSC told me that the Pilgrin EP Petition filed by ^{in part} MASS PIRG was granted in part and denied. That is what the Summary says. However, if you read it, it actually was denied in part and deferred in part. The deferred part was evaluated later and then denied. (See Attached Decisions)

BK

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

February 12, 1987

*→ To Jim Wiggins
 Jay*

Senator Thomas C. Norton, Senate Chairman
 Representative Peter Forman, House Chairman
 Special Joint Committee on the Investigation
 and Study of the Pilgrim Station Nuclear
 Generating Facility at Plymouth
 The Commonwealth of Massachusetts
 State House
 Boston, Massachusetts 02133

Gentlemen:

In my appearance before the Joint Committee on February 2 I promised to supply you with information regarding enforcement petitions and possible radioactive material releases at Pilgrim. With regard to the former, the statistics you requested are as follows:

2,206 PETITIONS RECEIVED AND
 PUBLISHED DECISIONS ON THEM 1974-1986

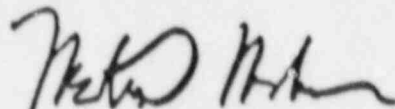
Year	*Petitions Received	Granted in Whole or in Part	Partial Deferral
1974-1982	189	24	Undetermined
1983	27	3	1
1984	26 ² 24	3 ² 2	2 ² 3
1985	12	1	
1986	<u>11</u> ¹⁵	<u>1</u> ²	
	265 ² 242	32 ² 30	3 ² 4

*If several petitions were considered in a single decision, for purposes of this listing they are counted as one petition.

With regard to the latter, I contacted our Region I office and was informed that their inspections do not reveal any offsite releases of radioactive materials from Pilgrim in excess of regulatory limits. There was some incident in 1982 when contaminated resins were spilled into a plant vent system but

there was no evidence of releases offsite. If you want further details, I am sure that our Region I office could supply them.

Sincerely,



Martin G. Malsch
Deputy General Counsel for
Licensing and Regulation

DD#

83-16	18 NRC 1123	PARTIAL MIDLAND QA
84-2	19 NRC 478	GRANTED MIDLAND QA
85-9	21 NRC 1759	PARTIAL CATAWBA HERRINGTOWN + QA
86-7	_____	PARTIAL FAYETTE ?

Cite as 19 NRC 542 (1984)

DD-84-5

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

OFFICE OF INSPECTION AND ENFORCEMENT

Richard C. DeYoung, Director

In the Matter of

Docket No. 50-293
(10 C.F.R. § 2.206)

BOSTON EDISON COMPANY
(Pilgrim Nuclear Power Station)

February 27, 1984

*Today
Over*

The Director of the Office of Inspection and Enforcement grants in part and denies in part a petition submitted by the Massachusetts Public Interest Research Group requesting that the NRC take action with respect to the state of emergency planning at Pilgrim facility. Among the specific relief requested was the initiation of the 4-month period specified by the Commission's regulations within which to correct the alleged deficiencies at the Pilgrim facility and consideration by the Commission as to whether the state of emergency preparedness in conjunction with the alleged poor safety record at the Pilgrim facility warrants immediate shutdown or operation of the facility at reduced power.

TECHNICAL ISSUE DISCUSSED: EMERGENCY PLANNING

The Federal Emergency Management Agency takes the lead in offsite emergency planning and reviews and assesses State and local emergency plans for adequacy. The NRC assesses the licensee's site emergency plans for adequacy and makes decisions with regard to the overall state of emergency preparedness.

EMERGENCY PLAN: EMERGENCY PLANNING ZONE

The Commission's regulations preclude an Emergency Planning Zone (EPZ) radius significantly in excess of 10 miles. An EPZ of about 10

miles is considered large enough to provide a response base which would support activity outside the planning zone should this ever be needed.

EMERGENCY PLAN: EVACUATION PLAN

The Commission has adopted an approach to emergency planning in which evacuation is only one of several possible responses to an emergency. It is unlikely that evacuation of the entire plume EPZ would be required in the event of an accident. Pending a final determination regarding the adequacy of evacuation time estimates, it is reasonable to conclude that the public health and safety will be reasonably assured in the interim by continued licensee compliance with Commission requirements regarding emergency planning and other health and safety requirements aimed at keeping the probability of serious accidents very low.

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

INTRODUCTION

In its "Petition of the Massachusetts Public Interest Research Group for Emergency and Remedial Action" (Petition) dated July 20, 1983, the Massachusetts Public Interest Research Group (hereinafter referred to as Petitioner) requested that the Nuclear Regulatory Commission (NRC) take action to remedy alleged serious deficiencies in the offsite emergency response plans for the Pilgrim Nuclear Power Station in Plymouth, Massachusetts. Among the specific relief requested was the initiation of the 4-month period specified by the Commission's regulations, specifically 10 C.F.R. § 50.54(s)(2)(ii), within which to correct the alleged deficiencies at the Pilgrim facility and consideration by the Commission as to whether the state of emergency preparedness in conjunction with the alleged poor safety record¹ at the Pilgrim facility

¹ The Petitioner, in the relief requested, made reference to the poor safety record at the Pilgrim facility as a reason for granting the relief. As stated in the September 6, 1983 letter to the Petitioner with regard to Pilgrim's safety record since 1981, in mid-1982 the licensee initiated a Performance Improvement Plan pursuant to an NRC Order (47 Fed. Reg. 4171 (1982)) to improve the plant's performance. This plan, which was submitted to the NRC on July 30, 1982, has shown utility management involvement in ensuring quality and has resulted in marked improvements in Pilgrim's operating record over the

warrants immediate shutdown or operation of the facility at reduced power.

The Petitioner's request is based upon a report by the Petitioner entitled "Blueprint for Chaos II: Pilgrim Disaster Plans Still a Disaster" (hereinafter referred to as the Chaos II Report), the "Comments of Attorney General Francis X. Bellotti Relative to Off-Site Emergency Planning for the Pilgrim Nuclear Power Station" (hereinafter referred to as the Comments of the Attorney General), and upon two reports by the Federal Emergency Management Agency (FEMA) — "Interim Findings: Joint State and Local Radiological Emergency Response Capabilities for the Pilgrim Nuclear Power Station, Plymouth, Massachusetts," dated September 29, 1982, and "Report on the Pilgrim Nuclear Power Station Siren Test, June 19, 1982," dated January 1983.

In its Chaos II Report, the Petitioner has reviewed offsite emergency planning for the Pilgrim facility and claims to have identified certain deficiencies with regard to the size of the plume exposure pathway Emergency Planning Zone (EPZ), advance information provided to the public on what actions to take in the event of an emergency, required notifications during an accident itself, and evacuation planning and sheltering including the adequacy of reception and medical facilities. In each of these areas, the Petitioner makes various recommendations as to actions which it believes are required to improve the state of preparedness at the Pilgrim facility. The Petitioner states that the findings of the Chaos II Report are supported in part by a telephone survey of 100 residents of the EPZ conducted by the Petitioner. The survey was conducted between February and May of 1983.

In further support of its Petition, Petitioner references the Comments of the Attorney General which also question the adequacy of emergency planning for the Pilgrim facility. Specifically, Petitioner argues that the Comments of the Attorney General support Petitioner's claims that the EPZ has been drawn too small and that evacuation plans are inadequate.² The Comments of the Attorney General are based in part upon a study prepared for the Attorney General by MHB Technical Associates of San Jose, California.

¹ over 2 years. The last Systemic Assessment of Licensee Performance report, for the period July 1, 1982 to June 30, 1983, gave Pilgrim a Category 1 ("high-level performance") rating in emergency planning, a Category 2 ("satisfactory performance") rating in plant operations, and an overall Category 2 rating in the eight functional areas assessed. Since late 1983, there has been continued improvement in Pilgrim's performance with respect to operational safety. A satisfactory level of management attention and involvement in plant safety matters now exists.

² The Comments of the Attorney General were forwarded to FEMA on August 25, 1982. While the Comments of the Attorney General raise other issues related to the Pilgrim facility, the Comments are relied upon by the Petitioner only to support its claims regarding the adequacy of the current EPZ size and evacuation planning. See Petitioner's Chaos II Report at 26.

DISCUSSION

Emergency preparedness at the Pilgrim facility has been reviewed by both the NRC and FEMA. The NRC Final Rule on Emergency Planning (45 Fed. Reg. 55,402) became effective on November 3, 1980. 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, Rev. 1 (NUREG-0654). 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" of January 1, 1980 (45 Fed. Reg. 5847). 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 the licensee's site emergency plans for adequacy and makes decisions with regard to the overall state of emergency preparedness. The NRC and FEMA undertook a review of the state of emergency preparedness at the Pilgrim facility in accordance with the requirements of the final rule in emergency planning.

NRC REVIEW

The NRC initiated the process of reviewing the licensee's emergency plan in 1979 in connection with its review of the construction permit application for Pilgrim Unit 2. Following the rule change in November 1980, an upgraded site emergency plan was submitted for the Pilgrim facility. The results of the NRC's evaluation of the licensee's upgraded emergency plan and an examination of the implementation of the plan, conducted during an Emergency Preparedness Implementation Appraisal (EPIA) on July 13-24, 1981, are summarized in Inspection Report 90-293/81-15 dated June 22, 1982. The findings of the EPIA indicated that certain corrective actions were required by the licensee in the emergency plan and in the implementation of its emergency plan in order to achieve an effective emergency preparedness program. The EPIA also identified areas of lesser significance where the licensee could improve its emergency preparedness. The licensee responded to the concerns identified by the NRC in a letter dated July 28, 1982, wherein the licensee concluded that the significant findings which had been identified in the EPIA report had been adequately addressed. Following the receipt of the licensee's response to the EPIA report, on August 5, 1982, the

NRC met with the licensee to discuss the status of EPA findings. The NRC agreed with the licensee's actions on sixteen of the twenty significant findings, and only four of the twenty significant findings required further discussion. These four areas were dose assessment, recommended protective actions, in-plant surveys, and procedures related to emergency repair and corrective actions. After discussion of these four items, it was resolved that the licensee would take the necessary corrective actions. In its November 1, 1982 correspondence, the licensee reported that all planned actions relevant to the significant findings had been completed, informed the NRC of the progress on actions planned pertaining to the improvement items, and transmitted its response to the emergency plan evaluation findings. The licensee's response addressed each item identified in the EPA. On December 29, 1982, the NRC Region I Office acknowledged the corrective actions that had already been taken and those planned by the licensee and informed the licensee that all corrective actions would be examined during a future inspection.

The licensee's action on the significant findings was verified during follow-up inspections conducted by Region I of the NRC on March 1-4, 1983, and June 21-August 15, 1983, and summarized in Inspection Reports 50-293/83-05 dated April 20, 1983 and 50-293/83-17 dated September 8, 1983. Within the scope of the follow-up inspections, no violations were observed and only one inspector follow-up item was identified.

In addition, on March 3, 1982 and June 29, 1983, the licensee conducted full-scale emergency exercises which were observed by both the NRC and FEMA. The NRC's findings are presented in Inspection Reports 50-293/82-99 dated March 24, 1982 and 50-293/83-16 dated July 29, 1983, in which it was determined that the emergency response actions taken by licensee personnel were adequate to provide protective measures for public health and safety. As a result of these review activities, there continues to be reasonable assurance that onsite emergency preparedness is adequate to protect the public health and safety.

FEMA REVIEW

FEMA, in accordance with the Memorandum of Understanding, has reviewed the adequacy of offsite emergency preparedness at the Pilgrim facility. A preliminary review of the Massachusetts State Radiological Plan was conducted in October 1981 by the Regional Assistance Com-

mittee (RAC).² Based on the preliminary review, the RAC concluded that the plan was in an advanced but incomplete stage and that further revision to the plan was required in order to conform to the guidance criteria of NUREG-0654. The NRC requested that FEMA review the process for prompt protective action decisionmaking in Massachusetts based on draft State plans and information submitted to the RAC in early 1982. On June 11, 1982, FEMA issued an interim finding that the current protective action decisionmaking process in Massachusetts was adequate to provide for public protection. Formal submission of emergency plans to the RAC by State and relevant local jurisdictions was followed by the first joint radiological emergency response exercise on March 3, 1982. The exercise involved emergency preparedness organizations at both the State and local levels. The performance of these organizations in implementing their radiological emergency response plans was observed. Deficiencies were identified as a result of this exercise and corrective actions initiated by the parties involved. On September 10, 1982, FEMA Region I issued its "Exercise Report - Joint State and Local Radiological Emergency Response Exercise for the Pilgrim Nuclear Power Station, Plymouth, Massachusetts, March 3, 1982." By memorandum dated November 2, 1983, FEMA provided to the NRC its "Interim Findings - Joint State and Local Radiological Emergency Response Capabilities for the Pilgrim Nuclear Power Station, Plymouth, Massachusetts" dated September 29, 1982. The interim findings were based on a summary evaluation of the Massachusetts Radiological Emergency Response Plan and the exercise of the State and local emergency response plans held on March 3, 1982. Although deficiencies were identified which required corrective action, FEMA found that the Massachusetts State and local emergency plans and preparedness for coping with the offsite effects of radiological emergencies that may occur at the Pilgrim Nuclear Power Station were adequate to protect the public.

The second joint radiological emergency response exercise at Pilgrim was held on June 29, 1983. A seventeen-member Federal team was assigned to evaluate State, local and field activities. By memorandum dated November 29, 1983, FEMA transmitted to NRC its "Final Report of the Joint State and Local Radiological Emergency Response Exercise

² There exists in each of the ten standard Federal Regions a Regional Assistance Committee (RAC) (formerly the Regional Advisory Committee) chaired by a FEMA Regional official and having members from the Nuclear Regulatory Commission, Department of Health and Human Services, Department of Energy, Department of Transportation, Environmental Protection Agency, the United States Department of Agriculture and Department of Commerce. The RACs advise State and local government officials in the development of their radiological emergency response plans, review plans, and otherwise evaluate the adequacy of these plans and related preparedness. A description of the RAC authority and responsibilities is found in 44 C.F.R. Part 270.

for the Pilgrim Nuclear Power Station, Plymouth, Massachusetts," dated September 26, 1983 (1983 Exercise Report). The 1983 Exercise Report identifies no deficiencies that would lead to a negative finding.⁴ Deficiencies requiring corrective action were identified by FEMA in two areas — the State police radio notification system and the transmission of meteorological information. FEMA also identified other deficiencies and additional areas of improvement for consideration by the State and local authorities regarding their offsite emergency preparedness program. FEMA will furnish a copy of the 1983 Exercise Report to the Commonwealth of Massachusetts and will request a schedule of actions for the correction of deficiencies. A copy of the 1983 Exercise Report was sent to NRC Region I on January 12, 1984 for its use in coordinating with FEMA Region I in ensuring that the identified deficiencies are addressed in a timely manner.

Following receipt of the Petition, the Petition and the supporting Chaos II Report were forwarded to FEMA for its evaluation and review since the Petition questioned the adequacy of offsite emergency preparedness at the Pilgrim facility. By memorandum dated November 9, 1983, FEMA provided to the NRC its final report entitled "Analysis of Emergency Preparedness Issues at Pilgrim Nuclear Power Station Raised by the Massachusetts Public Interest Research Group (MASSPIRG)," dated November 3, 1983, attached hereto as Appendix A. The November 3, 1983 report indicates that FEMA has reviewed the Petition and has also consulted with members of the RAC and officials of the Commonwealth of Massachusetts. This review resulted in FEMA confirming its interim finding referred to above that the Commonwealth of Massachusetts has demonstrated that there is reasonable assurance that the public would be adequately protected if there were an accident at the Pilgrim Nuclear Power Station. In addition, in its November 3, 1983 report, FEMA indicated that the results of the 1982 Exercise Report have been superseded by the results of the 1983 Exercise Report. In effect, the numerous deficiencies identified by FEMA in its 1982 Exercise Report have been corrected or otherwise resolved. Thus only two deficiencies requiring corrective action, as described above, remain outstanding.

⁴On August 7, 1983, FEMA Headquarters revised their procedural policy on exercise observation and evaluation in order to provide a more uniform, workable approach for use by all FEMA regional offices in their exercise reporting process. The guidance provides for reporting deficiencies which would lead to a negative finding, deficiencies which require corrective action but otherwise would not lead to a negative finding, and other deficiencies where a correctable weakness is noted for which corrective action should be considered. Deficiencies that would lead to a negative finding would cause a finding that offsite emergency preparedness is not adequate to provide reasonable assurance that appropriate protective measures could be taken to protect the health and safety of the public.

The NRC has reviewed the November 9, 1983 FEMA response and concurs with the conclusions reached therein. However, further discussion is appropriate regarding the following issues raised by the Petitioner and addressed in the FEMA report.

I. Capability of the Licensee to Make Accurate Release Estimates

The FEMA report notes at 6-7 that the role of the licensee in preparing release estimates upon which to make protective action determinations is more properly an NRC evaluation responsibility than that of FEMA. The NRC agrees that the licensee's capability is a proper area for NRC evaluation. During the EPIA, described previously, NRC inspectors conducted walk-through inspections with members of the licensee's onsite emergency organization. These inspections were conducted in the areas of control room dose projections, dose assessment, event classification, offsite notification, offsite monitoring and environmental assessment. The inspections identified deficiencies in the areas of the dose assessment scheme, basis for recommended protective actions and related procedures and training. The licensee took corrective actions on these deficiencies and, as mentioned above, follow-up inspection on the EPIA findings conducted by NRC Region I verified that corrective action had been taken by the licensee on all significant findings identified during the EPIA. Additionally, on March 3, 1982, a team of NRC observers was on hand to witness the full-scale exercise held at Pilgrim. During the conduct of the exercise, eleven NRC team members made detailed observations in various areas including: detection, classification and assessment, direction and coordination of the emergency response, notification, and dose projection and consideration of protective actions. The NRC team concluded that, while there was some room for improvement, there were no items which exhibited a potential for significant degradation of emergency response. Similar observations were made at the second full-scale exercise at Pilgrim on June 29, 1983. In this instance, the NRC team concluded that the licensee demonstrated the capability to implement its emergency plan and emergency plan implementing procedures in a manner which would adequately provide for the health and safety of the public.

II. Size of the EPZ

The Petitioner suggests that the EPZ size may require considerable expansion. However, this is in effect an attack on the Commission's regulations, specifically 10 C.F.R. § 50.47(c)(2). The Commission's

regulation sets EPZ size at "about 10 miles." While the regulation would allow leeway for a mile or two in either direction based upon local factors, it clearly precludes an EPZ radius significantly in excess of 10 miles as suggested by the Petitioner. See *Southern California Edison Co.* (San Onofre Nuclear Generating Station, Units 2 and 3), LBP-82-39, 15 NRC 1163, 1177-84 (1982), *aff'd*, ALAB-717, 17 NRC 346 (1983). However, even considering the Petitioner's assertion on its merits, the information provided by the Petitioner does not support enlargement of the EPZ.

The MA report of November 3, 1983 makes reference to the MHB Technical Associates Study used by Petitioner to support its request that the EPZ size for the Pilgrim facility should be enlarged. Petitioner's request is based in part on a review of preliminary Calculation of Reactor Accident Consequences (CRAC) results conducted by MHB Technical Associates for the Attorney General. The MHB Study is entitled "Review of Calculation of Reactor Accident Consequences (CRAC 2) Results and Liquid Pathways (NUREG-1596) Study: Implications for Emergency Planning in the Vicinity of the Pilgrim Nuclear Power Station." Under contract to the Department of the Attorney General for the Commonwealth of Massachusetts, MHB Technical Associates reviewed the CRAC computer code and its results for the Pilgrim Station and NUREG/CR-1596 "Consequences from Liquid Pathways After a Reactor Meltdown Accident," August 1981. The Petitioner argues that the MHB conclusions regarding the CRAC code require enlargement of the Pilgrim EPZ. The MHB study attempts to apply a generic study to a site-specific case. The CRAC calculations were carried out for a report which was written to support the formulation and comparison of possible siting criteria for nuclear power plants, and generic rather than site-specific parameters were used.¹ A realistic estimate of the risk from severe accidents at each plant was not attempted for that report.

The plume EPZ for the Pilgrim facility is based upon NUREG-0654 guidance criteria.² The joint NRC/EPA Task Force that developed NUREG-0396 considered several possible rationales for establishing the

¹ Technical Guidance for Siting Criteria Development, NUREG/CR-2239, December 1982. In NUREG/CR-2239 a generic, rather than plant-specific power level was used, regional rather than site-specific assumptions regarding evacuation and relocation were used, and generic criteria were assumed, as opposed to the design-specific release categories used for licensing.

² The plume exposure pathway Emergency Planning Zone (EPZ) established for this site is located entirely within the State of Massachusetts. Its boundary extends 9.3 to 12 miles from the site and includes portions of five townships.

³ The guidance criteria of NUREG-0654 are derived from NUREG-0396, EPA 520/1-78-016, "Planning Basis for the Development of State and Local Government Radiological Emergency Response Plans in Support of Light Water Reactors," December 1978, which provides the concept of generic Emergency Planning Zones.

size of the EPZs. These included risk, probability, cost effectiveness and an accident consequence spectrum. The Task Force chose to base EPZ size on a full spectrum of accidents and corresponding consequences tempered by probability considerations. It was the consensus of the Task Force that a plume EPZ of about 10 miles would provide an adequate planning base beyond which actions could be taken on an *ad hoc* basis using the same considerations that went into the initial action determinations. In its statement on "Planning Basis for Emergency Response to Nuclear Power Accidents," 44 Fed. Reg. 61,123 (1979), the Commission noted that an EPZ of about 10 miles is considered large enough to provide a response base which would support activity outside the planning zone should this ever be needed.

The Petitioner contends that, based upon the referenced CRAC code results, an enlargement of the current Pilgrim plume EPZ is warranted because the projected doses exceed the EPA Protective Action Guides (PAGs)³ outside the 10-mile EPZ. Both NUREG-0654 and NUREG-0396 recognize, based upon CRAC code results, that the PAGs might be exceeded beyond the 10-mile plume exposure EPZ in the event of the worst possible accident and meteorological conditions. However, a 10-mile plume exposure EPZ was still chosen as a planning basis in NUREG-0654 because

- projected doses from the traditional design basis accidents would not exceed Protective Action Guide levels outside the zone;
- projected doses from most severe fuel degradation sequences would not exceed Protective Action Guide levels outside the zone;
- for the worst fuel degradation sequences, immediate life-threatening doses would generally not occur outside the zone; and
- detailed planning within 10 miles would provide a substantial base for expansion of response efforts in the event that this proved necessary.

On balance, the MHB Study referred to in the Comments of the Attorney General and used by Petitioner in support of its Petition does not

³ The EPA has developed and the NRC has adopted a "Manual of Protective Action Guides and Protective Actions for Nuclear Emergencies," EPA 520/1-75-002, revised February 1980, which provides guidance criteria for public health officials in determining the need for and in choosing the appropriate protective actions. The Protective Action Guide (PAG) is the projected dose to individuals in the situation which warrants taking protective actions, e.g., sheltering in place.

provide an adequate basis for reconsideration of the specific size of the Pilgrim plume EPZ.¹⁴

III. Evacuation Time Estimates

In reviewing the Petition, the NRC staff considered information available to it concerning Evacuation Time Estimates (ETEs) and determined that, as Petitioner suggested, potential bottlenecks to effective evacuation of the EPZ may exist on the periphery of the EPZ. It would be important to control traffic beyond the EPZ so that such traffic, e.g., on Route 3, did not lead to evacuation traffic congestion. Two notable points beyond the plume EPZ which could cause congestion are Route 3 at Route 128 and Route 3 at the Sagamore Bridge. These points could lead to larger ETEs than those now used. The NRC staff reviewed the ETEs now used while reviewing the construction permit application for Pilgrim, Unit 2, and has now determined that this matter should be specifically brought to the attention of FEMA for its consideration in the review of ETEs for the Pilgrim facility. Consequently, this matter was referred to FEMA on January 20, 1984 for consideration and my staff has requested a response from FEMA by March 30, 1984. Therefore I am deferring resolution of this part of the Petition until after I receive FEMA's response.

I see no adequate reason to suspend operation of the Pilgrim facility pending this response. The overall state of emergency preparedness is adequate. No deficiencies which would lead to a negative finding on preparedness have been identified by FEMA. The sole remaining issue is the adequacy of ETEs for planning an emergency evacuation. The Commission has adopted an approach to emergency planning in which evacuation is only one of several possible responses to an emergency. See NUREG-0654, NUREG-0396 and 10 C.F.R. § 50.47(b)(1)(i). It is unlikely that evacuation of the entire plume EPZ would be required in the event of an accident. Pending a FEMA determination on the adequacy of the ETEs, it is reasonable to conclude that the public health and safety will be reasonably assured in the interim by continued licensee compliance with Commission requirements regarding emergency planning and other health and safety requirements aimed at keeping the

¹⁴As of November 7, 1983 report, FEMA notes that current NRC studies related to accident source terms, probabilities, and consequences are expected to result in a revision to NUREG-0654 which could lead to reconsideration of existing EPZ requirements. Current NRC proposals include a graduated response capability within the present EPZ, involving additional requirements for predetermined disaster actions within the first few miles of the reactor. The NRC is not considering at this time altering the size of the EPZ.

probability of serious accidents very low." *CF Consolidated Edison Co. of New York (Indian Point, Unit No. 2)*, CLI-83-16, 17 NRC 1006 (1983).

In view of the overall adequacy of emergency preparedness for Pilgrim and the low likelihood that an evacuation would be required as a response in the event of a radiological emergency at Pilgrim, Petitioner requests that the NRC (1) issue a finding that the state of emergency preparedness at Pilgrim does not provide reasonable assurance that protective measures can and will be taken in the event of a radiological emergency, (2) suspend operation of the plant or order operation at reduced power, or (3) start the 4-month time period for correction of deficiencies are denied at this time.

CONCLUSION

In summary, both onsite and offsite emergency preparedness at the Pilgrim facility have been given continued review by both the NRC and FEMA. Onsite preparedness has been determined to be adequate based upon direct NRC evaluation of the licensee's emergency planning capabilities and based on the results of the continuing inspection program in this area conducted by Region 1 of the NRC. Offsite emergency preparedness has been reviewed by FEMA and it has been found that offsite plans are adequate and capable of being implemented. The most recent examination of offsite emergency preparedness by FEMA specifically considered the allegations raised by Petitioner and specifically found continued assurance of the adequacy of offsite emergency preparedness to protect the public health and safety. Consequently, I conclude that the overall state of emergency preparedness at the Pilgrim facility is sufficient to assure the public health and safety while the remaining issue of Evacuation Time Estimates is considered by FEMA.

Accordingly, the Petitioner's request for action pursuant to 10 C.F.R. § 2.206 has been denied in part and deferred in part as described in this decision. Once FEMA provides the Commission with its findings regarding Evacuation Time Estimates, the staff will provide the Petitioner with a copy of FEMA's evaluation and will inform the Petitioner of the staff's decision as to whether further action should be taken.

¹⁵On December 10, 1983, the Pilgrim facility was shut down for inspection of pipe cracking in the recirculation system and for replacement of defective pipes. It is anticipated that the facility will be shut down for approximately 6 months. This should enable the staff to resolve the issue of the adequacy of the ETEs prior to plant start-up.

As provided by 10 C.F.R. § 2.206(c), a copy of this decision will be filed with the Secretary for the Commission's review.

Richard C. DeYoung, Director
Office of Inspection and
Enforcement

Dated at Bethesda, Maryland,
this 27th day of February 1984.

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Cite as 19 NRC 555 (1984)

CLI-84-3

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. 50-209-SP

METROPOLITAN EDISON COMPANY

(Three Mile Island Nuclear
Station, Unit No. 1)

March 28, 1984

In response to an Appeal Board memorandum (ALAB-724, 17 NRC 559 (1983)), concerning the treatment to be accorded the issues raised in a Board Notification (BN-83-47), the Commission decides that the issue of whether the power-operated relief valve should be safety-grade, because of the potential for using it to mitigate the consequences of design basis steam generator tube accidents, has no reasonable nexus to the TMI-2 accident and is, therefore, outside the scope of the proceeding. The Commission also decides that the information in the Board Notification is not significant enough to warrant reopening the record *in spite of* even if it were within the scope of the proceeding.

TECHNICAL ISSUE DISCUSSED

Uses of power-operated relief valve in depressurization in the event of a steam generator tube rupture.

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

OFFICE OF INSPECTION AND ENFORCEMENT

Richard C. DeYoung, Director

In the Matter of

Docket No. 50-293
(10 C.F.R. § 2.206)**BOSTON EDIS 24 COMPANY**
(Pilgrim Nuclear Power Station)

July 3, 1984

The Director of the Office of Inspection and Enforcement denies the remaining portion of a petition under 10 C.F.R. § 2.206 which requested that the Nuclear Regulatory Commission take action to remedy alleged serious deficiencies in the offsite emergency response plans for the Pilgrim Nuclear Power Station. On February 27, 1984, the Director issued an Interim Decision, DD-84-5, 19 NRC 542, which denied relief on all issues except potential traffic bottlenecks to evacuation of the area surrounding the Pilgrim facility. The remaining issue was referred to the Federal Emergency Management Agency (FEMA) for evaluation. Based on FEMA's evaluation that traffic management issues have been adequately addressed by the Commonwealth of Massachusetts, the Director denies the remainder of the petition.

LOW POPULATION ZONE: EVACUATION

Traffic management issues related to potential bottlenecks to evacuation have been adequately addressed by the Commonwealth of Massachusetts.

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

INTRODUCTION

In its "Petition of the Massachusetts Public Interest Research Group for Emergency and Remedial Action" (Petition) dated July 20, 1983, the Massachusetts Public Interest Research Group (hereinafter referred to as Petitioner) requested that the Nuclear Regulatory Commission (NRC) take action to remedy alleged serious deficiencies in the offsite emergency response plans for the Pilgrim Nuclear Power Station in Plymouth, Massachusetts. On February 27, 1984, I issued an "Interim Director's Decision Under 10 C.F.R. § 2.206" examining a number of issues raised by the Petition and denying the relief requested with respect to those issues.¹ However, the Petitioner's concern regarding potential bottlenecks to evacuation of the area surrounding the Pilgrim facility was noted to be still under consideration. The Petitioner was informed that the NRC had formally requested the Federal Emergency Management Agency (FEMA) to evaluate the potential bottlenecks in the area near the Pilgrim site which may impede effective evacuation of the plume exposure pathway Emergency Planning Zone (EPZ). FEMA has now responded to the NRC's request and a final decision in this matter is now possible.

DISCUSSION

The Interim Decision noted that, in its review of the Petition, the NRC staff considered information available to it concerning evacuation planning and determined that, as the Petitioner had suggested, potential bottlenecks to effective evacuation of the EPZ may exist on the periphery of the EPZ.² The Interim Decision noted that it would be important to control traffic beyond the EPZ so that such traffic, e.g., on Route 3, did not lead to evacuation traffic congestion. Two notable points beyond the plume EPZ which could cause congestion are Route 3 at Route 128 and Route 3 at the Sagamore Bridge. Consequently, the NRC staff formally requested that FEMA review these traffic issues for the Pilgrim

¹ *Boston Edison Co., "Pilgrim Nuclear Power Station,"* DDC-84-1, 19 NRC 542 (1984), hereinafter referred to as the Interim Decision.
² Interim Decision, supra note 19 NRC at 352.

facility and I deferred resolution of that portion of the Petition until after the staff received FEMA's response.

On May 15, 1984, FEMA responded to the NRC request. Its "Response to January 20, 1984, Request for Assistance on Evacuation Time Estimates for Pilgrim Nuclear Power Station" and the attached "Analysis Report on Issues Related to the Pilgrim Evacuation Time Estimate, Pilgrim Nuclear Power Station, Plymouth, Massachusetts" dated May 3, 1984 (hereinafter referred to as the FEMA Analysis) are attached hereto as Exhibit A (not published).

The FEMA Analysis notes that the bottlenecks at issue had previously been identified in the NRC's "Safety Evaluation Report related to the construction of Pilgrim Nuclear Generating Station, Unit No. 2," NUREG-0022, Supplement No. 5 (hereinafter referred to as NUREG-0022). NUREG-0022 indicated that the Evacuation Time Estimates (ETEs) did not adequately reflect the two potential impediments to evacuation located outside the 10-mile EPZ discussed above. These potential impediments were identified by Dr. Thomas Urbanik, II, of the Texas Transportation Institute who, as a consultant to the NRC, conducted the review of the ETEs discussed in NUREG-0022.

As is set forth in the FEMA Analysis, FEMA has reviewed this matter by consulting with Dr. Urbanik, reviewing the pertinent plans and documents developed in response to NUREG-0022, and consulting with the State agencies responsible for implementing evacuation plans. The FEMA Analysis revealed that, following the issuance of NUREG-0022, impediments to evacuation were carefully studied by the Boston Edison Company, operator of the Pilgrim Nuclear Power Station, and a traffic management plan was developed to eliminate the problems identified in NUREG-0022. FEMA concludes that, after extensive analysis, the traffic management issues raised in NUREG-0022 have been adequately addressed by the Commonwealth of Massachusetts in accordance with proper emergency management standards and the evacuation time estimation methods now available.

CONCLUSION

In summary, the single issue remaining after issuance of my Interim Decision in this matter was the existence of potential bottlenecks to effective evacuation of the EPZ for the Pilgrim facility. This matter has been examined by FEMA and it has been found that the traffic management issues have been adequately addressed by the Commonwealth of Massachusetts. Consequently, I conclude that evacuation planning

including the associated traffic management, is adequate for the Pilgrim Facility.

Accordingly, the remaining portion of Petitioner's request for action pursuant to 10 C.F.R. § 2.206 is hereby denied. As provided by 10 C.F.R. § 2.206(c), a copy of this decision will be filed with the Secretary for the Commission's review.

Richard C. DeYoung, Director
Office of Inspection and
Enforcement

Dated at Bethesda, Maryland,
this 3rd day of June 1984.

[The attachments have been omitted from this publication but may be found in the NRC Public Document Room, 1717 H Street, NW, Washington, DC 20555.]

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

OFFICE OF INSPECTION AND ENFORCEMENT

Richard C. DeYoung, Director

In the Matter of

Docket Nos. 50-413
50-414
(10 C.F.R. § 2.206)

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

July 6, 1984

The Director of the Office of Inspection and Enforcement denies a petition filed by the Government Accountability Project on behalf of the Palmetto Alliance which requested initiation of independent design, construction and management audits of Duke Power Company's construction of the Catawba Nuclear Station. In denying the requested relief, the Director determined that the quality assurance program for Catawba had not suffered a serious breakdown.

RULES OF PRACTICE: SECTION 2.206 PETITIONS

Although licensees are not required to respond to petitions under 10 C.F.R. § 2.206 in the absence of a formal request by the staff under 10 C.F.R. § 50.54(f) of § 182 of the Atomic Energy Act, licensees may respond to such petitions at their own volition.

RULES OF PRACTICE: SECTION 2.206 PETITIONS

A request for an investigation, particularly for an investigation of internal NRC personnel matters, does not fall squarely within the class of requests contemplated by 10 C.F.R. § 2.206.

including the associated traffic management, is adequate for the Pilgrim facility.

Accordingly, the remaining portion of Petitioner's request for action pursuant to 10 C.F.R. § 2.206 is hereby denied. As provided by 10 C.F.R. § 2.206(c) a copy of this decision will be filed with the Secretary for the Commission's review.

Richard C. DeYoung, Director
Office of Inspection and
Enforcement

Dated at Bethesda, Maryland,
this 3rd day of June 1984.

[The attachments have been omitted from this publication but may be found in the NRC Public Document Room, 1717 H Street, NW, Washington, DC 20555.]

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

OFFICE OF INSPECTION AND ENFORCEMENT

Richard C. DeYoung, Director

In the Matter of

Docket Nos. 50-413
50-414
(10 C.F.R. § 2.206)

DUKE POWER COMPANY, et al
(Catawba Nuclear Station,
Units 1 and 2)

July 8, 1984

The Director of the Office of Inspection and Enforcement denies a petition filed by the Government Accountability Project on behalf of the Palmetto Alliance which requested initiation of independent design, construction and management audits of Duke Power Company's construction of the Catawba Nuclear Station. In denying the requested relief, the Director determined that the quality assurance program for Catawba had not suffered a serious breakdown.

RULES OF PRACTICE: SECTION 2.206 PETITIONS

Although licensees are not required to respond to petitions under 10 C.F.R. § 2.206 in the absence of a formal request by the staff under 10 C.F.R. § 50.54(f) of § 182 of the Atomic Energy Act, licensees may respond to such petitions at their own volition.

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