BOSTON EDISON COMPANY
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ANDREW F. CORRY
SENIOR VICE PRESIDENT

July 31, 1979

Director of Nuclear Reactor Regulation
Attention: Mr. O. D. Parr, Chief
Branch No. 3
U.S. Nuclear Regulatory Commission
Washington, D. C. 20555

Additional Information
Related to Pilgrim Unit 2
(Docket No. 50-471)

Dear Mr. Parr:

At our meeting on July 20, 1979 in Bethesda, Maryland, the NRC defined the basic scope of actions required on the Pilgrim Unit 2 docket to address issues resulting from the Three Mile Island incident. At a subsequent meeting on July 24, 1979, the actions were defined in more detail. These actions were to provide commitments to comply with the following:

1. Recommendations of NUREG-0578, "TMI-2 LESSONS LEARNED TASK FORCE STATUS REPORT AND SHORT-TERM RECOMMENDATIONS," July 19, 1979.

2. Requirements of IE Bulletin No. 79-06B, "Review of OPERATIONAL ERRORS AND SYSTEM MISALIGNMENTS IDENTIFIED DURING THE THREE MILE ISLAND INCIDENT," April 14, 1979.

3. Requirements of the NRC Staff memo to the Commissioners entitled, "ACTION PLAN FOR PROMPTLY IMPROVING EMERGENCY PREPAREDNESS," July 24, 1979.

This letter and its attachments confirm Boston Edison's commitment to comply as appropriate with the above. These requirements will be incorporated into the plant design, operating procedures or emergency plan as applicable and described in detail in the FSAR. Additionally, the Applicants will make any changes during the construction phase that are required to provide substantial, additional protection for the public health and safety.

On the basis of the additional information provided in this letter and its attachments, we understand from the July 20, 1979 meeting that the NRC Staff will proceed to prepare and submit appropriate documentation of the acceptability or our commitments in support of the scheduled August 27, 1979 ASLB Hearing.

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Boston Edison remains prepared to build Pilgrim Unit 2 as soon as possible. New England needs Pilgrim Unit 2 to satisfy its need for power and to reduce our dependence on foreign oil supplies. We therefore respectfully request your expeditious actions to enable issuance of a Construction Permit.

Very truly yours,

James M. Lydon

Commonwealth of Massachus.
County of Suffolk ,

Then personally appeared before me J. M. Lydon, who being duly sworn, did state that he is Senior Vice President of Boston Edison Company, an Applicant herein, that he is duly authorized to execute and file the foregoing letter in the name and on behalf of Boston Edison Company and the other Applicants herein and that the statements in said letter are true to the best of his knowledge and belief.

Kathryn B Muldoon
Notary Public

My Commission Expires: Feb 2, 1984

Attachments

1) 11 Sheets
2) 7 Sheets
3) 3 Sheets

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Attachment #1

Pilgrim Station Unit 2

Boston Edison Company

Docket No. 50-471

The following additional information provides the NRC with the necessary assurance that Pilgrim Unit 2 will meet the intent of NUREG-0578, "TMI-2 LESSONS LEARNED TASK FORCE STATUS REPORT AND SHORT-TERM RECOMMENDATIONS", July 19, 1979. While the commitments to each applicable position are addressed below, the implementation details will be described more fully in the FSAR.

Item 2.1.1 Emergency Power Supply Requirements for the Pressurizer Heaters, Power-Operated Relief and Block Valves, and Pressurizer Level Indicators in PWRs.

Recommendation:

Provide redundant emergency power for the minimum number of pressurizer heaters required to maintain natural circulation conditions in the event of loss of offsite power. Also provide emergency power to the control and motive power systems for the power-operated relief valves and associated block valves and to the pressurizer level indication instrument channels.

Response:

Redundant emergency power will be provided for the minimum number of pressurizer heaters required to maintain natural circulation conditions in the event of loss of offsite power. Emergency power will also be provided to the control and motive power systems for the power-operated relief valves and associated block valves and to the pressurizer level indication instrument channels.

Item 2.1.2 Performance Testing for BWR and PWR Relief and Safety Valves.

Recommendation:

Commit to provide performance verification by full scale prototypical testing for all relief and safety valves. Test conditions shall include two-phase slug flow and subcooled liquid flow calculated to occur for design basis transients and accidents.

Response:

Pilgrim Unit 2 will support the industry efforts to provide performance verification by full scale testing for all relief and safety valves. The supported test conditions will include two-phase slug flow and subcooled liquid flow calculated to occur for design basis transients and accidents. The verification for Pilgrim Unit 2 will comply with resolution between the NRC and the industry of the testing requirements.

Item 2.1.3 Information to Aid Operators in Acc dent Diagnosis and Control.

a. Direct Indication of Power-Operated Relief Valve and Safety Valve Position for PWRs and BWRs.

Recommendation:

Provide in the control room either a reliable, direct position indication for the valves or a reliable flow indication device downstream of the valves.

Response:

A reliable, direct position indication for the valves, a reliable flow indication device downstream of the valves, or an equivalent alternate method acceptable to the NRC will be used to provide indication in the control room.

b. Instrumentation for Detection of Inadequate C Cooling PWRs and BWRs.

Recommendation:

Perform analyses and implement procedures and training for prompt recognition of low reactor coolant level and inadequate core cooling using existing reactor instrumentation (flow, temperature, power, etc.) or short-term modifications of existing instruments. Describe further measures and provide supporting analyses that will yield more direct indication of low reactor coolant level and inadequate core cooling such as reactor vessel water level instrumentation.

Response:

Analyses will be performed to establish the information required for prompt recognition of low reactor coolant level and inadequate core cooling. Necessary reactor instrumentation will be provided, and the implementation of procedures and operator training will be based on the results of these analyses.

Item 2.1.4 Containment Isolation Provisions for PWRs and BWRs.

Recommendation:

Provide containment isolation on diverse signals in conformance with Section 6.2.4 of the Standard Review Plan, review isolation provisions for non-essential systems and revise as necessary, and modify containment isolation designs as necessary to eliminate the potential for inadvertent reopening upon reset of the isolation signal.

Response:

Containment isolation will be initiated by diverse signals in conformance with Section 6.2.4 of the Standard Review Plan. Isolation provisions for non-essential systems will be reviewed and revised as necessary to eliminate the potential for inadvertent reopening upon reset of the isolation signal.

Item 2.1.5 Post-Accident Hydrogen Control Systems for PWR and BWR Containments.

a. Dedicated Penetrations for External Recombiner or Post-Accident External Purge System.

Recommendation:

For plants that have external recombiners or purge systems, provide dedicated penetrations and isolation systems that meet the redundancy and single failure requirements of the Commission regulations. Modify design as necessary so that these systems are not connected to, or are branch lines of, the large containment purge penetrations.

Response:

Pilgrim Unit 2 design will include redundant internal recombiners. Dedicated penetrations and isolation systems that meet the redundancy and single failure requirements of the Commission regulations will be provided for the containment purge system. The design will be such that systems are not connected to, or are branch lines of, the large containment purge penetrations.

b. Inerting BWR Containments

Recommendation:

Provide inerting for all Mark I and Mark II BWR containments. This would require changes at Vermont Yankee and Hatch Unit 2 (operating plants), as well as pending OL applications for Mark I and II BWRs.

Response:

This is not applicable to Pilgrim Unit 2.

c. Capability to Install Hydrogen Recombiner at Each Light Water Nuclear Power Plant.

Recommendation:

A minority of the Task Force recommends that all operating reactors, which do not already have the capability, be required to provide the capability to add, within a few days after an accident, a hydrogen recombiner system for post-accident hydrogen control.

Response:

This is not applicable to Pilgrim Unit 2, since redundant internal recombiners are provided, refer to the response to Item 2.1.5.a above.

Item 2.1.6 Post-Accident Control of Radiation in Systems Outside Containment of PWRs and BWRs.

a. Integrity of Systems Outside Containment Likely to Contain Radioactive Materials (Engineered Safety Systems and Auxiliary Systems)

Recommendation:

Perform leakage rate tests on systems outside containment that process primary coolant and could contain high level radioactive materials. Develop and implement periodic testing programs and preventive maintenance programs.

Response:

Leakage rate tests will be performed on systems outside containment that process primary coolant and could contain high level radioactive materials. Periodic testing and preventive maintenance programs will be developed and implemented accordingly.

b. Design Review of Plant Shielding of Spaces for Post Accident Operations

Recommendation:

Perform a design review of the shielding of systems processing primary coolant outside of containment. Determine any areas or equipment that are vital for post-accident occupancy or operation and assure that access and performance will not be unduly impaired due to radiation from these systems.

Response:

A design review of the shielding of systems processing primary coolant outside of containment will be performed. Any areas or equipment that are vital for post-accident occupancy or operation will be identified. Access and performance will not be unduly impaired due to radiation from these systems.

Item 2.1.7 Improved Auxiliary Feedwater System Reliability

a. Automatic Initiation of the Auxiliary Feedwater System

Recommendation:

Provide automatic initiation of all auxiliary feedwater systems. The initiation signals and circuits shall be designed in such a manner that a single failure will not result in the loss of auxiliary feedwater system function. Testability of the initiating signals and circuits shall be a feature of the design. The initiating signals and circuits shall be powered from the emergency buses. Manual capability to initiate the auxiliary feedwater system from the control room must be retained and must be implemented in such a manner that a single failure in the manual circuits will not result in the loss of system function. The a-c motor-driven pumps and valves in the auxiliary feedwater system must be included in the automatic actuation (simultaneous or sequential) of the loads to the emergency buses. The design of the automatic initiating signals and circuits must be such that their failure will not result in the loss of manual capability to initiate the auxiliary feedwater system from the control room.

Response:

The Pilgrim Unit 2 existing design provides automatic initiation of the emergency feedwater system. The initiation signals and circuits are designed in such a manner that a single failure will not result in the loss of emergency feedwater system function. Testability of the initiating signals and circuits is a feature of the design. The initiating signals and circuits are powered from the emergency buses. Manual capability to initiate the emergency feedwater system from the control room exists in such a manner that a single failure in the manual circuits will not result in the loss of system function. The a-c motor-driven pumps and valves in the emergency feedwater system are included in the automatic actuation (simultaneous or sequential) of the loads to the emergency buses. The design of the automatic initiating signals and circuits is such that their failure will not result in the loss of manual capability to initiate the emergency feedwater system from the control room.

b. Auxiliary Feedwater Flow Indication to Steam Generators

Recommendation:

Provide safety-grade indication in the control room of auxiliary feedwater flow for each steam generator. The flow instrument channels shall be powered from the emergency buses, consistent with satisfying the power diversity requirements for auxiliary feedwater systems.

Response:

Safety-grade indication of emergency feedwater flow for each steam generator will be provided in the control room. The flow instrument channels will be powered from the emergency buses, consistent with satisfying the power diversity requirements for emergency feedwater systems.

Item 2.1.8 Instrumentation to Follow the Course of an Accident

a. Improved Post-Accident Sampling Capability

Recommendation:

Review and upgrade the capability to obtain samples from the reactor coolant system and containment atmosphere under high radioactivity conditions. Provide the capability for chemical and spectrum analysis of high-level samples on site.

Response:

The capability to obtain samples from the reactor coolant system and containment atmosphere under high radioactivity conditions will be reviewed and upgraded. The capability for chemical and spectrum analysis of high-level samples will be provided on site.

b. Increased Range of Radiation Monitors

Recommendation:

Provide high range radiation monitors for noble gases in plant effluent lines and a high-range radiation monitor in the containment. Provide instrumentation for monitoring effluent release lines capable of measuring and identifying radioiodine and particulate radioactive effluents under accident conditions.

Response:

Pilgrim Unit 2 will support the industry efforts to provide: a) high range radiation monitors for noble gases in plant effluent lines, b) a high-range radiation monitor in the containment, and c) instrumentation for monitoring effluent release lines capable of measuring and identifying radioiodine and particulate radioactive effluents under accident conditions. The instrumentation for Pilgrim Unit 2 will comply with the final resolution between the NRC and the industry based on state-of-the-art capability.

c. Improved In-Plant Iodine Instrumentation

Recommendation:

Provide instrumentation for accurately determining in-plant airborne radioiodine concentrations to minimize the need for unnecessary use of respiratory protection equipment.

Response:

Instrumentation will be provided for determining in-plant airborne radioiodine concentrations to minimize the need for unnecessary use of respiratory protection equipment. Accuracy will be based on state-of-the-art capability.

Item 2.1.9 Analysis of Design and Off-Normal Transients and Accidents

a. Recommendation:

Provide the analysis, emergency procedures, and training to substantially improve operator performance during a small break loss-of-coolant accident.

Response:

The analysis, emergency procedures, and training to substantially improve operator performance during a small break loss-of-coolant accident will be provided.

b. Recommendation:

Provide the analysis, emergency procedures, and training needed to assure that the reactor operator can recognize and respond to conditions of inadequate core cooling.

Response:

The analysis, emergency procedures, and training needed to assure that the reactor operator can recognize and respond to conditions of inadequate core cooling will be provided.

c. Recommendation:

Provide the analysis, emergency procedures, and training to substantially improve operator performance during transients and accidents, including events that are caused or worsened by inappropriate operator actions.

Response:

The analysis, emergency procedures, and training to substantially improve operator performance during transients and accidents, including events that are caused or worsened by inappropriate operator actions will be provided.

Item 2.2 Operations

Item 2.2.1 Improved Reactor Operations Command Function

a. Shift Supervisor Responsibilities

Recommendation:

Review plant administrative and management procedures. Revise as necessary to assure that reactor operations command and control responsibilities and authority are properly defined. Corporate management shall revise and promptly issue an operations policy directive that emphasizes the duties, responsibilities, and authority and lines of command of the control room operators, the shift technical advisor, and the person responsible for reactor operations command in the control room (i.e., the senior reactor operator).

Response:

Plant administrative and management procedures will be prepared as necessary to assure that reactor operations command and control responsibilities and authority are properly defined. Corporate management will issue an operations policy directive that emphasizes the duties, responsibilities, and authority and lines of command of the control room operators, the shift technical advisor, and the person responsible for reactor operations command in the control room (i.e., the senior reactor operator).

b. Shift Technical Advisor

Recommendation:

Provide on shift at each nuclear power plant a qualified person (the shift technical advisor) with a bachelor's degree or equivalent in a science or engineering discipline and with specific training in the plant response to off-normal events and in accident analysis of the plant. Shift technical advisors shall serve in an advisory capacity to shift supervisors. The licensee shall assign normal duties to the shift technical advisor that pertain to the engineering aspects of assuring safe operations of the plant, including the review and evaluation of operating experience.

Response:

Pilgrim Unit 2 will comply with the necessary staffing requirements at the time of operating license issuance.

c. Shift and Relief Turnover Procedures

Recommendation:

Review and revise plant procedures as necessary to assure that a shift turnover checklist is provided and required to be completed and signed by the on-coming and off-going individuals responsible for command of operations in the control room. Supplementary checklists and shift logs should be developed for the entire operations organization, including instrument technicians, auxiliary operators, and maintenance personnel.

Response:

Plant procedures will be established as necessary to assure that a shift turnover checklist is provided and required to be completed and signed by the on-coming and off-going individuals responsible for command of operations in the control room. Supplementary checklists and shift logs will be developed for the entire operations organization, including instrument technicians, auxiliary operators, and maintenance personnel.

Item 2.2.2 Improved In-Plant Emergency Procedures and Preparations

a. Control Room Access

Recommendation:

Review plant emergency procedures, and revise as necessary to assure that access to the control room under normal and accident conditions is limited to those persons necessary to the safe command and control or operations.

Response:

Plant emergency procedures will be prepared to assure that access to the control room under normal and accident conditions is limited to those persons necessary to the safe command and control or operations.

b. Onsite Technical Support Center

Recommendation:

A separate technical support center shall be provided for use by plant management, technical, and engineering support personnel. In an emergency, this center shall be used for assessment of plant status and potential offsite impact in support of the control room command and control function. The center should also be used in conjunction with implementation of onsite and offsite emergency plans, including communications with an offsite emergency response center. Provide at the onsite technical support center the as-built drawings of general plant arrangements and piping, instrumentation and electrical systems.

Photographs of as-built system layouts and locations may be an acceptable method of satisfying some of these needs.

Response:

A separate technical support center will be provided for use by plant management, technical, and engineering support personnel. In an emergency, this center will be used for assessment of plant status and potential offsite impact in support of the control room command and control function. The center will also be used in conjunction with implementation of onsite and offsite emergency plans, including communications with an offsite emergency response center. At the onsite technical support center, the as-built drawings of general plant arrangements and piping, instrumentation and electrical systems will be provided. Photographs of as-built system layouts and locations may be utilized to satisfy some of these needs.

c. Onsite Operational Support Center

Recommendation

Each operating nuclear power plant should establish and maintain a separate onsite operational support center outside the control room. In the event of an emergency, shift support personnel (e.g., auxiliary operators and technicians) other than those required and allowed in the control room shall report to this center for further orders and assignment.

Response:

A separate onsite operational support center will be established and maintained outside the control room. In the event of an emergency, shift support personnel (e.g., auxiliary operators and technicians) other than those required and allowed in the control room will report to this center for further orders and assignment.

Item 2.2.3 Revised Limiting Conditions for Operation of Nuclear Power Plants Based Upon Safety System Availability

Recommendation:

Require that the Technical Specifications for each reactor provide that the reactor be placed in a hot shutdown condition within 8 hours and in a cold shutdown condition by the licensee within 24 hours of any time that it is found to be or have been in operation with a complete loss of safety function (e.g., loss of emergency feedwater, high-pressure ECCS, low-pressure ECCS, containment, emergency power or other prescribed safety function). Require that an assessment of the cause of the loss of safety function be made (e.g., maintenance, operations error) and that an evaluation of alternative corrective actions be made and documented by the licensee. Require that the senior corporate officer responsible for operation of the facility present the licensee's recommendation for corrective action and

evaluation of the alternatives at a public meeting with senior NRC officials. Require that the senior NRC officials issue their decision at that public meeting, or a subsequent public meeting if time is required for staff evaluation, concerning the adequacy of the changes to improve operational reliability proposed by the utility. Allow the facility to return to power only after NRC approval of the changes proposed by the licensee.

Response:

Pilgrim Unit 2 will participate in the rulemaking procedures and comply with the results of that process.

Attachment #2

Pilgrim Station Unit 2

Boston Edison Company

Docket No. 50-471

The following additional information provides the NRC with the necessary assurance that Pilgrim Unit 2 will meet the intent of IE Bulletin 79-06B, "Review of Operational Errors and System Misalignments Identified During the Three Mile Island Incident," April 14, 1979. While the commitments to each applicable position are addressed below, the implementation details will be described more fully in the FSAR. IE Bulletin 79-06B requires action to be taken by licensees of operating Combustion Engineering designed light water reactors. A review of this bulletin has indicated that, although some areas of concern are not immediately applicable to Pilgrim Unit 2 at the Construction Permit stage, it is appropriate to identify and commit to necessary future actions. The following responses address each item of Bulletin 79-06B:

ITEM:

1. Review the description of circumstances described in Enclosure 1 of IE Bulletin 79-05 and the preliminary chronology of the TMI-2 3/28/79 accident included in Enclosure 1 to IE Bulletin 79-05A.

   a. This review should be directed toward understanding: (1) the extreme seriousness and consequences of the simultaneous blocking of both auxiliary feedwater trains at the Three Mile Island Unit 2 plant and other actions taken during the early phases of the accident; (2) the apparent operational errors which led to the eventual core damage; (3) that the potential exists, under certain accident or transient conditions, to have a water level in the pressurizer simultaneously with the reactor vessel not full of water; and (4) the necessity to systematically analyze plant conditions and parameters and take appropriate corrective action.

   b. Operational personnel should be instructed to: (1) not override automatic action of engineered safety features unless continued operation of engineered safety features will result in unsafe plant conditions (see Section Ca); and (2) not make operational decisions based solely on a single plant parameter indication when one or more confirmatory indications are available.

   c. All licensed operators and plant management and supervisors with operational responsibilities shall participate in this review and such participation shall be documented in plant records.

RESPONSE:

1a. These issues and concerns will be incorporated into the training program for the Pilgrim Unit 2 operating staff.

1b. The operator training program for Pilgrim Unit 2 will emphasize the key role of the operator in reactor safety and will implement the requirements of item 1b.

1c. Licensed operators and plant management and supervisors with operational responsibilities will participate in the efforts described in 1a and 1b.

ITEM:

2. Review the actions required by your operating procedures for coping with transients and accidents, with particular attention to:

   a. Recognition of the possibility of forming voids in the primary coolant system large enough to compromise the core cooling capability, especially natural circulation capability.

   b. Operator action required to prevent the formation of such voids.

   c. Operator action required to enhance core cooling in the event such voids are formed. (e.g., remote venting)

RESPONSE:

2. Operating procedures for coping with transients and accidents will be developed with particular attention to:

   a. Recognition of the possibility of forming voids in the primary coolant system large enough to compromise the core cooling capability, especially natural circulation capability.

   b. Operator action required to prevent the formation of such voids.

   c. Operator action required to enhance core cooling in the event such voids are formed. (e.g., remote venting)

   This is also addressed in our responses to Recommendations 2.1.3b and 2.1.9b of NUREG-0578 in Attachment #1.

ITEM:

3. Review the containment isolation initiation design and procedures, and prepare and implement all changes necessary to permit containment isolation whether manual or automatic, of all lines whose isolation does not degrade needed safety features or cooling capability, upon automatic initiation of safety injection.

RESPONSE:

3. As addressed in our response to Recommendation 2.1.4 of NUREG-0578 in Attachment #1, the Pilgrim Unit 2 design will conform to the containment isolation initiation design requirements. Implementing procedures and operator training will be provided accordingly.

ITEM:

4. For facilities for which the auxiliary feedwater system is not automatically initiated, prepare and implement immediately procedures which require the stationing of an individual (with no other assigned concurrent duties and in direct and continuous communication with the control room) to promptly initiate adequate auxiliary feedwater to the steam generator(s) for those transients or accidents the consequences of which can be limited by such action.

RESPONSE:

4. Pilgrim Unit 2 will provide automatic initiation of emergency feedwater as described in our response to Recommendation 2.1.7 of NUREG-0578 in Attachment #1, therefore this item is not applicable.

ITEM:

5. For your facilities, prepare and implement immediately procedures which;

   a. Identify those plant indications (such as valve discharge piping temperature, valve position indication, or valve discharge relief tank temperature or pressure indication) which plant operators may utilize to determine that pressurizer power operated relief valve(s) are open, and

   b. Direct the plant operators to manually close the power operated relief block valve(s) when reactor coolant system pressure is reduced to below the set point for normal automatic closure of the power operated relief valve(s) and the valve(s) remain stuck open.

RESPONSE:

5. Procedures will be developed identifying the indications of an open pressurizer power operated relief valve (PORV) including the use of instrumentation described in our response to Recommendation 2.1.3.a or NUREG-0578 in Attachment #1. Procedures will be developed to cope with the event of a PORV stuck open below the normal automatic closure setpoint.

ITEM:

6. Review the action directed by the operating procedures and training instructions to ensure that:

   a. Operators do not override automatic actions of engineered safety features, unless continued operation of engineered safety features will result in unsafe plant conditions. For example, if continued operation of engineered safety features would threaten reactor vessel integrity then the HPI should be secured (as noted in b(2) below).

   b. Operating procedures currently, or are revised to, specify that if the high perssure injection (HPC) system has been automatically actuated because of low pressure condition, it must remain in operation until either:

      (1) Both low pressure injection (LPI) pumps are in operation and flowing for 20 minutes or longer; at a rate which would assure stable plant behavior; or

      (2) The HPI system has been in operation for 20 minutes, and all hot and cold leg temperatures are at least 50 degrees below the saturation temperature for the existing RCS pressure. If 50 degrees subcooling cannot be maintained after HPI cutoff, the HPI shall be reactivated. The degree of subcooling beyond 50 degrees F and the length of time HPI is in operation shall be limited by the pressure/temperature considerations for the vessel integrity.

   c. Operating procedures currently, or are revised to, specify that in the event of HPI initiation with reactor coolant pumps (RCP) operating, at least one RCP shall remain operating in each loop as long as the pump(s) is providing forced flow.

   d. Operators are provided additional information and instructions to not rely upon pressurizer level indication alone, but to also examine pressurizer pressure and other plant parameter indications in evaluating plant conditions, e.g., water, inventory in the reactor primary system.

RESPONSE:

6. a) Procedures will be developed to insure that operators do not override automatic actions of engineered safety features unless continued operation will result in unsafe plant conditions.

   b) The HPSI System will not be secured unless hot and cold leg temperature indications are at least 50 degrees below the saturation temperature for the existing reactor coolant system pressure. If 50 degrees subcooling cannot be maintained after the HPSI System is secured the HPSI System will be reactivated.

   c) Reactor coolant pump operation in the event of safety injection will be based upon maximizing reactor safety.

   d) The operator training program will emphasize use of confirmatory indications in the implementation of our response to Item 1.b(2) above.

ITEM:

7. Review all safety-related valve positions, positioning requirements and positive controls to assure that valves remain positioned (open or closed) in a manner to ensure the proper operation of engineered safety features. Also review related procedures, such as those for maintenance, testing, plant and system startup, and supervisory periodic (e.g., daily/shift checks,) surveillance to ensure that such valves are returned to their correct positions following necessary manipulations and are maintained in their proper positions during all operational modes.

RESPONSE:

7. Safety-related valve positions,positioning requirements and positive controls will be established such that assurance will be provided that valves (including locked valves) remain positioned (open or closed) in a manner to ensure the proper operation of engineered safety features. Related procedures, such as those for maintenance, testing, plant and system startup, and supervisory period (e.g., daily/shift checks) surveillance will be provided to insure that such valves are returned to their correct positions following necessary manipulations and are maintained in their proper positions during all operational modes.

ITEM:

8. Review your operating modes and procedures for all systems designed to transfer potentially radioactive gases and liquids out of the primary containment to assure that undesired pumping, venting or other releases of radioactive liquids and gases will not occur inadvertently.

In particular, ensure that such an occurrence would not be caused by the resetting of engineered safety features instrumentation. List all such systems and indicate:

a. Whether interlocks exist to prevent transfer when high radiation indication exists, and

b. Whether such systems are isolated by the containment isolation signal.

c. The basis on which continued operability of the above features is assured.

RESPONSE:

8. The Pilgrim Unit 2 design and procedures will provide the necessary control to assure that the transfer of radioactive fluids or gases out of containment will not occur inadvertently.

ITEM:

9. Review and modify as necessary your maintenance and test procedures to ensure that they require:

a. Verification, by test or inspection, of the operability of redundant safety-related systems prior to the removal of any safety-related system from service.

b. Verification of the operability of all safety-related systems when they are returned to service following maintenance or testing.

c. Explicit notification of involved reactor operational personnal whenever a safety-related system is removed from and returned to service.

RESPONSE:

9. Maintenance and test procedures will require verification, by test or inspection, of the operability of redundant safety-related systems prior to their removal from service, verification of the operability of all safety-related systems when they are returned to service following maintenance or testing, and the explicit notification of appropriate personnel of the change in status of those safety-related systems.

ITEM:

10. Review your prompt reporting procedures for NRC notification to assure that NRC is notified within one hour of the time the reactor is not in a controlled or expected condition of operation. Further, at that time an open continuous communication channel shall be established and maintained with NRC.

RESPONSE:

10. Pilgrim Unit 2 prompt reporting procedures will provide for NRC notification within one hour and for establishing and maintaining an open communication channel with the NRC.

ITEM:

11. Review operating modes and procedures to deal with significant amounts of hydrogen gas that may be generated during a transient or other accident that would either remain inside the primary system or be released to the containment.

RESPONSE:

11. Operating modes and procedures for dealing with significant amounts of hydrogen gas either inside the primary system or the containment will be established.

ITEM:

12. Propose changes, as required, to those technical specifications which must be modified as a result of your implementing the above items.

RESPONSE:

12. Technical specifications will be prepared and submitted with the FSAR considering the responses given above.

Attachment #3

Pilgrim Station Unit 2

Boston Edi on Company

Docket No. 50-471

The following additional information provides the NRC with the necessary assurance that Pilgrim Unit 2 will meet the intent of the "ACTION PLAN FOR PROMPTLY IMPROVING EMERGENCY PREPAREDNESS", July 24, 1979. The implementation details will be described in the Final Safety Analysis Report (FSAR).

The following format addresses the main elements of the NRC Staff effort described in the document referenced above.

(1) Element:

Upgrade licensee emergency plans to satisfy Regulatory Guide 1.101, with special attention to the development of uniform action level criteria based on plant parameters.

(1) Response:

The Pilgrim Unit 2 emergency plan will be based on and will satisfy Regulatory Guide 1.101. Special attention will be given to the development of uniform action level criteria based on plant parameters.

(2) Element:

Assure the implementation of the related recommendations of the NRR Lessons Learned Task Force involving instrumentation to follow the course of an accident and relate the information provided by this instrumentation to the emergency plan action levels. This will include instrumentation for post-accident sampling, high range radioactivity monitors, and improved in-plant radioiodine instrumentation. The implementation of the Lessons Learned recommendation on instrumentation for detection of inadequate core cooling will also be factored into the emergency plan action level criteria.

(2) Response:

Commitments in this area have been addressed in the Pilgr Unit 2 responses to NUREG-0578, given in Attachment #1. The implementation of the Lessons Learned recommendation on instrumentation for detection of inadequate core cooling will also be factored into the emergency plan action level criteria.

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(3) Element:

Determine that an Emergency Operations Center for Federal, State and local personnel has been established with suitable communications to the plant, and that upgrading of the facility in accordance with the Lessons Learned recommendation for an in-plant technical support center is underway.

(3) Response:

An Emergency Operations Center will be established for Federal, State and local personnel with suitable communications between the plant and the Emergency Operations Center. As indicated in the responses to Recommendation 2.2.2.b NUREG-0578 in Attachment #1,an in-plant technical support center will be provided.

(4) Element:

Assure that improved licensee offsite monitoring capabilities (including additional TLD's or equivalent) have been provided for all sites.

(4) Response:

Offsite monitoring capabilities for Pilgrim Unit 2 will comply with the requirements in effect at the operating license stage.

(5) Element:

Assess the relationship of State/local plans to the licensee's and Federal plans so as to assure the capability to take appropriate emergency actions. Assure that this capability will be extended to a distance of 10 miles as soon as practical but not later than January 1, 1981. This item will be performed in conjunction with the Office of State Programs and the Office of Inspection and Enforcement.

(5) Response:

Boston Edison is currently cooperating with the Commonwealth of Massachusetts in its development of an emergency action plan out to a radius of 10 miles from Pilgrim Station. It is our understanding that the Commonwealth of Massachusetts will submit documentation of this plan to the NRC to enable implementation prior to 1/1/81.

(6) Element:

Require test exercises of approved Emergency Plans (Federal local, licensees), review plans for such exercises, and par in a limited number of joint exercises. Tests of licensee will be required to be conducted as soon as practical for all facilities and before reactor startup for new licensees. Exercises of State plans will be performed in conjunction with the concurrence reviews of the Office of State Programs. Joint text exercises involving Federal, State local and licensees will be conducted at the rate of about 10 per year, which would result in all sites being exercised once each five years.

(6) Response:

The applicants will participate in test exercises of approved Emergency Plans (Federal, State, local, licensees). We will participate in reviews of plans for such exercises, and participate joint exercises. We will cooperate in any tests conducted before reactor startup. We will participate in exercises of State plans to be performed in conjunction with the concurrence reviews of the Office of State Programs.