Docket

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NSIC
TERA
A. Rosenthal
Chairman, ASLAB

Docket No. 50-293

Mr. A. Victor Morisi
Boston Edison Company
M/C Nuclear
800 Boylston Street
Boston, Massachusetts 02199

Dear Mr. Morisi:

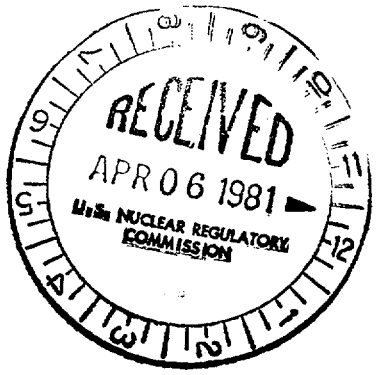
The Commission has issued the enclosed Amendment No. 48 to Facility Operating License No. DPR-35 for the Pilgrim Nuclear Power Station Unit 1. This amendment consists of changes to the Technical Specifications in response to your letter BECo #81-57 dated March 16, 1981.

The amendment effects changes to the Technical Specifications which reflect your license amendment application to implement surveillance and operability requirements for certain TMI-2 Lessons Learned Category A items.

Copies of the Safety Evaluation and Notice of Issuance are also enclosed.

Sincerely,

Thomas A. Ippolito, Chief
Operating Reactors Branch #2
Division of Licensing




Enclosures:
1. Amendment No. 48 to DPR-35
2. Safety Evaluation
3. Notice

cc w/encls:
See next page

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Para 3(e) Amend & Footnote

D. Eisenhut

| | | | | | | |
|---|---|---|---|---|---|---|
| ORB#2 | DL:ORB#2 | DL:ORB#2 | DL:OR | OELD | | |
| | MWilliams:ms | TAIppolito | TMNovak | Goecan | | |
| | 3/31/81 | 3/31/81 | 3/31/81 | 3/31/81 | | |

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Docket No. 50-293

Mr. A. Victor Morisi
Boston Edison Company
M/C Nuclear
800 Boylston Street
Boston, Massachusetts 02199

Dear Mr. Morisi:

The Commission has issued the enclosed Amendment No. to Facility Operating License No. DPR-35 for the Pilgrim Nuclear Power Station Unit 1. This Amendment consists of changes to the Technical Specifications in response to your letter BECo #81-57 dated March 16, 1981.

The Amendment effects changes to the Technical Specifications which reflect your license amendment application to implement surveillance and operability requirements for certain TMI-2 Lessons Learned Category A items.

A copy of the Notice of Issuance is also enclosed.

Sincerely,

Thomas A. Ippolito, Chief
Operating Reactors Branch #2
Division of Licensing

Enclosures:
1. Amendment No. to DPR-35
2. Safety Evaluation
3. Notice

cc w/encls:
See next page

| OFFICE | DL:ORB#2 | DL:ORB#2 | DL:ORB#2 | DL:OR | OELD | | |
|---|---|---|---|---|---|---|---|
| SURNAME | SNorris | MWilliams:ms | TAIppolito | TMNovak | | | |
| DATE | 3/ /81 | 3/ /81 | 3/ /81 | 3/ /81 | 3/ /81 | | |

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

April 1, 1981

Docket No. 50-293

Mr. A. Victor Morisi
Boston Edison Company
M/C Nuclear
800 Boylston Street
Boston, Massachusetts 02199

Dear Mr. Morisi:

The Commission has issued the enclosed Amendment No. 48 to Facility Operating License No. DPR-35 for the Pilgrim Nuclear Power Station Unit 1. This amendment consists of changes to the Technical Specifications in response to your letter BECo #81-57 dated March 16, 1981.

The amendment effects changes to the Technical Specifications which reflect your license amendment application to implement surveillance and operability requirements for certain TMI-2 Lessons Learned Category A items.

Copies of the Safety Evaluation and Notice of Issuance are also enclosed.

Sincerely,

Thomas A. Ippolito, Chief
Operating Reactors Branch #2
Division of Licensing

Enclosures:
1. Amendment No. 48 to DPR-35
2. Safety Evaluation
3. Notice

cc w/encls:
See next page

Mr. A. Victor Morisi
Boston Edison Company

cc:

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Pilgrim Station Manager
Boston Edison Company
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Plymouth, Massachusetts 02360

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14th Flour
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Henry Herrmann, Esquire
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Boston, Massachusetts 02111

Plymouth Public Library
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Plymouth, Massachusetts 02360

Massachusetts Department of Public Health
ATTN: Commissioner of Public Health
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Boston, Massachusetts 02111

Water Quality & Environmental Commissioner
Department of Environmental Quality
Engineering
100 Cambridge Street
Boston, Massachusetts 02202

Mr. David F. Tarantino
Chairman, Board of Selectmen
11 Lincoln Street
Plymouth, Massachusetts 02360

Director, Criteria and Standards
Division
Office of Radiation Programs (ANR-460)
U. S. Environmental Protection Agency
Washington, D. C. 20460

Resident Inspector
c/o U. S. NRC
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Plymouth, Massachusetts 02360

U. S. Environmental Protection
Agency
Region I Office
ATTN: EIS COORDINATOR
JFK Federal Building
Boston, Massachusetts 02203

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

BOSTON EDISON COMPANY

DOCKET NO. 50-293

PILGRIM NUCLEAR POWER STATION, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 48
License No. DPR-35

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by the Boston Edison Company (the licensee) dated March 16, 1981 complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and paragraph 3.B of Facility Operating License No. DPR-35 is hereby amended to read as follows:

   3.B Technical Specifications

   The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 48 , are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license Amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Thomas A. Ippolito, Chief
Operating Reactors Branch #2
Division of Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: April 1, 1981

ATTACHMENT TO LICENSE AMENDMENT NO. 48

FACILITY OPERATING LICENSE NO. DPR-35

DOCKET NO. 50-293

Revise Appendix A as follows:

Remove the following pages and insert identically numbered pages:

58
59
66
73
211

TABLE 3.2.F
SURVEILLANCE INSTRUMENTATION

| Minimum # of Operable Instrument Channels | Instrument # | Instrument | Type Indication and Range | Notes |
|---|---|---|---|---|
| 2 | 640-29A & B | Reactor Water Level | Indicator 0-60" | (1) (2) (3) |
| 2 | 640-25A & B | Reactor Pressure | Indicator 0-1200 psig | (1) (2) (3) |
| 2 | TRU-9044<br>TRU-9045 | Drywell Pressure | Recorder 0-80 psia | (1) (2) (3) |
| 2 | TRU-9044<br>TI-9019 | Drywell Temperature | Recorder, Indicator 0-400°F | (1) (2) (3) |
| 2 | TRU-9045<br>TI-9018 | Suppression Chamber Air Temperature | Recorder, Indicator 0-400°F | (1) (2) (3) |
| 2 | LR-5038<br>LR-5049 | Suppression Chamber Water Level | Recorder 0-32" | (1) (2) (3) |
| 1 | NA | Control Rod Position | 28 Volt Indicating Lights | (1) (2) (3) (4) |
| 1 | NA | Neutron Monitoring | SRM, IRM, LPRM 0 to 100% power | |
| 2 | TI-5047<br>TI-5048 | Suppression Chamber Water Temperature | Indicator 50-150°F | (1) (2) (3) |
| 1 | PI-5021 | Drywell/Torus Diff. Pressure | Indicator -.25→3.0 psid | (1) (2) (3) (4) |
| 1 | PI-5067A<br>PI-5067B | Drywell Pressure<br>Torus Pressure | Indicator -.25→3.0 psig<br>Indicator -1.0→+2.0 psig | (1) (2) (3) (4) |
| 1/Valve | a) Primary or b) Backup (5) | Safety/Relief Valve Position Indicator | a) Acoustic monitor<br>b) Thermocouple | (5) |
| 1/Valve | a) Primary or b) Backup (5) | Safety Valve Position Indicator | a) Acoustic monitor<br>b) Thermocouple | (5) |

NOTES FOR TABLE 3.2.F

(1) From and after the date that one of these parameters is reduced to one indication, continued operation is permissible during the succeeding thirty days unless such instrumentation is sooner made operable.

(2) From and after the date that one of these parameters is not indicated in the control room, continued operation is permissible during the succeeding seven days unless such instrumentation is sooner made operable.

(3) If the requirements of notes (1) and (2) cannot be met, an orderly shutdown shall be initiated and the reactor shall be in a Cold Shutdown Condition within 24 hours.

(4) These surveillance instruments are considered to be redundant to each other.

(5) At a minimum, the primary or back-up parameters shall be operable for each valve when the valves are required to be operable. With both primary and backup instrument channels inoperable either return one (1) channel to operable status within 31 days or be in a shutdown mode within 24 hours.

The following instruments are associated with the safety/relief & safety valves:

| Valve | Primary Acoustic Monitor | Secondary Tail Pipe Temperature Thermocouple |
|---|---|---|
| 203-3A | ZT-203-3A | TE6271-B |
| 203-3B | ZT-203-3B | TE6272-B |
| 203-3C | ZT-203-3C | TE6273-B |
| 203-3D | ZT-203-3D | TE6276-B |
| 203-4A | ZT-203-4A | TE6274-B |
| 203-4B | ZT-203-4B | TE6275-B |

PNPS

TABLE 4.2.F

MINIMUM TEST AND CALIBRATION FREQUENCY FOR SURVEILLANCE INSTRUMENTATION

| | Instrument Channel | Calibration Frequency | Instrument Check |
|---|---|---|---|
| 1) | Reactor Level | Once/6 months | Each Shift |
| 2) | Reactor Pressure | Once/6 months | Each Shift |
| 3) | Drywell Pressure | Once/6 months | Each Shift |
| 4) | Drywell Temperature | Once/6 months | Each Shift |
| 5) | Suppression Chamber Temperature | Once/6 months | Each Shift |
| 6) | Suppression Chamber Water Level | Once/6 months | Each Shift |
| 7) | Control Rod Position | NA | Each Shift |
| 8) | Neutron Monitoring | (2) | Each Shift |
| 9) | Drywell/Torus Differential Pressure | Once/6 months | Each Shift |
| 10) | Drywell Pressure<br>Torus Pressure | Once/6 months<br>Once/6 months | Each Shift |
| 11) | Safety/Relief Valve Position Indicator (Primary/Secondary) | Each refueling outage | Once each day |
| 12) | Safety Valve Position Indicator (Primary/ Secondary) | Each refueling outage | Once each day |

Amendment No. 66

For most parameters monitored, as listed in Table 3.2.F, there are two (2) channels of instrumentation. By comparing readings between these two (2) channels, a near continuous surveillance of instrument performance is available. Meaningful deviation in comparative readings of these instruments will initiate an early recalibration, thereby maintaining the quality of the instrument readings.

The Safety - Safety/Relief Valve position indication instrumentation provides the operator with information on selected plant parameters to monitor and assess these variables during and following an accident.

The recirculation pump trip/alternate rod insertion systems are consistent with the "Monticello RPT/ARI" design described in NEDO 25016 (Reference 1) as referenced by the NRC as an acceptable design (Reference 2) for RPT. Reference 1 provides both system descriptions and performance analyses. The pump trip is provided to minimize reactor pressure in the highly unlikely event of a plant transient coincident with the failure of all control rods to scram. The rapid flow reduction increases core voiding providing a negative reactivity feedback. High pressure sensors and low water level sensors initiate the trip. The recirculation pump trip is only required at high reactor power levels, where the safety/relief valves have insufficient capacity to relieve the steam which continues to be generated in this unlikely postulated event. Requiring the trip to be operable only when in the RUN mode is therefore conservative. The low water level trip function includes a time delay of nine (9) seconds ± one (1) second to avoid increasing the consequences of a postulated LOCA. This delay has an insignificant effect on ATWS consequences.

Alternate rod insertion utilizes the same initiation logic and functions as RPT and provides a diverse means of initiating a reactor scram. ARI uses sensor diverse from the reactor protection system to depressurize the scram pilot air header, which in turn causes all control rods to be inserted.

References

1. NEDO-25016, "Evaluation of Anticipated Transients Without Scram for the Monticello Nuclear Generating Plant," September 1976.

2. NUREG 0460, Volume 3, December 1978.

# PILGRIM NUCLEAR POWER STATION

## MINIMUM SHIFT CREW COMPOSITION

## TECHNICAL SPECIFICATION

## TABLE 6.2-1

| STATION CONDITION | * C R E W | MINIMUM NUMBER ON DUTY |
|---|---|---|
| OPERATING | Licensed Senior Reactor Operator | 1 |
| | Licensed Reactor Operator | 2 |
| | Unlicensed Operator | 2 |
| | Shift Technical Advisor ** | 1 |
| COLD SHUTDOWN and REFUELING | Licensed Senior Reactor Operator | 1 |
| | Licensed Reactor Operator | 1 |
| | Unlicensed Operator | 1 |
| | Shift Technical Advisor ** | None Required |

* Higher grade licensed operators may take the place of lower grade licensed or unlicensed personnel.

** Provides an On-Shift Technical Advisor who has a bachelor's degree or equivalent(1) in a scientific or engineering discipline with specific training in plant design, and response and analysis of the plant for transients and accidents.

(1) Or equivalent is defined as an Associate Degree in nuclear or mechanical engineering plus 5 years nuclear experience.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 48 TO LICENSE NO. DPR-35

BOSTON EDISON COMPANY

DOCKET NO. 50-293

PILGRIM NUCLEAR POWER STATION UNIT 1

## 1.0 INTRODUCTION

By letter dated July 2, 1980, the NRC transmitted model Technical Specifications to licensees under the provisions of 10 CFR 50.36 (d)(3). The Boston Edison Company (BECo) responded by letter dated March 16, 1981, which requested their plant specific license amendment. This evaluation is in response to that request.

## 2.0 BACKGROUND INFORMATION

The NRC staff completed its evaluation of the actions taken by the Boston Edison Company at Pilgrim Nuclear Power Station Unit 1 (PNPS-1) as a result of implementation of the Category A items from the TMI-2 Lessons Learned. In order to provide reasonable assurance that operating reactor facilities are maintained within the limits determined acceptable following the implementation of the TMI-2 Lessons Learned Category "A" items, we requested that licensees amend their TSs to incorporate additional Limiting Conditions of Operation and Surveillance Requirements, as appropriate. By letter dated July 2, 1980, BECo was provided guidance in the scope and types of Technical Specifications required for the facility. BECo responded to this request for an amendment by letter dated November 6, 1980 (BECo #80-285). At the request of the NRC staff, a second submittal was made dated March 16, 1981 (BECo #81-57). There were five recommendations made in the NRC letter of July 2, 1980. Of these five, BECo determined that two should be incorporated into the Technical Specifications. All five of the items will be discussed.

## 3.0 EVALUATION

(a) Emergency Power Supply/Inadequate Core Cooling

As applicable to Boiling Water Reactors (BWR's) we indicated that the water level instrumentation is important to post accident monitoring and that surveillance should be performed on this instrumentation. Surveillance and operability requirements already existed in the PNPS-1 Technical Specifications. No change was required for this item.

(b) Valve Position Indication

Our requirement for installation of a reliable position indication system for relief and safety valves was based on the need to provide the operator with a diagnostic aid to reduce the ambiguity between indications based on the experience at TMI-2. PNPS-1 utilizes four safety/relief and two spring safety valves which were equipped with acoustic monitoring devices. These devices indicate flow in the line or tail pipe assembly. Additional back-up information is provided by temperature monitoring with thermocouples installed on each discharge or tail pipe. BECo proposed surveillance and operability requirements for these devices be incorporated into their Technical Specifications (BECo 81-57). The proposed changes will improve the reliability of the instrumentation and provide the desired assurance regarding its operability during plant operations. The incorporation of these changes will not degrade the performance of any safety system. Therefore, the changes are found acceptable.

(c) Containment Isolation

We requested that the Technical Specifications be modified to include a Table of Containment Isolation Valves which reflected the diverse isolation signals that the design utilizes. The PNPS-1 specifications already possessed this feature with the appropriate surveillance and operability features. No change is required for this item.

(d) Shift Technical Advisor

We requested that the requirement for a Shift Technical Advisor (STA) be reflected in the specifications. BECo has added the STA as part of the Minimum Shift Crew Composition. In their letter of January 5, 1981 (BECo 81-01), BECo committed to the STA program. Their letter of March 16, 1981 was modified* (pg. 211) to clarify the fact that the STA does not perform the simultaneous function of a Senior Reactor Operator. The upgrading criteria for control room personnel to assume the STA roll, has not been established. Therefore, the STA is required in addition to the staffing requirements identified in NUREG 0737 (I.A.I.e). The duties of the STA, as committed to by BECo, are detailed in an attachment to item I.A.1.1 of BECo 81-01, January 5, 1981. We find the proposal for this specification acceptable.

*Telecon NRC (Williams) and BECo Keys March 20, 1981

(e) BECo did not incorporate License Conditions for Systems Integrity and Iodine monitoring as requested by our July 2, 1980 letter. Based on a review of the Confirmatory Order issued to Boston Edison on January 2, 1980, the staff has determined that enforceable equivalent conditions already exist in the license. Therefore, no additional action is required for this item.

## 4.0 ENVIRONMENTAL CONSIDERATIONS

We have determined that the amendment does not involve a change in effluent types or total amounts nor an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded that the amendment involves an action which is insignificant from the standpoint of environmental impact and pursuant to 10 CFR Section 51.5(d)(4) that an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of the amendment.

## 5.0 CONCLUSIONS

We have concluded, based on the considerations discussed above, that: (1) because the amendment does not involve a significant increase in the probability or consequences of accidents previously considered and does not involve a significant decrease in a safety margin, the amendment does not involve a significant hazards consideration, (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) such activities will be conducted in compliance with the Commission's regulations and the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Dated: April 1, 1981

7590-01

UNITED STATES NUCLEAR REGULATORY COMMISSION

DOCKET NO. 50-293

BOSTON EDISON COMPANY

NOTICE OF ISSUANCE OF AMENDMENT TO FACILITY OPERATING LICENSE

The U. S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 48 to Facility Operating License No. DPR-35, issued to Boston Edison Company (the Licensee), which revised the Technical Specifications for operation of the Pilgrim Nuclear Power Station Unit No. 1 (the facility) located near Plymouth, Massachusetts. The amendment is effective as of its date of issuance.

The amendment effects changes to the Technical Specifications which implement surveillance and operability requirements for certain TMI-2 Lessons Learned Category "A" items.

The application for amendment complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter I, which are set forth in the license amendment. Prior public notice of this amendment was not required since it does not involve a significant hazards consideration.

The Commission has determined that the issuance of this amendment will not result in any significant environmental impact and that pursuant to 10 CFR Section 51.5(d)(4), an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of the amendment.

For further details with respect to this action, see (1) the application for amendment dated March 16, 1981, (2) Amendment No. 48 to License No. DPR-35, and (3) the Commission's related Safety Evaluation. All of these items are available for public inspection at the Commission's Public Document Room, 1717 H Street, NW,, Washington, D. C., and at the Plymouth Public Library on North Street in Plymouth, Massachusetts 02360. A single copy of items (2) and (3) may be obtained upon request addressed to the U. S. Nuclear Regulatory Commission, Washington, D. C. 20555, Attention: Director, Division of Licensing.

Dated at Bethesda, Maryland, this 1st day of April, 1981.

FOR THE NUCLEAR REGULATORY COMMISSION

Thomas A. Ippolito, Chief
Operating Reactors Branch #2
Division of Licensing