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Docket No. 50-293

Boston Edison Company
M/C NUCLEAR
ATTN: Mr. G. Carl Andognini
800 Boylston Street
Boston, Massachusetts 02199

Gentlemen:

The Commission has issued the enclosed Amendment No. 34 to Facility Operating License No. DPR-35 for the Pilgrim Nuclear Power Station Unit No. 1. This amendment consists of changes to the Technical Specifications in response to your request of March 22, 1978.

This amendment changes the trip level setting for the High Flow Main Steam Line instruments from <120% to <140% of rated steam flow. The new setpoint is consistent with assumptions used in the Final Safety Analysis Report for main steam line high flow differential pressure switch trip settings.

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

Sincerely,

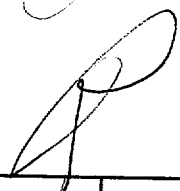
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Thomas A. Ippolito, Chief
Operating Reactors Branch #3
Division of Operating Reactors

Enclosures:

1. Amendment No. 34 to DPR-35
2. Safety Evaluation
3. Notice

cc w/enclosures:
see next page

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DATE →	9/14/78	9/14/78	9/19/78	9/19/78		

Boston Edison Company

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cc w/enclosures:

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Boston Edison Company
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Plymouth, Massachusetts 02360

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

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Natural Resources Defense Council
917 15th Street, N. W.
Washington, D. C. 20005

Energy Facilities Siting Council
14th Floor
One Ashburton Place
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Henry Herrmann, Esquire
Massachusetts Wildlife Federation
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Boston, Massachusetts 02111

Plymouth Public Library
North Street
Plymouth, Massachusetts 02360

Massachusetts Department of Public Health
ATTN: Commissioner of Public Health
600 Washington Street
Boston, Massachusetts 02111

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

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

Chief, Energy Systems Analyses
Branch (AW-459)
Office of Radiation Programs
U. S. Environmental Protection Agency
Room 645, East Tower
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Washington, D. C. 20460



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. 34
License No. DPR-35

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Boston Edison Company (the licensee) dated March 22, 1978, 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.

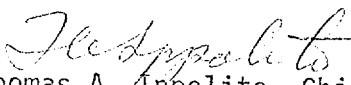
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 3.B of Facility Operating License No. DPR-35 is hereby amended to read as follows:

3.B Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 34, 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 #3
Division of Operating Reactors

Attachment:
Changes to the Technical
Specifications

Date of Issuance: September 19, 1978

ATTACHMENT TO LICENSE AMENDMENT NO. 34

FACILITY OPERATING LICENSE NO. DPR-35

DOCKET NO. 50-293

Replace the following pages of the Appendix "A" Technical Specifications with the enclosed pages. The revised pages are identified by Amendment number and contain vertical lines indicating the area of change.

Pages

45

69

PNPS
TABLE 3.2.A
INSTRUMENTATION THAT INITIATES PRIMARY CONTAINMENT ISOLATION

<u>Minimum # of Operable Instrument Channels Per Trip System (1)</u>	<u>Instrument</u>	<u>Trip Level Setting</u>	<u>Action (2)</u>
2(7)	Reactor Low Water Level	>9" indicated level (3)	A and D
1	Reactor High Pressure	<110 psig	D
2	Reactor Low-Low Water Level	at or above -49 in. indicated level (4)	A
2	Reactor High Water Level	<48" indicated level (5)	B
2(7)	High Drywell Pressure	<2 psig	A
2	High Radiation Main Steam Line Tunnel	<7 times normal rated Full power background	B
2	Low Pressure Main Steam Line	>880 psig (8)	B
2(6)	High Flow Main Steam Line	<140% of rated steam flow	B
2	Main Steam Line Tunnel Exhaust Duct High Temperature	<170°F	B
2	Turbine Basement Exhaust Duct High Temperature	<150°F	B
1	Reactor Cleanup System High Flow	<300% of rated flow	C
2	Reactor Cleanup System High Temperature	<150°F	C

3.2 BASES (Cont'd)

Valves, Main Steam Drain Valves, Recirc Sample Valves (Group 1) activates the CSCS subsystems, starts the emergency diesel generators and trips the recirculation pumps. This trip setting level was chosen to be high enough to prevent spurious actuation but low enough to initiate CSCS operation and primary system isolation so that no fuel damage will occur and so that post accident cooling can be accomplished and the guidelines of 10 CFR 100 will not be violated. For large breaks up to the complete circumferential break of a 28-inch recirculation line and with the trip setting given above, CSCS initiation and primary system isolation are initiated in time to meet the above criteria. Reference Section 6.5.3.1 FSAR.

The high drywell pressure instrumentation is a diverse signal to the water level instrumentation and in addition to initiating CSCS, it causes isolation of Group 2 isolation valves. For the breaks discussed above, this instrumentation will initiate CSCS operation at about the same time as the low low water level instrumentation; thus the results given above are applicable here also. See Spec. 3.7 for Isolation Valve Closure Group. The low low water level instrumentation initiates protection for the full spectrum of loss-of-coolant accidents and causes isolation of Group 1 isolation valves.

Venturis are provided in the main steam lines as a means of measuring steam flow and also limiting the loss of mass inventory from the vessel during a steam line break accident. The primary function of the instrumentation is to detect a break in the main steam line. For the worst case accident, main steam line break outside the drywell, a trip setting of 140% of rated steam flow in conjunction with the flow limiters and main steam line valve closure, limits the mass inventory loss such that fuel is not uncovered, fuel temperatures remain approximately 1000°F and release of radioactivity to the environs is well below 10 CFR 100 guidelines. Reference Section 14.6.5 FSAR.

Temperature monitoring instrumentation is provided in the main steam line tunnel and the turbine basement to detect leaks in these areas. Trips are provided on this instrumentation and when exceeded, cause closure of isolation valves. See Spec. 3.7 for Valve Group. The setting of 170°F for the main steam line tunnel detector is low enough to detect leaks of the order of 5 to 10 gpm; thus, it is capable of covering the entire spectrum of breaks. For large breaks, the high steam flow instrumentation is a backup to the temperature instrumentation.

High radiation monitors in the main steam line tunnel have been provided to detect gross fuel failure as in the control rod drop acci-



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
SUPPORTING AMENDMENT NO. 34 TO FACILITY OPERATING LICENSE NO. DPR-35
BOSTON EDISON COMPANY
PILGRIM NUCLEAR POWER STATION UNIT NO. 1
DOCKET NO. 50-293

Introduction

By application dated March 22, 1978, Boston Edison Company (BECo) proposed a change to the Technical Specifications for Pilgrim Nuclear Power Station (PNPS) Unit No. 1 related to the trip level setting for the High Flow Main Steam Line instruments.

Discussion

The existing setpoint (120% of rated steam flow) was originally established for two-steam-line plants. Although the PNPS Final Safety Analysis Report assumes a setpoint of 140% of rated flow, it was felt at the time of license issuance that the 120% setpoint was high enough to avoid spurious trips during normal operation and was conservative; therefore, it was adopted in the PNPS Technical Specifications, even though PNPS Unit No. 1 is a four-steam-line plant.

During the last refueling outage at PNPS Unit No. 1, a pressure averaging manifold was installed on the main steam header. The purpose of this modification was to allow required periodic surveillance testing of main steam isolation valves at full power levels. Prior to the modification, power reductions were necessary to avoid spurious trips. Increasing the setpoint to 140% in conjunction with the pressure averaging manifold, will provide operating margin and allow surveillance testing at full power without spurious trip interference, and is consistent with the four-steam-line configuration.

Evaluation

PNPS Unit No. 1 FSAR Table 7.3.2, "Primary Containment and Reactor Vessel Isolation Control System Instrumentation Specifications" page 7.3-17 indicates a main steam line high flow differential pressure switch trip setting of 140% of rated flow.

PNPS FSAR Section 14.6.5.1.2 page 14.6-14 states in part: "The instruments sensing flow restrictor differential pressures generate isolation signals within about 500 milliseconds after the break occurs".

Although the FSAR assumes the main steam isolation valves are closed 10.5 seconds after a steamline break outside containment, the Staff Safety Evaluation Report dated August 25, 1971 required a valve closure time of not greater than 5 seconds. This requirement was incorporated into the PNPS Technical Specifications in Table 3.7.1, "Primary Containment Isolation Valves" page 161, although the Technical Specification Bases states on page 176 that valve closure times (including instrument delay) of up to 10.5 seconds are acceptable.

The exclusion area boundary doses were verified to be below 10 CFR 100 limits using the FSAR criteria for a worst case main steam line break and the 140% rated steam flow setpoint. In addition, the licensee calculated acceptable exclusion area boundary doses using a 150% rated steam flow setpoint and a 10.5 second valve closure time, for additional margin.

We concur that the health and safety of the public will not be endangered by plant operation with the proposed setpoint change.

Environmental Consideration

We have determined that the amendment does not authorize 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 this amendment.

Conclusion

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

Dated: September 19, 1978

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. 34 to Facility Operating License No. DPR-35, issued to Boston Edison Company, which revised the Technical Specifications for operation of the Pilgrim Nuclear Power Station, Unit No. 1, located near Plymouth, Massachusetts. The amendment is effective as of the date of its issuance.

This amendment changes the trip level setting for the High Flow Main Steam Line instruments from $\leq 120\%$ to $\leq 140\%$ of rated steam flow. The new setpoint is consistent with assumptions used in the Final Safety Analysis Report for main steam line high flow differential pressure switch trip settings.

The application for the 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 the amendment does not involve a significant hazards consideration.


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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 issuance of this amendment.

For further details with respect to this action, see (1) application for amendment dated March 22, 1978, (2) Amendment No. 34 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, N. W., 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 Operating Reactors.

Dated at Bethesda, Maryland, this 19 day of September 1978.

FOR THE NUCLEAR REGULATORY COMMISSION


Thomas A. Ippolito, Chief
Operating Reactors Branch #3
Division of Operating Reactors