

CP 51

November 10, 1982

Docket No. 50-293

Mr. A. Victor Morisi, Manager  
Nuclear Operations Support Department  
Boston Edison Company  
25 Braintree Hill Park  
Rockdale Street  
Braintree, Massachusetts 02184

Dear Mr. Morisi:

Re: Pilgrim Nuclear Power Station

The Commission has issued the enclosed Amendment No. 65 to Facility Operating License No. DPR-35 for the Pilgrim Nuclear Power Station. This amendment consists of changes to the Technical Specifications in response to your application dated August 30, 1982.

This amendment revises the Technical Specifications to provide limiting conditions for operation and surveillance requirements for scram discharge volume (SDV) vent and drain valves and reactor protection system and control rod block SDV level switches.

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

Sincerely,

ORIGINAL SIGNED BY

Kenneth T. Eccleston, Project Manager  
Operating Reactors Branch #2  
Division of Licensing

Enclosures:

1. Amendment No. 65 to DPR-35
2. Safety Evaluation
3. Notice

cc w/enclosures  
See next page

TER(Enclosure to Safety Evaluation) is already in Docket Files.

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DATE	10/19/82	10/20/82	10/20/82	10/20/82	10/4/82		

*No legal objection  
to form or amendment*

Mr. A. Victor Morisi  
Boston Edison Company

cc:

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

BOSTON EDISON COMPANY

DOCKET NO. 50-293

PILGRIM NUCLEAR POWER STATION  
AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 65  
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 August 30, 1982 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:

B. Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 65, 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

A handwritten signature in dark ink, appearing to read "D. Vassallo", with a stylized, flowing script.

Domenic B. Vassallo, Chief  
Operating Reactors Branch #2  
Division of Licensing

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: November 10, 1982

ATTACHMENT TO LICENSE AMENDMENT NO. 65

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 page is identified by Amendment number and contains a vertical line indicating the area of change.

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**PNPS  
TABLE 3.2.C  
INSTRUMENTATION THAT INITIATES ROD BLOCKS**

<u>Minimum # of Operable Instrument Channels Per Trip Systems (1)</u>	<u>Instrument</u>	<u>Trip Level Setting</u>
2	APRM Upscale (Flow Biased)	$(0.65W + 42) \left[ \frac{FRP}{MFLM} \right] (2)$
2	APRM Downscale	2.5 indicated on scale
1 (7)	Rod Block Monitor (Flow Biased)	$(0.65W + 42) \left[ \frac{FRP}{MFLPD} \right] (2)$
1 (7)	Rod Block Monitor Downscale	5/125 of full scale
3	IRM Downscale (3)	5/125 of full scale
3	IRM Detector not in Startup Position	(8)
3	IRM Upscale	$\leq 100/125$ of full scale
2 (3)	SRM Detector not in Startup Position	(4)
2 (5) (6)	SRM Upscale	$\leq 10^3$ counts/sec.
1 (9)	Scram Discharge Volume Water Level-High	$\leq 18$ gallons

NOTES FOR TABLE 3.2.C

1. For the startup and run positions of the Reactor Mode Selector Switch, there shall be two operable or tripped trip systems for each function. The SRM and IRM blocks need not be operable in "Run" mode, and the APRM and RRM rod blocks need not be operable in "Startup" mode. If the first column cannot be met for one of the two trip systems, this condition may exist for up to seven days provided that during that time the operable system is functionally tested immediately and daily thereafter; If this condition lasts longer than seven days, the system shall be tripped. If the first column cannot be met for both trip systems, the systems shall be tripped.
2. W is percent of drive flow required to produce a rated core flow of 69 Mlb/hr. Trip level setting is in percent of design power (1998 MWt).
3. IRM downscale is bypassed when it is on its lowest range.
4. This function is bypassed when the count rate is  $\geq 100$  cps.
5. One of the four SRM inputs may be bypassed.
6. This SRM function is bypassed when the IRM range switches are on range 8 or above.
7. The trip is bypassed when the reactor power is  $\leq 30\%$ .
8. This function is bypassed when the mode switch is placed in Run.
9. If the number of operable channels is less than required by the minimum number of operable instrument channels per trip system requirement, place the inoperable channel in the tripped condition within one hour.



PNPS  
TABLE 4.2.G  
MINIMUM TEST AND CALIBRATION FREQUENCY FOR CONTROL ROD BLOCKS ACTUATION

<u>Instrument Channel</u>	<u>Instrument Functionals</u>	<u>Calibration</u>	<u>Instrument Check</u>
	<u>Test</u>		
1) APRM - Downscale	(1) (3)	Once/3 months	Once/day
2) APRM - Upscale	(1) (3)	Once/3 months	Once/day
3) IRM - Upscale	(2) (3)	Startup or Control Shutdown	(2)
4) IRM - Downscale	(2) (3)	Startup or Control Shutdown	(2)
5) RRM - Upscale	(1) (3)	Once/6 months	Once/day
6) RRM - Downscale	(1) (3)	Once/6 months	Once/day
7) SRM - Upscale	(2) (3)	Startup or Control Shutdown	(2)
8) SRM - Detector Not in Startup Position	(2) (3)	Startup or Control Shutdown	(2)
9) IRM - Detector Not in Startup Position	(2) (3)	Startup or Control Shutdown	(2)
10) Scram Discharge Volume Water Level-High	Once/3 Months	Refuel	N/A
<u>Logic System Functional Test (4) (6)</u>			
(1) System Logic Check	Once/6 Months		

LIMITING CONDITION FOR OPERATIONS3.3.C Scram Insertion Time

2. The average of the scram insertion times for the three fastest control rods of all groups of four control rods in a two by two array shall be no greater than:

<u>% Inserted From Fully Withdrawn</u>	<u>Avg. Scram Insertion Time Sec.</u>
10	.58
30	1.35
50	2.12
90	5.30

3. The maximum scram insertion time for 90% insertion of any operable control rod shall not exceed 7.00 seconds.

D. Control Rod Accumulators

At all reactors operating pressures, a rod accumulator may be inoperable provided that no other control rod in the nine-rod square array around this rod has a:

1. Inoperable accumulator.
2. Directional control valve electrically disarmed while in a non-fully inserted position.
3. Scram insertion time greater than the maximum permissible insertion time.

If a control rod with an inoperable accumulator is inserted "full-in" and its directional control valves are electrically disarmed, it shall not be considered to have an inoperable accumulator.

SURVEILLANCE REQUIREMENT4.3.C Scram Insertion Time

2. At 16 week intervals, 50% of the control rod drives shall be tested as in 4.3.C.1 so that every 32 weeks all of the control rods shall have been tested. Whenever 50% of the control rod drives have been scram tested, an evaluation shall be made to provide reasonable assurance that proper control rod drive performance is being maintained.

D. Control Rod Accumulators

Once a shift, check the status of the pressure and level alarms for each accumulator.

E. Reactivity Anomalies

The reactivity equivalent of the difference between the actual critical rod configuration and the expected configuration during power operation shall not exceed 1%  $\Delta K$ . If this limit is exceeded, the reactor will be shut down until the cause has been determined and corrective actions have been taken if such actions are appropriate.

- F. If Specifications 3.3.A through D above cannot be met, an orderly shutdown shall be initiated and the reactor shall be in the Cold Shutdown condition within 24 hours. Specifications 3.3.A through D above do not apply when there is no fuel in the reactor vessel.

G. Scram Discharge Volume

1. The scram discharge volume drain & vent valves shall be operable whenever more than one operable control rod is withdrawn.
2. If any of the scram discharge volume drain or vent valves are made or found inoperable an orderly shutdown shall be initiated and the reactor shall be in Cold Shutdown within 24 hours.

E. Reactivity Anomalies

During the startup test program and startups following refueling outages, the critical rod configurations will be compared to the expected configurations at selected operating conditions. These comparisons will be used as base data for reactivity monitoring during subsequent power operation throughout the fuel cycle. At specific power operating conditions, the critical rod configuration will be compared to the configuration expected based upon appropriately corrected past data. This comparison will be made at least every full power month.

G. Scram Discharge Volume

1. The scram discharge volume drain and vent valves shall be verified open at least once per month. Each valve shall be cycled quarterly. These valves may be closed intermittently for testing under administrative control.
2. During each refueling outage verify the scram discharge volume drain and vent valves;
  - a) Close within 30 seconds after receipt of a reactor scram signal and
  - b) Open when the scram is reset.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 65 TO FACILITY LICENSE NO. DPR-35

BOSTON EDISON COMPANY

PILGRIM NUCLEAR POWER STATION

DOCKET NO. 50-293

1.0 Introduction

As a result of events involving common cause failures of Scram Discharge Volume (SDV) limit switches and SDV drain valve operability, the NRC staff issued IE Bulletin 80-14 on June 12, 1980. In addition, the staff sent a letter dated July 7, 1980 to all operating BWR licensees requesting that they propose Technical Specification changes to provide surveillance requirements for SDV vent and drain valves and LCO/surveillance requirements on SDV limit switches. Model Technical Specifications were enclosed with this letter to provide guidance to licensees for preparation of the requested submittals. By letter dated August 30, 1982 Boston Edison Company (licensee) requested changes to the Technical Specifications for the Pilgrim Nuclear Power Station.

2.0 Evaluation

The enclosed report (TER-C5506-66) was prepared for us by Franklin Research Center (FRC) as part of a technical assistance contract program. The FRC report provides its technical evaluation of the compliance of the licensee's submittal with NRC provided criteria and identifies all changes to the Technical Specifications proposed by the licensee in its August 30 letter.

The licensee has 1) indicated that our generic safety evaluation report of December 1, 1980 provides justification for not having two operable channels per trip system for control rod withdrawal block instrumentation and 2) cited the fact that a second instrument volume is being installed at Pilgrim as justification for performing functional tests of the SDV level instrumentation at a less frequent interval than specified in the Model TSS.

FRC has concluded that the licensee's response does not meet the explicit requirements of paragraph 3.3-6 and Table 3.3.6-1 of the NRC staff's Model Technical Specifications. However, the FRC report concludes that technical bases are defined on p. 50 of the staff's "Generic Safety Evaluation Report BWR Scram Discharge System", dated December 1, 1980 that permit consideration of this departure from the explicit requirements of the Model Technical Specifications. We conclude that these technical bases justify a deviation from the explicit requirements of the Model Technical Specifications.

In addition, FRC has also concluded that the proposed Pilgrim Technical Specifications do not meet the Model Technical Specification requirements of paragraphs 4.3.1.1 and Table 4.3.1.1-1 for SDV water level high channel functional test requirements. However, the FRC TER concludes that the proposed surveillance requirements for SDV water level high are acceptable, since the licensee is installing a second instrument volume and is providing four reactor protection system level instruments for each of the two instrument volumes, for a total of eight instruments for the RPS. The Model Technical Specifications were developed for plants which have only one instrument volume (four RPS level switches); therefore, the second instrument volume significantly improves the design and reliability of the SDV. Taking this into account, we conclude that the technical bases justify a deviation from the explicit requirements of the Model Technical Specifications.

FRC has concluded that the licensee's proposed Technical Specification revisions meet our criteria without the need for further revision.

### 3.0 Summary

Based upon our review of the contractor's report of its evaluations and discussions with the reviewer, and the licensee, we conclude that 1) the licensee's proposed Technical Specifications satisfy our model Technical Specifications for surveillance of SDV vent and drain valves and for LCOs and surveillance requirements for SDV limit instrumentation or 2) sufficient information has been provided to justify the deviations (i.e. RPS level switch functional test frequency and SDV rod block instrumentation minimum channel operability requirements) from these guidelines. Consequently, we find the licensee's proposed Technical Specifications acceptable.

### 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 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 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 an accident previously evaluated, does not create the possibility of an accident of a type different from any evaluated previously, and does not involve a significant reduction in a margin of safety, 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, (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: November 10, 1982

Enclosure: TER

Principal Contributor: K. Eccleston

UNITED STATES NUCLEAR REGULATORY COMMISSIONDOCKET NO. 50-293BOSTON EDISON COMPANYNOTICE OF ISSUANCE OF AMENDMENT TO FACILITYOPERATING LICENSE

The U. S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 65 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 (the facility) located near Plymouth, Massachusetts. The amendment is effective as of its date of issuance.

The amendment revises the Technical Specifications to provide limiting conditions for operation and surveillance requirements for Scram Discharge Volume (SDV) vent and drain valves and reactor protection system and control rod block SDV level switches.

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 it does not involve a significant environmental impact and that pursuant to 10 CFR 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 August 30, 1982, (2) Amendment No. 65 to License No. DPR-35, and (3) the Commission's related Safety Evaluation. All of these items



- 2 -

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 Licensing.

Dated at Bethesda, Maryland this 10th day of November 1982.

FOR THE NUCLEAR REGULATORY COMMISSION



Domenic B. Vassallo, Chief  
Operating Reactors Branch #2  
Division of Licensing