

JAN 21 1975

Docket No. 30-293

Boston Edison Company
ATTN: Mr. Maurice J. Feldmann
Vice President
Operations and Engineering
800 Boylston Street
Boston, Massachusetts 02199

Gentlemen:

DISTRIBUTION

Docket File	TJcarter
AEC PDR	PCollings
Local PDR	SVarga
ORB #2 Reading	CHebron
OGC	ACRS (16)
RO (3)	OIS
NDube	HJMcAlduff, ORO
RVollmer	JRBuchanan, ORNL
BJones (4)	TBAbernathy, DTIE
JSaltzman	
RMDiggs	
PO'Connor	
DLZiemann	
SKari	
WOMiller	
BScharf (15)	

The Commission has issued the enclosed Amendment No. 8 to Facility License No. DPR-35. This amendment includes Change No. 10 to the Technical Specifications and is in response to your request dated March 13, 1974.

This amendment deletes a requirement for an accelerated scram insertion time testing program. This testing was formerly required by the Commission to assure that certain design modifications to the Pilgrim control rod drive had eliminated a potential failure mode that had been identified in earlier reactors using similar control rod drives. Evaluation of the scram insertion time testing, carried out during Pilgrim's first operating cycle, has confirmed that the modification has eliminated the potential problem and that the accelerated testing program is no longer required.

Copies of the Safety Evaluation and the Federal Register Notice relating to this action also are enclosed.

Sincerely,

Original signed by
Dennis L. Ziemann
Dennis L. Ziemann, Chief
Operating Reactors Branch #2
Division of Reactor Licensing

Enclosures:

1. Amendment No. 8
w/Change No. 10
2. Safety Evaluation
3. Federal Register Notice

OFFICE >	L:ORB #2 <i>PO'Connor</i>	L:ORB #2 <i>RMDiggs</i>	L:ORB #2 <i>DLZiemann</i>	OGC <i>G. G. TNER</i>	L:AD/OR <i>KRG</i>	<i>C.P.R.</i>
SURNAME >	PO'Connor:av	RMDiggs	DLZiemann	G. G. TNER	KRGoller	
DATE >	1/20/75	1/20/75	1/21/75	1/27/75	1/28/75	

JAN 28 1975

cc w/enclosures:

Mr. Dale G. Stoodley, Counsel
Boston Edison Company
800 Boylston Street
Boston, Massachusetts 02199

Mr. J. Edward Howard, Superintendent
Nuclear Engineering Department
Boston Edison Company
800 Boylston Street
Boston, Massachusetts 02199

Mr. Grant Baston, Pilgrim Division Head
Boston Edison Company
RFD #1 Rocky Hill Road
Plymouth, Massachusetts 02360

Mr. Winfield M. Sides, Jr.
Quality Assurance Manager
800 Boylston Street
Boston, Massachusetts 02199

Anthony Z. Roisman, Esquire
Berlin, Roisman and Kessler
1712 N Street, N. W.
Washington, D. C. 20036

Plymouth Public Library
North Street
Plymouth, Massachusetts 02360

Mr. J. E. Larson
Senior Licensing Engineer
and Co-ordinator
Boston Edison Company
RFD #1
Rocky Hill Road
Plymouth, Massachusetts 02360

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

cc w/enclosures and copy of
incoming dtd. 3/13/74:

Henry Kolbe, M. D.
Acting Commissioner of Public
Health
Massachusetts Department of
Public Health
600 Washington Street
Boston, Massachusetts 02111

Mr. Wallace Stickney
Environmental Protection Agency
JFK Federal Building
Boston, Massachusetts 02203

BOSTON EDISON COMPANY

DOCKET NO. 50-293

PILGRIM NUCLEAR POWER STATION

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 8
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 13, 1974, 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. Prior public notice of this amendment is not required since the amendment does not involve a significant hazards consideration.
2. Accordingly, the license is amended by a change to the Technical Specifications as indicated in the attachment to this license amendment and Paragraph 3.B of Facility License No. DPR-35 is hereby amended to read as follows:

OFFICE ➤						
SURNAME ➤						
DATE ➤						

"B. Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised, are hereby incorporate in the license. The licensee shall operate the facility in accordance with the Technical Specifications, as revised by issued changes thereto through Change No. 10."

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

FOR THE NUCLEAR REGULATORY COMMISSION

Original signed by:
Karl R. Goller

Karl R. Goller, Assistant Director
for Operating Reactors
Division of Reactor Licensing

Attachment:
Change No. 10 to the
Technical Specifications

Date Of Issuance: JAN 28 1975

OFFICE >						
SURNAME >						
DATE >						

ATTACHMENT TO LICENSE AMENDMENT NO. 8

CHANGE NO. 10 TO THE TECHNICAL SPECIFICATIONS

FACILITY OPERATING LICENSE NO. DPR-35

Replace pages 84, 85, 91, and 92 with the attached pages 84, 85, 91, and 92. The revised pages have marginal lines indicating where the changes appear.

OFFICE >						
SURNAME >						
DATE >						

3.3.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.

4.3.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.

3.3.C Scram Insertion Time

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:

D. Control Rod Accumulators

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

BASES:

During reactor operation with certain limiting control rod patterns, the withdrawal of a designated single control rod could result in one or more fuel rods with MCHFR's less than 1.0. During use of such patterns, it is judged that testing of the RBM system prior to withdrawal of such rods to assure its operability will assure that improper withdrawal does occur. It is the responsibility of the Reactor Engineer to identify these limiting patterns and the designated rods either when the patterns are initially established or as they develop due to the occurrence of inoperable control rods in other than limiting patterns.

C. Scram Insertion Times

The control rod system is designed to bring the reactor subcritical at a rate fast enough to prevent fuel damage; i.e., to prevent the MCHFR from becoming less than 1.0. The limiting power transient is that resulting from a turbine stop valve closure with failure of the turbine bypass system. Analysis of this transient shows that the negative reactivity rates resulting from the scram (FSAR Figure 3.6.14) with the average response of all the drives as given in the above Specification, provide the required protection, and MCHFR remains greater than 1.0.

The scram times for all control rods will be determined at the time of each refueling outage. A representative sample of control rods will be scram tested during each cycle as a periodic check against deterioration of the control rod performance.

BASES:

SAFETY EVALUATION BY THE DIVISION OF REACTOR LICENSING

SUPPORTING AMENDMENT NO. 8 TO LICENSE NO. DPR-35

(CHANGE NO. 10 TO THE TECHNICAL SPECIFICATIONS)

BOSTON EDISON COMPANY

PILGRIM NUCLEAR POWER STATION

DOCKET NO. 50-293

INTRODUCTION

The control rod scram times, on some earlier boiling water reactors, were degraded by a buildup of particulate material which plugged an internal control rod filter through which the scram discharge water had to pass. The control rod drive was redesigned to eliminate this potential failure mode by relocating the filter out of the scram discharge flow path.

To provide assurance that the modification to the control rod drive had eliminated all of the causes of the increased scram insertion times, an accelerated testing program was required by the Pilgrim Technical Specifications to obtain data that would verify that scram insertion times were not increasing.

As required by Specification 4.3.C.4 of the Pilgrim Technical Specifications, Boston Edison has evaluated the results of the first operating cycle and has concluded that there has been no degradation of mean scram insertion time during Cycle 1.

On March 13, 1974, Boston Edison submitted its evaluation of the Pilgrim accelerated control rod testing program to the Directorate of Licensing and requested that the Technical Specifications for scram testing be revised by deleting the accelerated frequency scram test.

EVALUATION

During the first cycle of operation of the Pilgrim Nuclear Power Station, eighteen accelerated surveillance tests were conducted in accordance with Specification 4.3.C.3. These tests, which utilized 20-rod groups, were carried out at intervals of 1 week, 2 weeks, 4 weeks, 8 weeks and 16 weeks following any outage which exceeded 72 hours in duration.

OFFICE ➤						
SURNAME ➤						
DATE ➤						

Specification 4.3.C.4 requires that Boston Edison evaluate the results of the first operating cycle's scram insertion time tests and review their conclusion relating to this evaluation with the NRC to determine the need for this specification during subsequent operating cycles.

We have reviewed Boston Edison's evaluation of the accelerated scram insertion test program. The testing program has verified that no degradation of scram times has occurred through the one year duration of cycle 1. In each of the accelerated scram insertion tests, the control rods were inserted at a rate that was faster than the Technical Specifications require.

In addition to the eighteen accelerated scram time tests carried out, Boston Edison also conducted 4 routine scram insertion tests during Cycle 1, using 50% of the rods in the core in each test. These tests are required by Specification 4.3.C.2 at 16-week intervals. The results of these 4 tests were in agreement with the 20-rod special tests and provide additional assurance that the modified control rods at Pilgrim are performing satisfactorily and that no long-term degradation of scram insertion times is developing.

Because of the satisfactory conduct of the above tests and the lack of any evidence suggesting that the performance of the control rods has changed over the one year period, we conclude that the accelerated program of scram insertion time testing has verified that the design modifications to the Pilgrim control rods have eliminated the potential failure mode associated with control rod filter plugging. Because the accelerated testing program has fulfilled its intended purpose, and the tests that continue to be required in Specification 4.3.C.2 provide an equivalent level of surveillance, Specification 4.3.C.3 is no longer required and should be deleted.

CONCLUSION

We have concluded, based on the considerations discussed above, that: (1) because the change 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 change does not involve a significant hazards consideration, (2) there is reasonable assurance that the health and safety of the public will not

OFFICE >						
SURNAME >						
DATE >						

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.

Paul W. O'Connor
Operating Reactors Branch #2
Directorate of Licensing

Dennis L. Niemann, Chief
Operating Reactors Branch #2
Directorate of Licensing

Date: **JAN 28 1975**

OFFICE ➤						
SURNAME ➤						
DATE ➤						

UNITED STATES NUCLEAR REGULATORY COMMISSION

DOCKET NO. 50-293

BOSTON EDISON COMPANY

NOTICE OF ISSUANCE OF AMENDMENT TO FACILITY
OPERATING LICENSE

Notice is hereby given that the U. S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 8 to Facility Operating License No. DPR-35 issued to the Boston Edison Company which revised Technical Specifications for operation of the Pilgrim Nuclear Power Station located in Plymouth County, Massachusetts. The amendment is effective as of its date of issuance.

The amendment deletes the requirements in the Technical Specifications of the Pilgrim Nuclear Power Station for an accelerated scram insertion time testing program which has served its intended purpose of confirming that the modification of the control rod drive has eliminated a potential failure mode that had been identified in earlier reactors using similar control rod drives.

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.

OFFICE ➤						
SURNAME ➤						
DATE ➤						

For further details with respect to this action, see (1) the application for amendment dated March 13, 1974, (2) Amendment No. 8 to License No. DPR-35, with Change No. 10, and (3) the Commission's concurrently issued 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 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 Reactor Licensing.

Dated at Bethesda, Maryland, this *28th* day of *January*, 1975.

FOR THE NUCLEAR REGULATORY COMMISSION

Dennis L. Ziemann
Dennis L. Ziemann, Chief
Operating Reactors Branch #2
Division of Reactor Licensing