

Docket No. 50-293

JUN 28 1977

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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. 25 to Facility Operating License No. DPR-35 for Unit No. 1 of the Pilgrim Nuclear Power Station. This amendment is in response to your request dated April 28, 1977.

This amendment authorizes operation of the reactor beyond the previously analyzed end-of-cycle scram reactivity conditions and is based upon new analyses.

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

Sincerely,

Original signed by

Don K. Davis

Don K. Davis, Acting Chief
Operating Reactors Branch #2
Division of Operating Reactors

Enclosures:

1. Amendment No. 25 to License No. DPR-35
2. Safety Evaluation
3. Notice

cc w/enclosures:
See next page

I need Sanford Little (BEC) the amendment restriction on 6/29/77. She asked that we tel copy the amend page to her. we did. (6/17-424-2119) Relo page 6/29/77. Called J&E (Keeney) to relate to the Pauls in absence. Call 6/29/77

enclosure on 2485

OFFICE >	ORB#2: DOR <i>RDiggs</i>	ORB#1: DOR <i>PO Connor</i>	OELD <i>M. Mulkey</i>	AC-ORB#2: DOR <i>DKDavis</i>
SURNAME >	RDiggs	PO Connor	M. Mulkey	DKDavis
DATE >	6/23/77	6/24/77	6/27/77	6/28/77

cc w/enclosures:
Mr. Paul J. McGuire
Pilgrim Station Acting Manager
Boston Edison Company
RFD#1, Rocky Hill Road
Plymouth, Massachusetts 02360

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1025 15th Street, N.W., 5th Floor
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North Street
Plymouth, Massachusetts 02360

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

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

cc w/enclosures and copy of BECo
filing dated 4/28/77:
Massachusetts Department of Public Health
ATTN: Commissioner of Public Health
600 Washington Street
Boston Massachusetts 02111



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.
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 April 28, 1977, 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, paragraph 3.C of Facility Operating License No. DPR-35 is hereby amended to read as follows:

D. Restrictions

Beyond the cycle exposure at which the scram reactivity reduction rate is less than that of the generic end of cycle "B" curve, the reactor power level shall be limited by the maximum power profile shown on Figure 7-11 of NEDO 20855-03 "General Electric BWR Reload 2 Licensing Submittal for Pilgraim Nuclear Power Station Unit No. 1 with Bypass Flow Holes Plugged. This limit will be administered by small incremental power reductions. The coastdown from 100% power to 92% power and the coastdown from 92% power shall be accomplished at 100% core flow. Operation at 92% power level shall not exceed the power vs. flow conditions defined by the nominal 92% flow control line. Operation of the reactor is not permitted after the coastdown to 70% has been completed. Steady state operation at reduced power, during the coastdown, shall not exceed the power vs. flow conditions defined by the nominal flow control line for the maximum coastdown power permitted by Figure 7-11 of the licensee's filing dated April 28, 1977 of NEDO 20855-03.

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

FOR THE NUCLEAR REGULATORY COMMISSION

Don K. Davis, Acting Chief
Operating Reactors Branch #2
Division of Operating Reactors

Date of Issuance:



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
SUPPORTING AMENDMENT NO. 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 April 28, 1977, Boston Edison Company (BECo) requested authorization, with appropriate restrictions, for reactor power operation beyond the previously analyzed end-of-cycle scram reactivity conditions authorized for Cycle 3 (Reload 2) operation in Amendment No. 15 issued on May 21, 1976. In issuing Amendment No. 15, the Commission restricted Cycle 3 operations to the power profile shown in Figure 7-11 of NEDO-20855-01 "General Electric BWR Reload No. 2 Licensing Submittal for Pilgrim Nuclear Power Station Unit No. 1 with Bypass Flow Holes Plugged".

Discussion

As discussed in our previous Safety Evaluation supporting Amendment No. 15, Pilgrim Unit No. 1 is currently authorized to operate beyond the scram reactivity reduction rate described in the General Electric generic "B" scram reactivity curve with the power and flow conditions specified in Reference 1, out to the end-of-cycle 3 (EOC-3) scram reactivity curve identified in Figure 7-6 of Reference 1.

Operation in this manner was analyzed to establish the effect of anticipated transients, accidents, and normal operations. The turbine trip without bypass was determined to be the most limiting operational condition. The analysis assumed operation with the end-of-cycle 3 scram reactivity curve and concluded that operation beyond the GE generic B scram reactivity curve out to the EOC-3 Scram reactivity curve would maintain the safety margins previously analyzed and approved for anticipated transients, accidents, and normal operations.

BECO has provided in its amendment request dated April 28, 1977, a reanalysis of the limiting transient, a turbine trip without bypass, at burnup conditions beyond those previously analyzed and approved in Amendment No. 15. This new analysis evaluated the limiting transient at 92% of full licensed power with all control rods fully withdrawn utilizing the end of Cycle 3 scram reactivity curve. The reanalysis indicates that the pressure margin between peak steamline pressure and the safety relief valve set point is 32 psi for the limiting transient. This margin is identical to the pressure margin previously reviewed and approved by the staff in Amendment No. 15 and is acceptable to the staff.

BECO has also proposed to continue operation beyond the EOC-3 all-rods-out conditions by allowing the reactor power level to coast down to 70% power while maintaining primary coolant flow at 100% of full flow. In support of this mode of operation, Boston Edison has referenced an analysis ² submitted by Commonwealth Edison on the Quad Cities Nuclear Power Station Unit No. 2 (Docket No. 50-265). This analysis, which has been reviewed and approved by the staff for Quad Cities Units No. 1 and No. 2 and for Dresden Station Units Nos. 2 and 3, shows that the pressure margin between peak steam line pressure and Safety relief valve set point increased by 43 psi as the reactor power level is allowed to coast down from 90% to 70% .

The BECO analysis for operation with the new scram reactivity reduction rates is based upon operation at 100% of rated flow during coastdown and operation on or below the nominal 92% power operation between coastdown periods. Provided that reactor operation does not exceed these boundary conditions, the results of the most severe transient, the turbine trip with failure of bypass, will be less severe than the previously analyzed and approved operating condition. The NRC staff has modified Boston Edison's proposed license restriction to incorporate these boundary conditions. The maximum burnup to be achieved by any fuel assemblies during the coastdown is less than that previously approved for other similar reactors and is less than the fuel design burnup criteria for this fuel. This change has been discussed with Boston Edison's representatives and has been agreed to by them.

²Commonwealth Edison Company filing dated June 11, 1976, on Quad Cities Unit No. 2 (Docket No. 50-265)

Environmental Consideration

We have determined that this 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 §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.

Conclusions

We have concluded that the proposed amendment to the license for Pilgrim for operation beyond the end-of-cycle scram reactivity reduction rate curve "C" will maintain the safety margins previously determined for anticipated transients with scram.

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.

Date:

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

The amendment authorized operation of the reactor beyond the previously analyzed end-of-cycle scram reactivity conditions and is based upon new analyses.

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.

The Commission has determined that the issuance of this amendment will not result in any 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 issuance of this amendment.

For further details with respect to this action, see (1) the application for amendment dated April 28, 1977, (2) Amendment No. to License No. DPR-35, 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 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

FOR THE NUCLEAR REGULATORY COMMISSION

Don K. Davis, Acting Chief
Operating Reactors Branch #2
Division of Operating Reactors