MAR 03 1989

Docket No. 50-293

Boston Edison Company
ATTN: Mr. Ralph G. Bird
Senior Vice President - Nuclear
Pilgrim Nuclear Power Station
RFD #1 Rocky Hill Road
Plymouth, Massachusetts 02360

Gentlemen:

Subject: Reactor Operation Up To Twenty-Five (25) Percent Power

References: (a) Boston Edison Power Ascension Test Program, dated August 31, 1988; updated October 27, 1988
(b) Confirmatory Action Letter 86-10, April 12, 1986 and Supplements dated August 27, 1986 and December 30, 1988

This letter approves reactor operation up to twenty-five (25) percent of full power in accordance with Boston Edison Company's Power Ascension Test Program and NRC Confirmatory Action Letter 86-10 and its supplements. This letter neither imposes any new requirements nor releases Boston Edison from any existing requirements contain in the Facility License or Technical Specifications. The staff finds that management, plant material condition and operational performance support proceeding to the next phase of the Power Ascension Program.

The bases for approving the continuation of the Power Ascension Program consist of (1) successful completion of the Power Ascension Program up to 5% power, (2) a comprehensive assessment of plant and personnel performance by Boston Edison Company (BECo) during this phase of plant startup which demonstrated a positive safety attitude toward plant operations, and (3) NRC staff inspection and review which has confirmed the safety of operations taken by both the staff and management of BECo during this phase of plant startup. Enclosure (1) is a summary of NRC findings which will be docketed in NRC inspection reports 50-293/88-37 and 89-01. The most recent inspection activities, by the NRC Restart Staff, monitored and verified selected aspects of your startup and power ascension activities including your own management assessments of the performance of your facility and personnel. Based upon our conclusion that the facility has been safely operated and satisfactorily managed, and is ready for the next phase of power ascension, the NRC has no objection to plant operation at power levels up to 25% of full power.

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Additionally, the current status of emergency preparedness for the communities surrounding the Pilgrim Station as developed by the staff and reported to the Commission is shown in Enclosure 2. We continue to encourage cooperative and expeditious action by Boston Edison and the Commonwealth and local governments to further improve the state of emergency preparedness for the area surrounding the Pilgrim facility.

No reply to this letter is required. Should you have questions, please contact the NRC Region I office promptly.

Sincerely,
Original Signed By
James M. Allan
for William T. Russell
Regional Administrator

Enclosures:
As stated

MAR 03 1989

cc w/encls:
L. Gustin, Vice President - Corporate Relations
K. Highfill, Station Director
R. Anderson, Plant Manager
J. Keyes, Licensing Division Manager
E. Robinson, Nuclear Information Manager
R. Swanson, Nuclear Engineering Department Manager
The Honorable Edward M. Kennedy
The Honorable Edward J. Markey
The Honorable Edward P. Kirby
The Honorable Peter V. Forman
Chairman, Board of Selectmen, Plymouth
Chairman, Board of Selectmen, Duxbury
Chairman, Board of Selectmen, Carver
Chairman, Board of Selectmen, Kingston
Chairman, Board of Selectmen, Bridgewater
Chairman, Board of Selectmen, Marshfield
Mayor, City of Taunton
Plymouth Civil Defense Director
P. Agnes, Assistant Secretary of Public Safety, Commonwealth of Massachusetts
M. Ernst, Committee on Energy, Commonwealth of Massachusetts
B. McIntyre, Chairman, Department of Public Utilities
S. Pollard, Massachusetts Secretary of Energy Resources
N. Johnson, Chairman, Duxbury Nuclear Committee
R. Shimshak, MASSPIRG
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B. Boger, NRR
R. Wessman, NRR
D. McDonald, NRR
J. Scinto, OGC
W. Russell, RI
J. Gutierrez, RI
M. Miller, RI
W. Kane, RI
T. Martin, RI
S. Ebneter, RI
S. Collins, RI
J. Durr, RI
R. Gallo, RI
R. Bellamy, RI
J. Wiggins, RI
R. Blough, RI
J. Lyash, RI
M. Kohl, RI
S. Juergens, RI
R. Bores, RI
C. Warren, SRI - Pilgrim
T. Kim, RI - Pilgrim
C. Carpeneter, RI - Pilgrim

RI:DRP	RI:DRP	RI:DRP	NRR	RI:RA
RBlough/mjd	JWiggins	SCollins	BBoger	WRussell
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ENCLOSURE 1

Assessment of Licensee Readiness for Operation to 25% Power

I. Background

NRC Confirmatory Action Letter No. 86-10 of April 12, 1986 and the August 27, 1986 supplemental letter identified specific technical issues to be resolved prior to facility restart. In addition, due to other long-term management, hardware and program issues, Boston Edison Company (BECo) submitted a formal Power Ascension Program to the NRC. The licensee's NRC-accepted Power Ascension Program includes NRC Regional Administrator approval points at 5%, 25%, 50% and 75% of full power, as well as requiring a licensee formal assessment and NRC review after completion of the Power Ascension Program, including tests at full power. As specified in this program, the licensee must obtain the NRC Region I Regional Administrator's agreement to proceed beyond the 5% NRC approval point to the 25% power plateau.

By letter dated December 30, 1988, Mr. William T. Russell, Regional Administrator released BECo from the first approval point and permitted reactor criticality and low power operation up to five percent of full power. This enclosure provides the NRC Staff's assessment of licensee performance since the release from the first approval point.

II. Chronology of Significant Plant Events

December 30, 1988	Licensee released from first NRC approval point (initial criticality to 5% power)
	Pilgrim plant achieved initial criticality at 9:54 p.m.
	Plant shutdown at 10:14 p.m. due to intermediate range neutron monitor (IRM) problems
January 2, 1989	Pilgrim plant critical at 5:05 p.m. Reactivity insertion training conducted for new operators
January 4, 1989	Reactivity insertion training completed. Commenced plant heatup

January 10, 1989	Completion of reactor core isolation cooling system (RCIC) and high pressure coolant injection system (HPCI) flow tests at 150 psig
	Controlled plant shutdown at 9:00 p.m. due to possible inoperability of torus-to-reactor building vacuum breaker block valves identified by the licensee during NRC Generic Letter 88-14 reviews
January 27, 1989	Pilgrim plant critical at 2:12 p.m. after completing modifications to torus vacuum breaker block valve air supply
	Plant shutdowr at 9:55 p.m. due to increased leakage in air system supply to block valve accumulators. Unusual event declared at 10:10 p.m. due to initiation of shutdown required by technical specifications. Unusual event terminated at 10:15 p.m.
February 10, 1989	Pilgrim plant critical at 9:25 a.m. following completion of additional modification and testing of the torus vacuum breaker block valve air supply
February 16, 1989	Completion of test program at 0 - 5% power plateau as described in the August 31, 1988 Pilgrim Nuclear Power Station Power Ascension Program. Licensee management oversight and assessment team (MO&AT) meeting and final review, evaluation, and self-assessment of readiness for continuation beyond 5% up to 25% of full power.
February 17, 1989	BECo presentation to Pilgrim Restart Assessment Panel requesting approval to proceed to the 25% power testing plateau.
February 18, 1989	Plant placed in cold shutdown for minor repairs following completion of testing below 5% of full power.
February 21, 1989	Station Startup Transformer tripped. Both back-up diesel generators started properly to restore power to safety related loads. Plant remains in cold shutdown.

III. Staff Evaluation

1. The NRC Restart Assessment Panel considered the following approval point release criteria to evaluate the conduct of the Pilgrim power ascension program and consider approval of continuation of power ascension to the next programmed test condition between 5 and 25% power:

a. Plant status and equipment operability
b. Management/personnel performance and oversight activities
c. NRC inspection coverage
d. Power Ascension Testing Program
e. Power Ascension Test Program results
f. Allegations
g. Pending enforcement actions

2. Staff assessment of licensee performance.

a. Plant Status and Equipment Operability

The licensee has determined and the NRC is satisfied that all equipment required for continuation of the power ascension program is operable. Required non-safety related equipment is in a condition that supports safe plant operation. Surveillance tests are up-to-date with no significant identified discrepancies. The licensee's management review of facility operation up to five percent power is complete with no significant problems identified. The initial startup of the facility was conducted in a safe manner and concerns raised by the NRC and BECo management concerning facility operations during the startup have been appropriately addressed. The licensee has identified a few minor equipment deficiencies (e.g. steam and water leaks) which the licensee has committed to address prior to proceeding to 25% power.

About 1:00 a.m., on February 21, 1989, the plant lost power from its normal offsite power supplies when the startup transformer tripped and locked out on a ground differential relay actuation. At the time of the event, the plant was in cold shutdown for maintenance following completion on February 16 of restart power ascension testing up to 5% power. Both emergency diesel generators (EDG) started automatically and picked up the safety-related buses. In the event of an EDG malfunction, power was also available from a 23 kV offsite source via the shutdown transformer and from the recently installed station blackout diesel generator. As of noon on February 21, 1989, the licensee was investigating the startup transformer trip and was realigning the electrical distribution to provide offsite power to the plant during the troubleshooting and repair process. The NRC Restart Staff will ensure acceptable repairs are implemented before power ascension proceeds. There are no other equipment operability obstacles that would prevent the licensee from proceeding up to 25 percent rated power.

b. Management/Personnel Performance and Oversight Activities

The NRC restart staff has continued to monitor management and personnel performance on an as-needed, around-the-clock basis since startup. BECo management has been found to be responsive to NRC concerns and performing in a cautious, deliberate manner. Licensee peer evaluators were observed on each shift and appeared to be providing good feedback to personnel. Operators were knowledgeable of their duties and plant conditions and management maintains an active and effective oversight of operations. No significant personnel errors have occurred during the startup and no significant problems have developed, indicating that the licensee staff is handling plant problems and events in an efficient manner. In summary, no adverse trends have been noted in management/personnel performance that would preclude the licensee from proceeding to 25 percent rated power.

c. NRC Inspection Coverage

The NRC integrated inspection plan covering activities from 5% to 25% rated power has been approved. The inspection plan and inspection coverage levels are equivalent to those delineated in the Pilgrim Restart Staff Operating Plan dated October 13, 1988, for the Power Ascension Test Program.

d. Power Ascension Testing Program

The licensee's power ascension test program continues to be in place as described in the August 31, 1988 submittal and activities and operations are progressing as planned. No significant problems or technical issues are outstanding as a result of implementing this program.

e. Power Ascension Test Program Results

The NRC is satisfied that tests and conditions required to be completed by the licensee during performance of the NRC-accepted Power Ascension Program up to 5 percent rated power have been completed. Satisfactory results were achieved during the performance of:

(1) Initial criticality, reactor physics testing and plant heat-up

(2) HPCI/RCIC system testing

(3) MSIV opening testing

(4) Manual opening of reactor safety relief valves from the control room

(5) RHR boundary valve leak rate tests

(6) Plant system tightness and system operability verification under hot plant conditions

(7) Operator on-shift training activities

Items (3) and (5) were tests directly responsive to the technical issues associated with NRC Confirmatory Action Letter 86-10.

The NRC has also reviewed BECo's actions on those inspection findings which had potential to impact further reactor operations and found no outstanding issues which would restrict power operation up to 25% rated power.

f. Allegations

There are no open allegations at Pilgrim requiring further inspection.

g. Pending Enforcement Actions

There are no pending escalated enforcement actions associated with Pilgrim. Other issues pending include those stated in the Hold Point Release No. 1 memo for reactor criticality to 5 percent power dated January 9, 1989, and Inspection Report 50-293/88-36 which addressed a previous radiological violation, for which the Restart Panel determined that the licensee's corrective actions were appropriate. A forthcoming inspection report (50-293/89-01) will address a concern in the radioactive waste transportation area in which the licensee failed to identify all radioactive isotopes on laundry shipment manifests. This concern is relatively minor in nature and is not indicative of a significant programmatic problem. In conclusion, there are no pending enforcement issues which would preclude continued plant operation.

IV. Conclusion

The NRC continues to monitor the plant and licensee actions in conjunction with the Pilgrim Nuclear Power Station Power Ascension Program. The licensee has completed the activities of the power ascension program from 0 to 5% power. BECo has conducted oversight of those activities, assessed performance and requested authorization from NRC Region I to proceed to the next NRC Approval Point of 25% power. The NRC Power Ascension Program Restart Inspection Program has monitored licensee activities and conducted an independent assessment of operational training, personnel and equipment performance. The Restart Inspection Team found noteworthy strengths in the licensee's control of plant operating evolutions. In addition, the Team noted that the licensee approached plant operations in a conservative, safety-conscious manner as indicated by onshift licensed operator response to both the intermediate range monitor (IRM) problems on December 30, 1988, and to the torus/reactor building vacuum breaker block valve problems identified on January 27, 1989. However, both the Team and licensee management have noted some minor weaknesses as the licensee's staff attempts to transition from an outage mode of plant management to the operations phase. This latter area will receive continued NRC and licensee attention.

On February 17, 1989, the Pilgrim Restart Assessment Panel convened onsite and reviewed activities concluded during the period between initial criticality and 5% power. Presentations were made by the licensee and the NRC Restart Inspection Program manager. The basis for the BECo performance evaluation conclusion was reviewed and NRC inspection activity results were assessed. Based on these activities, the Restart Assessment Panel is satisfied that plant operation up to 25% rated power can proceed in a safe and deliberate manner.

ENCLOSURE 2

Current Status of Emergency Preparedness for the Communities Surrounding the Pilgrim Station

Progress has been noted in emergency preparedness for Pilgrim in the areas of training of personnel, in completion of the Duxbury and Marshfield Emergency Operating Centers (EOCs), in identification and resolution of Reception Center issues, and in a more active and visible involvement in the review process by the Federal Emergency Management Agency (FEMA).

Training sessions for Silver Lake High School teachers in Kingston and the Marshfield Fire Department in Marshfield (both monitored by the staff) indicated that the level of training being provided was high and appeared to be well accepted by those attending.

All EOCs are now in a condition in which the new or renovated EOCs are functional, with no necessity to rely on the previous facilities if the emergency plan were to be implemented.

FEMA Region I has informed the Massachusetts Civil Defense Agency (MCDA) by letter dated January 31, 1989, that they will be participating in all meetings and other activities involving off-site emergency preparedness. The FEMA Regional Assistance Committee (RAC) Chairman has since participated in a tour of the Reception Centers and has assigned staff to attend the weekly planning meetings.

Specific improvements have been noted in the approval of implementing procedures (IPs) in Plymouth by the Board of Selectmen. Fifty-one of 91 IPs have now been reviewed and approved in concept by its Board of Selectmen. This is in contrast to Duxbury, where the status is unchanged since the December 9, 1988 Commission Meeting.

Overall training continues to progress with both the approval of lesson plans and the actual conduct of training. To date, 11148 of 28101 hours of training for state, federal and local agencies have been completed.

The staff, the FEMA Region I RAC Chairman for Pilgrim, representatives of the Commonwealth, local elected officials, and members of the public and the press toured the three Reception Center facilities at Bridgewater, Taunton and Wellesley on February 2, 1989. Since the December 9, 1988 Commission Meeting, additional hardware has been delivered to the Reception Center at Bridgewater and Taunton, and personnel to staff these Centers have been identified. Training needs to be completed. In the staff's view these two Reception Centers could be used in a radiological emergency. In a letter from MCDA dated February 7, 1989, the Commonwealth designated Wellesley as a third Reception Center. Wellesley is a very large facility that would be capable of operations upon delivery of support equipment. Subsequently on February 13, 1989, BECo delivered portal monitors, decontamination and monitoring equipment and registration supplies to Wellesley. Arrangements are being finalized for locating decontamination trailers on site and for identifying and supplying traffic control equipment. The information to be disseminated to the public regarding Reception Centers needs to be finalized and distributed. BECO has prepared a Public Information Brochure and is awaiting Commonwealth approval to issue the brochure.

The staff has continued to attend planning meetings with town Civil Defense Directors, local elected officials, Commonwealth and MCDA Area II officials that discuss the status of off-site emergency preparedness.

The attached emergency preparedness summaries provide the February 15, 1989 status of selected emergency preparedness issues for each town surrounding the Pilgrim Station, the Commonwealth and MCDA Area II as compared to that of December 9, 1988. In many instances, detail beyond that provided at the December 9, 1988 Commission Meeting is included. The staff provided the summaries to the respective town officials or Civil Defense Directors of each area. The staff subsequently contacted each official provided the summary to verify the accuracy of the summaries.