



**BOSTON EDISON**

Pilgrim Nuclear Power Station  
Rocky Hill Road  
Plymouth, Massachusetts 02360

**R. A. Anderson**  
Vice President &  
Station Director  
Nuclear Operations

April 12, 1991  
BECO Ltr. #91-053

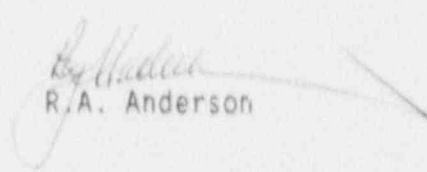
U.S. Nuclear Regulatory Commission  
Attention: Document Control Desk  
Washington, DC 20555

License No. DPR-35  
Docket No. 50-293

Subject: March 1991 Monthly Report

Dear Sir:

In accordance with PNPS Technical Specification 6.9.A.2, a copy of the Operational Status Summary for Pilgrim Nuclear Power Station is attached for your information and planning. Should you have any questions concerning this report please contact me directly.

  
R.A. Anderson

WJM/bal

Attachment

cc: Regional Administrator, Region 1  
U.S. Nuclear Regulatory Commission  
475 Allendale Rd.  
King of Prussia, PA 19406

Senior Resident Inspector

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# AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50-293  
 UNIT Pilgrim 1  
 DATE April 12, 1991  
 COMPLETED BY W. Munro  
 TELEPHONE (508) 747-8474

MONTH March 1991

DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)	DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)
1	<u>665</u>	17	<u>630</u>
2	<u>664</u>	18	<u>665</u>
3	<u>663</u>	19	<u>665</u>
4	<u>531</u>	20	<u>665</u>
5	<u>201</u>	21	<u>665</u>
6	<u>186</u>	22	<u>665</u>
7	<u>183</u>	23	<u>663</u>
8	<u>346</u>	24	<u>664</u>
9	<u>635</u>	25	<u>318</u>
10	<u>664</u>	26	<u>463</u>
11	<u>637</u>	27	<u>625</u>
12	<u>605</u>	28	<u>482</u>
13	<u>665</u>	29	<u>654</u>
14	<u>665</u>	30	<u>660</u>
15	<u>635</u>	31	<u>662</u>
16	<u>479</u>		

This format lists the average daily unit power level in MWe-Net for each day in the reporting month, computed to the nearest whole megawatt.

# OPERATING DATA REPORT

DOCKET NO. 50-293  
 DATE April 12, 1991  
 COMPLETED BY W. Munro  
 TELEPHONE (508) 747-8474

## OPERATING STATUS

Notes

1. Unit Name Pilgrim 1
2. Reporting Period March 1991
3. Licensed Thermal Power (MWt) 1998
4. Nameplate Rating (Gross MWe) 678
5. Design Electrical Rating (Net MWe) 655
6. Maximum Dependable Capacity (Gross MWe) 696
7. Maximum Dependable Capacity (Net MWe) 670
8. If Changes Occur in Capacity Ratings (Items Number 3 Through 7) Since Last Report, Give Reasons:

None

9. Power Level To Which Restricted, If Any (Net MWe) None

10. Reasons For Restrictions, If Any N/A

	<u>This Month</u>	<u>Yr-to-Date</u>	<u>Cumulative</u>
11. Hours In Reporting Period	<u>744.0</u>	<u>2160.0</u>	<u>160488.0</u>
12. Number Of Hours Reactor Was Critical	<u>744.0</u>	<u>2160.0</u>	<u>94760.7</u>
13. Reactor Reserve Shutdown Hours	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>
14. Hours Generator On-Line	<u>744.0</u>	<u>2160.0</u>	<u>91076.1</u>
15. Unit Reserve Shutdown Hours	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>
16. Gross Thermal Energy Generated (MWH)	<u>1282152.0</u>	<u>3925920.0</u>	<u>157267416.0</u>
17. Gross Electrical Energy Generated (MWH)	<u>438860.0</u>	<u>1348090.0</u>	<u>52995604.0</u>
18. Net Electrical Energy Generated (MWH)	<u>421703.0</u>	<u>1297285.0</u>	<u>50923693.0</u>
19. Unit Service Factor	<u>100.0</u>	<u>100.0</u>	<u>56.7</u>
20. Unit Availability Factor	<u>100.0</u>	<u>100.0</u>	<u>56.7</u>
21. Unit Capacity Factor (Using MDC Net)	<u>84.6</u>	<u>89.6</u>	<u>47.4</u>
22. Unit Capacity Factor (Using DER Net)	<u>86.5</u>	<u>91.7</u>	<u>48.4</u>
23. Unit Forced Outage Rate	<u>0.0</u>	<u>0.0</u>	<u>12.5</u>
24. Shutdowns Scheduled Over Next 6 Months (Type, Date, and Duration of Each):			
<u>Refueling Outage No. 8, May 1991, approximately 70 days</u>			

25. If Shut Down At End Of Report Period, Estimated Date of Startup N/A

BOSTON EDISON COMPANY  
PILGRIM NUCLEAR POWER STATION  
DOCKET NO. 50-223

Operational Summary for March 1991

The unit started the reporting period at 100 percent power. On March 4, 1991 operation at reduced power levels was necessitated for replacement of the "A" recirculation pump motor generator (MG) set brushes, followed by a condenser chloride intrusion the same day which required operation at 50 percent power to isolate the 1-3 condenser water box. The unit remained at reduced power until March 5, 1991 when at 1532 hours the unit entered an LCO for Maximum Fraction of Limiting Power Density (MFLPD) greater than Fraction of Rated Power (FRP), requiring a power reduction to below 25 percent. On March 6, 1991 with MFLPD acceptable, a power increase to 35 percent was performed. While at reduced power the "A" recirculation MG set was again removed from service to implement a temporary modification to add a second set of brushes on the generator end. Power remained at 35 percent until March 8, 1991 when the source of the chloride intrusion (tube leakage) was discovered and repaired. Power ascension progressed and the unit attained 100 percent power on March 9, 1991. The unit remained at approximately 100 percent power through March 24, 1991 with the exception of two occasions, March 11 and 15, when power was reduced to approximately 45 percent to perform condenser backwashing. On March 24, 1991 at 2300 hours a lockout of the shutdown transformer occurred, resulting from a negative sequence trip. On March 25, 1991 while testing the "B" emergency diesel generator (EDG), required surveillance for shutdown transformer out of service, a lockout of the the 4160 volt bus A-6 occurred and the "B" EDG tripped, deenergizing the entire "B" safety related power train. Power was reduced to 35 percent. Plant conditions were stabilized, and on March 25, 1991 bus A-6 was returned to service. Following repair and testing, the "B" EDG was declared operable on March 28, 1991. An operability evaluation was performed on the shutdown transformer to permit operation with the negative sequence trip disabled. Reactor power was increased to 98 percent on March 29, 1991 and ended the reporting period at 100 percent. Control rod exercises were performed on March 2, 9, 16, 23 and 31, 1991

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Safety Relief Valve Challenges  
Month of March 1991

Requirement: NUREG-0737 T.A.P. II.K.3.3

There were no safety relief valve challenges during this reporting period.

An SRV challenge is defined as anytime an SRV has received a signal to operate via reactor pressure, auto signal (ADS) or control switch (manual). Ref. BECo ltr. #81-01 dated 01/05/81.

### REFUELING INFORMATION

The following refueling information is included in the Monthly Report as requested in an NRC letter to BECo, dated January 18, 1978:

For your convenience, the information supplied has been enumerated so that, each number corresponds to equivalent notation utilized in the request.

1. The name of this facility is Pilgrim Nuclear Power Station, Docket Number 50-293.
2. Scheduled date for next Refueling Shutdown: Second Quarter 1991
3. Scheduled date for restart following refueling: Third Quarter 1991
4. Due to their similarity, requests 4, 5, & 6 are responded to collectively under #6.
5. See #6.
6. The new fuel loaded during the 1986/87 refueling outage was of the same design as loaded in the previous outage, and consisted of 192 assemblies.
7. (a) There are 580 fuel assemblies in the core.  
(b) There are 1487\* fuel assemblies in the spent fuel pool.
8. (a) The station is presently licensed to store 2320 spent fuel assemblies. The actual usable spent fuel storage capacity is 2320 fuel assemblies.  
(b) The planned spent fuel storage capacity is 2320 fuel assemblies.
9. With present spent fuel in storage, the spent fuel pool now has the capacity to accommodate an additional 1000 fuel assemblies.

\* Includes 167 new fuel assemblies to support current refuel outage.

PILGRIM NUCLEAR POWER STATION  
MAJOR SAFETY RELATED MAINTENANCE

<u>SYSTEM</u>	<u>COMPONENT</u>	<u>MAJFUNCTION</u>	<u>CAUSE</u>	<u>MAINTENANCE</u>	<u>CORRECTIVE ACTION TO PREVENT RECURRENCE</u>	<u>ASSOCIATED LER</u>
Recirculation System	"A" Recirculation Motor Generator Set*	Generator end brushes arcing due to worn and pitted collector ring.	Root cause under investigation.	Replaced all four brushes. Later in the reporting period Temporary Modification TM91-12 Rev.1 was implemented to add a second set of brushes to the generator end outboard collector ring.	Collector rings scheduled for replacement during RFA 8.	N/A
Reactor Core Isolation Cooling System	Terminal strip for Temperature Switch TS 1350 (Weidmuller SA K6N).	During Surveillance Test 8.M.2-2.6.3 Temperature Switch TS1360-14C could not be relanded. Terminal stripped. (F&MR91-90)	Repeated torquing of the screws.	Broken terminal swapped with spare terminal on same block. MR written to replace broken terminal.	Refer to associated LER.	LER 91-004-00
Diesel Generators and Auxiliaries	"B" Diesel Generator ("B-EDG")	Failure of automatic voltage regulator (Basler Electric). (F&MR 91-99)	Root cause under investigation	Replaced automatic voltage regulator.	Failed voltage regulator to be sent to manufacturer (Basler Electric) for analysis.	LER 91-005-00 (to be issued)



PILGRIM NUCLEAR POWER STATION  
MAJOR SAFETY RELATED MAINTENANCE

<u>SYSTEM</u>	<u>COMPONENT</u>	<u>MALFUNCTION</u>	<u>CAUSE</u>	<u>MAINTENANCE</u>	<u>CORRECTIVE ACTION TO PREVENT RECURRENCE</u>	<u>ASSOCIATED LER</u>
High Pressure Coolant Injection System.	Pressure Transmitter PT263-50B (Rosemount Inc).	Degraded performance.	Loss of fill-oil in pressure transmitter's sensing module.	Pressure transmitter replaced with rebuilt Rosemount Inc. unit.	Refer to associated LER	LER 91-003-00
Condenser and Condenser Auxiliary System	Condenser 1-3 water box *	Chloride intrusion	Tube leakage	Plugged leaking tubes	N/A	N/A

\* NOTE

Items are not safety related, however caused major reduction in power.

## UNIT SHUTDOWNS AND POWER REDUCTIONS

DOCKET NO. 50-293

NAME Pilgrim I

DATE April 12, 1991

COMPLETED BY H. Munro

TELEPHONE (508) 747-8474

REPORT MONTH March 1991

NO.	DATE	TYPE <sup>1</sup>	DURATION (HOURS)	REASON <sup>2</sup>	METHOD OF SHUTTING DOWN REACTOR <sup>3</sup>	LICENSE EVENT REPORT #	SYSTEM CODE <sup>4</sup>	COMPONENT CODE <sup>5</sup>	CAUSE & CORRECTIVE ACTION TO PREVENT RECURRENCE
4	03/04/91	F	0.0	N/A	5	N/A	N/A	N/A	Power reduced to replace Recirc. MG Set "A" brushes; Adjust MFLPD; implement Temp. Mod. to add additional brush on MG Set "A"; troubleshoot condenser chloride intrusion.
5	03/16/91	F	0.0	N/A	5	N/A	N/A	N/A	Power reduced to perform main condenser backwash.
6	03/25/91	F	0.0	N/A	5	91-005-00	EK/EB	DG,90	Power reduced due to loss of Bus.
7	03/28/91	F	0.0	N/A	5	91-005-00	EK/EB	DG,90	Power reduced to perform "B" Diesel testing.

1	2	2	3	4&5
F-Forced S-Sched	A-Equip Failure B-Maint or Test C-Refueling D-Regulatory Restriction E-Operator Training & License Examination	F-Admin G-Oper Error H-Other	1-Manual 2-Manual Scram 3-Auto Scram 4-Continued 5-Reduced Load 9-Other	Exhibit F & H Instructions for Preparation of Data Entry Sheet Licensee Event Report (LER) File (NUREG-1022)