



Public Service Electric and Gas Company P.O. Box 236 Hancocks Bridge, New Jersey 08038  
Hope Creek Generating Station

January 15, 1990

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

Dear Sir:

MONTHLY OPERATING REPORT  
HOPE CREEK GENERATING STATION UNIT 1  
DOCKET NO. 50-354

In compliance with Section 6.9, Reporting Requirements for the Hope Creek Technical Specifications, the operating statistics for December are being forwarded to you with the summary of changes, tests, and experiments for December 1989 pursuant to the requirements of 10CFR50.59(b).

Sincerely yours,

J. J. Magan  
General Manager -  
Hope Creek Operations

RAR RAR:sc  
Attachment

C Distribution

9001190222 891231  
PDR ADOCK 05000354  
R PDC

The Energy People

IE24  
11

INDEX

SECTION	NUMBER OF PAGES
Average Daily Unit Power Level.....	1
Operating Data Report.....	3
Refueling Information.....	1
Monthly Operating Summary.....	1
Summary of Changes, Tests, and Experiments.....	11

AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50-354

UNIT Hope Creek

DATE 1/15/90

COMPLETED BY S. Loeper

TELEPHONE (609) 339-5257

MONTH December 1989

DAY AVERAGE DAILY POWER LEVEL  
(MWe-Net)

1	<u>1077</u>
2	<u>1063</u>
3	<u>1069</u>
4	<u>1066</u>
5	<u>1071</u>
6	<u>1057</u>
7	<u>1084</u>
8	<u>1058</u>
9	<u>1071</u>
10	<u>1071</u>
11	<u>1062</u>
12	<u>1057</u>
13	<u>1081</u>
14	<u>1072</u>
15	<u>1067</u>
16	<u>1069</u>

DAY AVERAGE DAILY POWER LEVEL  
(MWe-Net)

17	<u>1075</u>
18	<u>1057</u>
19	<u>1069</u>
20	<u>1071</u>
21	<u>1070</u>
22	<u>1069</u>
23	<u>1070</u>
24	<u>1072</u>
25	<u>1069</u>
26	<u>1047</u>
27	<u>1088</u>
28	<u>1065</u>
29	<u>1064</u>
30	<u>883</u>
31	<u>0</u>



OPERATING DATA REPORT

DOCKET NO. 50-354  
 UNIT Hope Creek  
 DATE 1/15/90  
 COMPLETED BY S. Loeper  
 TELEPHONE (609) 339-5257

OPERATING STATUS

1. REPORTING PERIOD December 1989 GROSS HOURS IN REPORTING PERIOD 744
2. CURRENTLY AUTHORIZED POWER LEVEL (MWt) 3293  
 MAX. DEPEND. CAPACITY (MWe-Net) 1031  
 DESIGN ELECTRICAL RATING (MWe-Net) 1057
3. POWER LEVEL TO WHICH RESTRICTED (IF ANY) (MWe-Net) None
4. REASONS FOR RESTRICTION (IF ANY)
5. NO. OF HOURS REACTOR WAS CRITICAL 

	THIS MONTH	YR TO DATE	CUMULATIVE
5. NO. OF HOURS REACTOR WAS CRITICAL	<u>715.7</u>	<u>6813.9</u>	<u>21761.5</u>
6. REACTOR RESERVE SHUTDOWN HOURS	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>
7. HOURS GENERATOR ON LINE	<u>715.7</u>	<u>6,719.1</u>	<u>21351.2</u>
8. UNIT RESERVE SHUTDOWN HOURS	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>
9. GROSS THERMAL ENERGY GENERATED (MWH)	<u>2,332,811</u>	<u>20,952,672</u>	<u>65,956,386</u>
10. GROSS ELECTRICAL ENERGY GENERATED (MWH)	<u>796,120</u>	<u>6,929,819</u>	<u>22,156,263</u>
11. NET ELECTRICAL ENERGY GENERATED (MWH)	<u>763,037</u>	<u>6,606,449</u>	<u>21,156,549</u>
12. REACTOR SERVICE FACTOR	<u>96.2</u>	<u>77.8</u>	<u>81.8</u>
13. REACTOR AVAILABILITY FACTOR	<u>96.2</u>	<u>77.8</u>	<u>81.8</u>
14. UNIT SERVICE FACTOR	<u>96.2</u>	<u>76.7</u>	<u>80.3</u>
15. UNIT AVAILABILITY FACTOR	<u>96.2</u>	<u>76.7</u>	<u>80.3</u>
16. UNIT CAPACITY FACTOR (Using MDC)	<u>99.5</u>	<u>73.1</u>	<u>77.2</u>
17. UNIT CAPACITY FACTOR (Using Design MWe)	<u>96.1</u>	<u>70.7</u>	<u>74.6</u>
18. UNIT FORCED OUTAGE RATE	<u>3.8</u>	<u>1.4</u>	<u>5.6</u>
19. SHUTDOWNS SCHEDULED OVER NEXT 6 MONTHS (TYPE, DATE, & DURATION):  
 None Scheduled
20. IF SHUT DOWN AT END OF REPORT PERIOD, ESTIMATED DATE OF START-UP: 1/3/90

OPERATING DATA REPORT  
UNIT SHUTDOWNS AND POWER REDUCTIONS

DOCKET NO. 50-354

UNIT Hope Creek Unit 1

DATE 12/15/89

COMPLETED BY S. Loeper

REPORT MONTH November 1989 TELEPHONE (609) 339-5257

NO.	DATE	TYPE F FORCED S SCHEDULED	DURATION (HOURS)	REASON (1)	METHOD OF SHUTTING DOWN THE REACTOR OR REDUCING POWER (2)	CORRECTIVE ACTION/ COMMENTS
11	09/16	S	429.7	C	4	CONTINUATION OF REFUELING OUTAGE
12	11/19	S	8.8	B	1	TURBINE TESTING

SUMMARY

OPERATING DATA REPORT  
UNIT SHUTDOWNS AND POWER REDUCTIONS

DOCKET NO. 50-354

UNIT Hope Creek Unit 1

DATE 1/15/90

COMPLETED BY S.Loeper

REPORT MONTH December, 1989 TELEPHONE (609) 339-5257

NO.	DATE	TYPE F FORCED S SCHEDULED	DURATION (HOURS)	REASON (1)	METHOD OF SHUTTING DOWN THE REACTOR OR REDUCING POWER (2)	CORRECTIVE ACTION/ COMMENTS
12	12/30	F	28.3	A	3	FAILURE OF LIMIT SWITCH DURING TESTING OF THE MAIN TURBINE THRUST BEARING WEAR DETECTOR (LEP. 89-026)

SUMMARY



REFUELING INFORMATION

COMPLETED BY: Chris Brennan DOCKET NO: 50-354  
 UNIT NAME: Hope Creek Unit 1  
 DATE: 1/15/90  
 TELEPHONE: 3193  
 EXTENSION: N/A

Month January 1990

1. Refueling information has changed from last month:  
 YES \_\_\_\_\_ NO X
2. Scheduled date for next refueling: 01/19/91
3. Scheduled date for restart following refueling 03/05/91
4. A) Will Technical Specification changes or other license amendments be required?  
 YES \_\_\_\_\_ NO X
- B) Has the reload fuel design been reviewed by the Station Operating Review Committee?  
 YES \_\_\_\_\_ NO X  
 If no, when is it scheduled? 02/01/91
5. Scheduled date(s) for submitting proposed licensing action: N/A
6. Important licensing considerations associated with refueling:  
-Amendment 34 to the Hope Creek Tech Specs allows the cycle specific operating limits to be incorporated into the CORE OPERATING LIMITS REPORT; a submittal is therefore not required.
7. Number of Fuel Assemblies:
 

A) Incore	<u>764</u>
B) In Spent Fuel Storage (prior to refueling)	<u>496</u>
C) In Spent Fuel Storage (after refueling)	<u>744</u>
8. Present licensed spent fuel storage capacity: 1290  
 Future spent fuel storage capacity: 4006
9. Date of last refueling that can be discharged to spent fuel pool assuming the present licensed capacity: 03-05-91

HOPE CREEK GENERATING STATION  
MONTHLY OPERATING SUMMARY

DECEMBER 1989

Hope Creek entered the month of December operating at 100% power. On December 29, during a surveillance test, the plant automatically shutdown due to a failure of a limit switch in the Main Turbine Thrust Bearing Wear Detector. This failure caused a turbine trip which in turn caused a reactor scram. The plant had completed its 41st day of continuous power operation. On December 31st, the plant remained in shutdown, repairing a leak on a recirculation instrument line.



SUMMARY OF CHANGES, TESTS, AND EXPERIMENTS  
FOR THE HOPE CREEK GENERATING STATION

DECEMBER 1989

The following Design Change Packages (DCP's) have been evaluated to determine:

- 1) if the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety previously evaluated in the safety analysis report may be increased; or
- 2) if a possibility for an accident or malfunction of a different type than any evaluated previously in the safety analysis report may be created; or
- 3) if the margin of safety as defined in the basis for any technical specification is reduced.

The DCP's did not create a new safety hazard to the plant nor did they affect the safe shutdown of the reactor. The DCP's did not change the plant's effluent releases and did not alter the existing environmental impact. The Safety Evaluations determined that no unreviewed safety or environmental questions are involved.

DCP

Description of Design Change Package

4EC-1002/07

This DCP provided permanent walls in the Reactor Building to establish a clean area to perform Control Rod Drive maintenance work. Air flow is being forced from areas of low containment to areas of higher containment. This DCP is part of a larger project establishing an improved Control Rod Drive Rebuild and Maintenance Facility.

4HC-0029

This DCP replaced the Off-Gas Hydrogen Analyzers and the associated pumps, valves, and instrumentation with new analyzers and a new system to more accurately analyze the hydrogen content of the off-gas sample from the recombiner units. This DCP also added new oxygen analyzers.

4HC-0035

This DCP added Drywell/Suppression Chamber Supplementary Oxygen Analyzers to the Leak Detection System and the Containment Atmosphere Monitoring Hydrogen Oxygen Analyzing System Panel. The additional analyzers provide an alternate acceptable method to monitor oxygen concentrations.

4HC-0125/02

This DCP installed the electrical, instrumentation, and control power portions of a larger modification to add a third Reactor Auxiliaries Cooling System Pump. The additional pump will increase the reliability and availability of the Reactor Auxiliaries Cooling System.

4HC-0181

This DCP installed a new communications console in the Control Room and in the simulator. This modification, along with other DCP's, will provide Artificial Island with an integrated radio communication package.

4HC-0320/02

This DCP replaced seal connectors and cable assemblies installed on limit switches and solenoid valves of the Main Steam Isolation Valves with quick-disconnect assemblies. The original installation required rebuilding limit switches every refuel outage and rebuilding solenoid valves every other refuel outage for Environmental Qualification considerations.



DCPDescription of Design Change Package

- 4HC-0324/01 This DCP provided the support activities for 4HC-0324/02 and provided for the restoration and disposition of all damaged commodities.
- 4HC-0324/02 This DCP provided for the lifting of a portion of the Turbine Building floor and the replacement of slide bearing assemblies. This DCP was required due to the degradation of the urethane material portion of the bearing assemblies.
- 4HC-0328 This DCP modified piping and nozzles in the Cooling Tower Hot Water Distribution Piping System. These modifications will improve the Cooling Tower's thermal performance, and are based on vendor recommendations.
- 4HC-0333/01 This DCP rewired a multiplexer to return it to its original configuration. A previous modification provided this multiplexer with an uninterruptable power supply. That modification was required during the Loss of Offsite Power Test to record Reactor Protection System GETARS points. This DCP disconnected the uninterruptable power supply and reconnected the multiplexer to its original Reactor Protection System power supply.
- 4HM-0258 This DCP replaced some of the valve packing in selected valves in the Condensate, Feedwater, and Reactor Core Isolation Cooling Systems. Split carbon sleeves were installed in lieu of the packing to reduce the probability of valve leakage.
- 4HM-0307 This DCP installed a run timer for every sump pump that inputs into the Radwaste System. This will allow for the identification of the most used sumps, facilitating action to reduce the amount of liquid entering the Radwaste System.
- 4HM-0311 This DCP revised Instrument Calibration Data Cards for Fire Protection Level Switches. These modifications account for the slope in the Fire Tank mounting slabs and the relative elevation of the level switches that are mounted in the Fire Protection Pump House.

DCP

Description of Design Change Package

- 4HM-0384 This DCP installed an isolation valve in both the "A" and "B" Turbine First Stage Pressure Sensing Lines. These isolation valves will remain open during normal plant operations and will be used to allow Inservice Testing of Excess Flow Check Valves during outages.
- 4HM-0406 This DCP replaces relays in the Jet Pump Instrumentation System with another model relay. The new relays are more suitable for a low voltage, low current contact application.
- 4HM-0403 This DCP provided a floor penetration near the North Radwaste Hatch. The penetration is required to run an oxygen line between elevations.
- 4HM-0524/04 This DCP added a Chlorine Analyzer, Controller, pH Analyzer, and Data Acquisition Module to allow for improved monitoring and control of the Dechlorination System.
- 4HM-0524/05 This DCP replaced the Circulating Water Chlorination Pumps with smaller pumps and improves control of the system by allowing operation in the upper end of the pump stroke.
- 4HM-0528 This DCP replaced the Brush Holder Assembly on the Alterrex Exciter with an improved assembly. The new assembly facilitates on-line maintenance and reduces the potential for a scram during maintenance due to loss of excitation.
- 4HM-0531 This DCP replaced torque tube style level transmitters in the Extraction Steam System with differential pressure cells to monitor level in the Feedwater Heaters. This DCP will eliminate hi/hi level trips caused by flashing during a turbine trip.
- 4HM-0533 This DCP added a test connection and removed the valve internals from a Reactor Core Isolation Cooling Check Valve to facilitate the Local Leak Rate Test for a Reactor Core Isolation Cooling System Minimum Flow Bypass Valve.

DCP

Description of Design Change Package

4HM-0537

This DCP replaced the carbon steel piping in the "A" Reactor Feed Pump Turbine Low Pressure Steam Supply Drain Line with stainless steel piping. The stainless steel piping is more resistant to erosion and corrosion than carbon steel piping.

4HM-0538

This DCP removed the temporary encapsulations on the "C" Reactor Feed Pump Turbine Low Pressure Steam Drain Line and replaced the damaged piping with stainless steel piping. The stainless steel piping is more resistant to erosion and corrosion.

4HM-0545

This DCP removed the temporary encapsulations on the "B" Reactor Feed Pump Turbine Low Pressure Steam Drain Line and replaced the damaged piping with stainless steel piping. The stainless steel piping is more resistant to erosion and corrosion.

4HM-0553

This DCP relocated the connection point for the Narrow Range Level Instrumentation on Feedwater Heater Shells. The new connection will eliminate the high activity that was being detected by the instrumentation.

4HM-0606

This DCP rotated the valve bodies for valves in the Containment Atmosphere Control System. Rotating them will permit proper Local Leak Rate Testing of the associated containment penetrations.

4HM-0610

This DCP replaced a relief valve in a Reactor Water Cleanup Non-Regenerative Heat Exchanger with a different model relief valve. No direct replacements for the original valve were available.

4HM-0629

This DCP installed temperature monitoring devices on various components in the Drywell To provide data to determine Environmental Qualification life expectancies.



DCPDescription of Design Change Package

- 4HM-0661 This DCP changed the piping material classification for the Radwaste Demineralizer Systems to allow the use of polypropylene line pipe instead of the original Saran lined pipe. The original pipe is no longer manufactured because it had a tendency to crack.
- 4HM-0724 This DCP replaced the closed circuit television cable for the Radwaste 7.5 Ton Crane. The new cable has an equal capacity, but more flexibility.
- 4HX-0269 This test DCP installed temporary instrumentation to monitor steady state vibration levels of the Reactor Recirculation System Pump Suction Elbows. The test results provided by this DCP will be used to trend the frequency levels and the associated strains and accelerations in the Reactor Recirculation System.
- 4HX-0675 This experiment DCP installed ultrasonic flow transducers and thermocouples on the drain lines to determine the efficiency of the Main Turbine Moisture Separators. A dedicated monitor will also be installed to compile and process the data.
- 5HC-0004 This DCP modified radio equipment in the firehouse and in the security areas of Salem and Hope Creek Generating Stations. This DCP is part of a communications system upgrade that will provide an integrated radio communications package for Artificial Island.

The following Temporary Modification Requests (TMR's) have been evaluated to determine:

- 1) if the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety previously evaluated in the safety analysis report may be increased; or
- 2) if a possibility for an accident or malfunction of a different type than any evaluated previously in the safety analysis report may be created; or
- 3) if the margin of safety as defined in the basis for any technical specification is reduced.

The TMR's did not create a new safety hazard to the plant nor did they affect the safe shutdown of the reactor. The TMR's did not change the plant effluent releases and did not alter the existing environmental impact. The Safety Evaluations determined that no unreviewed safety or environmental questions are involved.

Safety Evaluation

Description of Temporary Modification Request

89-162

This TMR bypassed a failed vibration monitoring probe for the "B" Reactor Recirculation Pump. There are two probes installed on the pump, indication in the Control Room will be provided by the other probe until the failed one can be replaced. This TMR eliminates a nuisance overhead annunciator.

89-176

This TMR removed the overload heaters from Reactor Water Cleanup Discharge Valves. These valves are high-low pressure interfaces between the primary coolant and the Reactor Water Cleanup System discharge to the Main Condenser and the equipment drain. This will prevent the valves from opening during an Appendix R fire.



The following Deficiency Report (DR) has been evaluated to determine:

- 1) if the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety previously evaluated in the safety analysis report may be increased; or
- 2) if a possibility for an accident or malfunction of a different type than any evaluated previously in the safety analysis report may be created; or
- 3) if the margin of safety as defined in the basis for any technical specification is reduced.

The DR did not create a new safety hazard to the plant nor did it affect the safe shutdown of the reactor. The DR did not change the plant effluent releases and did not alter the existing environmental impact. The Safety Evaluation determined that no unreviewed safety or environmental questions are involved.

SAFETY EVALUATION

DESCRIPTION OF DEFICIENCY REPORT

89-165

When the "B" Traveling Screen Spraywash Pump was disassembled for a routine internal inspection, it was discovered that the impeller had experienced extensive wear. No spare impellers were available; therefore, the worn impeller was repaired and will be used until a new impeller is available.