INDEX

SECTION		MBER PAGES
Average Daily Unit Power Level	••	1
Operating Data Report	÷.,	2
Refueling Information	•	1
Monthly Operating Summary		1
Summary of Changes, Tests, and Experiments	1	13
Amendment 1 to March 1988 Summary of Changes, Tests, and Experiments	1	2

. .

*

AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO.	86-354
UNIT	Hope Creek
DATE	5/15/88
COMPLETED BY	H. Jensen
TELEPHONE	(609) 339-5261

MONTH April 1988

. .

1

.

1

DAY AVER	AGE DAILY POWER LEVEL (MWe-Net)	DAY AVE	ERAGE DAILY POWER LEVEL (MWe-Net)
1	0	17	903
2	0	18	1013
3	0	19	1029
4	0	20	1017
5	0	21	1019
ő	0	22	1011
7	0	23	1033
8	0	24	1016
9	0	25	1017
10	0	26	1022
11	0	27	1020
12	0	28	1020
13	0	29	1025
14	0	30	343
15	46		
16	773		

1E24

.

.

OPERATING DATA REPORT

• • •

ODE	RATING STATUS	UI	ATE <u>5/15/8</u> BY H. Jen	reek8
	정말했다. 그 같은 것은 것 것 같은 것 같은 것 같이 있다.			
1.	REPORTING PERIOD April 1988 GROS	SS HOURS IN RI	EPORTING PER	IOD
2.	CURRENTLY AUTHORIZED POWER LEVEL (MAX. DEPEND. CAPACITY (MWe-Net) DESIGN ELECTRICAL RATING (MWe-Net)	1067 (:	1)	
3.	POWER LEVEL TO WHICH RESTRICTED (1	(F ANY) (MWe-1	Net) <u>N</u>	one
	REASONS FOR RESTRICTION (IF ANY) NO. OF HOURS REACTOR WAS CRITICAL		DATE	CUMULATIVE 9385.5
6.	REACTOR RESERVE SHUTDOWN HOURS	0	0	0
7.	HOURS GENERATOR ON LINE	355.3	1393.2	9138.3
8.	UNIT RESERVE SHUTDOWN HOURS	0	0	0
9.	GROSS THERMAL ENERGY GENERATED (MWH)	_1,125,571	4,503,856	_28,312,423
10.	GROSS ELECTRICAL ENERGY GENERATED (MWH)	368,984	1,502,968	9,414,666_
11.	NET ELECTRICAL ENERGY GENERATED (MWH)	347,186	1,424,554	8,989,592
12.	REACTOR SERVICE FACTOR	67.1	52.6	78.5
13.	REACTOR AVAILABILITY FACTOR	67.1	52.6	78.5
14.	UNIT SERVICE FACTOR	49.4	48.0	76.5
15.	UNIT AVAILABILITY FACTOR	49.4	48.0	76.5
16.	UNIT CAPACITY FACTOR (Using Design MDC)	45.3	46.0	70.5
17.	UNIT CAPACITY FACTOR (Using Design MWe)	45.3	46.0	70.5
18.	UNIT FORCED OUTAGE RATE	4.1	1.1	7.8
19.		IONTHS (TYPE,	DATE, & DUR	ATION):
20.	N/A IF SHUT DOWN AT END OF REPORT PER 5/2/	NOD, ESTIMATE	ED DATE OF S	TARTUP:

(1) August 1987 data is under management review.

OPERATING DATA REPORT

UNIT SHUTDOWNS AND POWER REDUCTIONS

DOCKET NO. 86-354

UNIT Hope Creek

DATE 5/15/88

COMPLETED BY H. Jensen

REPORT MONTH April, 1988 TELEPHONE (609) 339-5261

NO.	DATE	TYPE F FORCED S SCHEDULED	DURATION (HOURS)	REASON (1)	METHOD OF SHUTTING DOWN THE REACTOR OR REDUCING POWER (2)	CORRECTIVE ACTION/ COMMENTS
3	4/1	S	348.6	с	4	CONTINUATION OF REFUELING OUTAGE
4	4/30	F	15.1	λ	2	MANUAL REACTOR SCRAM DUE TO LOSS OF CIRCULATING WATER CAUSED BY THE FAILURE OF THE MULTIPLEXER BETWEEN THE CONTROL ROOM AND THE CIRCULATING WATER BUILDING

SUMMARY

REFUELING INFORMATION

COM	PLETED BY: _	Chris Brennan	-	DATE:	Hope Creek Unit 1 5/15/88 3193
Mon	th March	1988			
1.		Information has ch YES		ast month:	
2.	Scheduled d	late for next refu	eling:	11-04-89	
з.	Scheduled d	late for restart f	ollowing ref	ueling:	
	12-18-8	39			
4.	A) Will Te be requ	echnical Specifica lired? YES <u>X</u>		or other li	cense amendments
		e reload fuel desi Committee?	.gn been revi	ewed by the	Station Operating
	5	ES	NO <u>X</u>		
	· · ·	If no, when is it	scheduled? _	6-18	3-89
5.	Scheduled of 7-18-89	late(s) for submit	ting propose	d licensing	action:
6.		licensing consider on not presently a		iated with r	refueling:
7.	A) Incore	Fuel Assemblies: t Fuel Storage			764
8.	Present lic capacity:	censed spent fuel	storage	1	108
	Future sper	nt fuel storage ca	pacity:	4	1006
9.	discharged	st refueling that to spent fuel poo t licensed capacit	assuming	12-	18-89

HOPE CREEK GENERATING STATION MONTHLY OPERATING SUMMARY APRIL 1988

.

.

Hope Creek entered the month of April continuing its First Refueling Outage that commenced on February 13, 1988. The outage ended at 1:33 pm on April 15 when the generator was synchronized to the grid. The unit had been on-line for 14 days when a manual scram was initiated at 8:52 am on April 30. The reactor was scrammed due to the loss of Circulating Water caused by the failure of the multiplexer between the Control Room and the Circulating Water Building.

R-010 RAR:tlb

t.

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

APRIL 1988

This DCP recalibrated Rod Block Monitor and flow unit setpoints. Recalibrating the setpoints will allow the increasing of recirculation flow to 105% of core rated flow, expanding the plants operating domain while remaining within analyzed conditions.

The implementation of this DCP required an amendment to the Technical Specifications, which has previously been reviewed and approved by the NRC. It was determined that this DCP does not constitute a significant increase in the probability of occurrence or the consequences on a accident or malfunction of equipment important to safety previously evaluated in the the safety analysis report; (r a significant increase that the possibility for an accident or malfunction of a different type than any evaluated previously in the safety analysis report may be created; or a significant decrease in the margin of safety as defined in the basis for any technical specification.

4HC-0158

DCP

The following Design Change Packages (DCPs) have been evaluated to determine:

- 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
- 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
- if the margin of safety as defined in the basis for any technical specification is reduced.

None of the DCPs created a new safety hazard to the plant nor did they affect the safe shutdown of the reactor. These DCPs 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.

DCP	Description of Design Change Package
668	This DCP provided annunciation in the Main Control Room as well as inputs to the Control Room Integrated Display System. The annunciation/input will occur on power failure, current failure, or low temperature for two of the Hydrogen-Oxygen Analyzer Heat Tracing Panels.
4-HCM-86-0786	This DCP relocated Fan Capacity Control Dampers, increased the size of the ductwork in the Reactor Building Ventilation System, and reduced the associated fan speeds. These modifications will alleviate the excessive noise and vibration which was was being caused by high velocity in the Reactor Building Ventilation System exhaust.
4EC-1002/03	This DCP relocated Class 1E cable trays, Class 1E and Non-Class 1E conduits, cables, and related hardware and junction boxes. Relocating these components also necessitated the addition of junction boxes, conduits, cables, and cable splices. These changes were made to accommodate the new equipment required for the Control Rod Drive Rebuild/Maintenance Facility.

- 4EC-1002/13 This DCP relocated a Filtration, Recirculation, and Ventilation System Drain Pot, Reactor Pedestal flanges, a spray water line in the Hydrogen Recombiner system, and piping in the Compressed Air and Demineralized Water distribution systems. These modifications were in support of the Control Rod Drive Rebuild/Maintenance Facility.
- 4EC-1024/16 This DCP installed platforms and ladders for access to the Main Steam Relief Valves. The platforms and ladders are designed to satisfy seismic II/I criteria and meet OSHA standards. This DCP also improves access to the valves.
- 4EC-1060 This DCP added scalars to the Rod Block Monitor Instrumentation Loop. The scalers will convert the existing voltage signal to the Rod Block Monitor Recorders to the correct signal. This DCP will restore the loop into conformance with its original design.
- 4EC-1082/08 This DCP added an edgewise indicator to the Operators Console in the Main Control Room. This will provide suitable reactor period indication at the Rod Select Module of the Operators Console. The need for this indication was identified during the Control Room Design Review process and is part of a commitment to improve human factors in the Control Room.

4EC-1082/10 This DCP increased the flash rates of annunciators in the Main Control Room. The increased flash rates enhance the operators' ability to respond to incoming alarms and was identified as a deficiency during the Control Room Design Review process. It is part of the commitment to improve human factors in the Control Room.

- 4EC-1096 This DCP replaced the Generator Exciter End Retaining Ring with a new ring. The material being used in the new ring is resistant to stress corrosion cracking.
- 4E0-1089 This DCP replaced terminal blocks within the Drywell's Harsh Environmental Qualified area with Raychem in-line splices. The terminal blocks are being removed based on a Wyle Lob Test Report and ALARA considerations.
- 4HC-0049 This DCP modified the channel flanges on the Reactor Water Cleanup Regenerative and Non-Regenerative Heat Exchangers. The DCP also eliminated the sealing diaphragms from the flange faces and cut grooves into the flange faces to accept flexitallic gaskets. These modifications will provide a long-range solution to the Reactor Water Cleanup Heat Exchanger channel flange leaks.
- 4HC-0057/01 This DCP added a bypass configuration and an orifice to the Reactor Water Cleanup System. These modifications will eliminate the vibration and noise that occur when the Filter Demineralizers are being returned to service.
- 4HC-0069 This DCP relocated several pieces of unistrut located in Plant Leak Detection Panels. The unistrut is currently blocking terminal blocks on the back of temperature detection modules; relocating it will provide greater access for performing surveillances on the temperature detection circuits.

DCP

4HC-0080 This DCP removed the Eductor Systems from the Service Air Compressors and replaced them with Centrifugal Demister Systems which consist of an Extruder/Demister and a throttling butterfly valve. The units separate the oil mist by passing the vapors through a rotating fan which forces the oil mist droplets to the exterior housing of the unit. There the cil is collected and returned to its source.

- 4HC-0115/01 This DCP installed capacitors on the Reactor Water Level Trip Units to prevent spurious signals, generated by the transmitters, from causing inadvertent Engineered Safety Feature system actuations. The capacitors will keep the loop response times within the Technical Specification limits and meet all other design criteria.
- 4HC-0116/01 This DCP replaced Tobar transmitters with Rosemount transmitters. The operating characteristics of the Rosemount transmitters will allow the surveillance interval to be increased from 6 months to 18 months. This eliminates the need to calibrate these sensitive instruments at power.
- 6HC-0126/01 This DCP moved relays in the Standby Liquid Control System Pump Start Circuit from the Bailey panels to the Redundant Reactivity Control System panels. Moving the relays will prevent the interrogation pulses emitted by the Redundant Reactivity Control System from actuating the Standby Liquid Control System and will provide continuous monitoring of the interposing relays between the Redundant Reactivity Control System and the Standby Liquid Control System.
- 4HC-0162/01 This DCP replaced terminal strips for Main Steam Isolation Valve Operating and Test Solenoids with Raychem in-line butt splices. The terminal strips were located inside of the harsh environment. This modification was made to implement the requirements of Environmental Qualification Maintenance Sheets.
- 4HC-0175 This DCP modifies a large pipe support in the Main Steam system by replacing a wide flange with structural tubing. This will eliminate rotation of the structure due to torsional loading. This DCP also adds temporary instrumentation to provide data. The instrumentation will be removed after an engineering evaluation of the data.

DCP	Description of Design Change Package
4HC-0177	This DCP increased the release setpoint for the Steam Vent Blowout Panels located in the Reactor Building Exterior Cylindrical Wall. These blowout panels protect against overpressurization of the Torus Room, the High Pressure Coolant Injection Room, the Reactor Core Isolation Cooling Room, and the Reactor Water Cleanup Room by venting to outside atmosphere when the release setpoint is exceeded. This DCP is part of the overall effort to support the qualification of the Containment Atmosphere Control System during plant operations.
4HM-0006	This DCP replaced the drum brakes in the Reactor Recirculation Pump Motor Generator Set Scoop Tube Positioners with disc brakes. The disc brakes provide for a more reliable design.
4HM-0037	This DCP eliminated intermittent trouble alarms on the Local Fire Detection Panels by removing spare modules. The spare modules were intended to be used in conjunction with manual pull boxes which were never installed.
4HM-0044	This DCP made minor wiring changes to the Keactor Protection System and the Nuclear Steam Supply Shutoff System. These wiring changes will cause adequate indication in the Control Room when trip units are being calibrated or when they have failed.
4HM-0083	This DCP relocated hangers in the Auxiliary Boilers system to provide clearance for the relief values to tested or repaired in place. This DCP maintains the required level of pipe support.
4HM-0087	A Temporary Modification has been previously installed to change the wiring configuration on a flow switch to prevent a false deluge actuation

A Temporary Modification has been previously installed to change the wiring configuration on a flow switch to prevent a false deluge actuation signal during Loss of Offsite Power. This DCP allows for the permanent installation of the Temporary Modification and authorizes the update of design documents.

DCP

4HM-0089 This DCP provided the Load Dispatcher with a back-up method of communication with the Control Room. It connects Channel 5 of the Public Address system to a telephone line from the Load Dispatcher utilizing a two-way amplifier located in the Main Public Address System Control Panel.

4HM-0091 This DCP cbanged the Fuel Freparation Machine Upper Stop Limit from 145" to 155" below the Fuel Preparation Machine Platform by adjusting the chain mounted stop position. This will prevent the fuel from being raised within 8" of the fuel pool water surface.

- 4HM-0092 This DCP installed a Demineralize: Water Supply Line to a cell in the Auxiliary Boiler Process Sample Panel. This modification will allow the sample panel to remain in service when the Auxiliary Boilers are out of service and allows the associated annunciator in the Control Room to function per design.
- 4HM-0096 This DCP modified Redundant Reactivity Control System Analog Trip Modules. These modifications eliminated the indication of the Failure of Reactor Water Level Transmitter during refueling when the water level is increased and eliminated the possibility of activating the downstream functional logic in the event of a self-test pulse high.
- 4HM-0111 This DCP rebuilt the Main ransformer oil Circulating Pumps by using a larger shaft and larger thrust bearings and collars. Rebuilding the pumps will reduce Transformer oil cooling problems. This increases system reliability and decreases spurious alarms.

4HM-0128 This DCP added a Speed Error Filter in the Electro-Hydraulic Control system and modified Electro-Hydraulic Control system alarm circuits. These modifications will increase system reliation by reducing the servovalve and hydrolline vibration. They will also interview lisance alarms when the turbine is and warming up

DCP	Description of Design Change Package
4HM-0129	This DCP changed the Signal Monitoring Points for the Electro-Hydraulic Control Pressure Regulator outputs to the GETARS recording system. These modifications will allow proper monitoring of the regulator bias setting. The DCP also added an Analog Isolation Amplifier Card to the Electro-Hydraulic system to allow on-line monitoring of Control Valve position error signals.
	million and the second of the literation of the second sec

- 4HM-0142 This DCP re-routed tubing on flow switches for Cable Tray Area Heating, Ventilation, and Air Conditionin; Cooling/Recirculation Units. This will allow for more reliable operation of the Low Flow Switch and associated alarm by using the pressure sensor in the middle of the instruments' range instead of the one at the low end of its range.
- 4HM-0148 This DCP changed the Reactor Water Cleanup System Backwash and Precoat Cycle logic to allow the Hold Pump to start prior to securing the Precoat Pump in preparation for pressurizing the Filter Demineralizer. The logic change also permits double valve isolation between the high pressure and low pressure portions of the Reactor Water Cleanup Precoat System prior to pressurizing the Filter Demineralizer. The logic changes will protect the Filter Demineralizers from overpressurization.
- 4HM-0150 This DCP installed carpet, using a water-based adhesive, in the Shift Supervisor's Office, the Ready Room, and the Control Room to reduce noise levels in the Control Room.
- 4HM-0161 This DCP added insulation between the Quill Shaft and the Main Shaft in the Front Standard of the Main Turbine. Adding this insulation will protect the gearshaft teeth, journals, and bearings from electrical pitting.
- 4HM-0172 This DCP provided forced ventilation to the Exciter on the Reactor Recirculation Pump Motor Generator Sets. The forced ventilation will increase system reliability by alleviating the arcing of the brushes caused by oil collecting at the brushes.

4HM-0193 This DCP modified electro-pnoumatic current to pressure transducers in the Extraction Steam, Condensate, and Feedwater systems. These modifications involve an upgrade and will prevent failure of the transducers caused by plugging and leaking O-rings.

- 4HM-0205 This DCP replaced contactors in the Reactor Feed Pump Turbine Control Panels with an equivalent style of contactor. The original contactors are a discontinued model. This DCP did not affect the functional design of the circuitry.
- 4HM-0209 This DCP is a document change only DCP. It revised the connection diagram, assembly drawing, and the appropriate labelling to reflect the as-built circuit configuration of relays in the Reactor Recirculation system.
- 4HM-0220 This DCP removed 4 Conductivity Elements and their associated alarm functions from the Steam Jet Air Ejectors Condensate Return to the Main Condensors. Because of the previous position of the Conductivity Elements, they did not receive a constant flow of water and therefore caused false annunciation in the Control Koom.
- 4HM-0227 This DCP replaced the valve spring, spring retainer and thrust bearing washers on the blast valve operating lever, applied "locktite" to the mechanism table bolt, replaced teflon orifices in interrupter heads, replaced resistor contacts and shunts, installed rupture disk in each manway door, and replaced rupture disk in column based of 500 kv gas circuit breakers. These refurbishments will improve reliability and extend service life of the circuit breakers.
- 4HM-0233 This DCP revised power supply feeds to logic units in the Feedwater Control System. This DCP improved the reliability of the Feedwater Control System and conforms to its original design intent.
- 4HM-0267 This DCP replaced relays in the Feedwater Control System. It also installed three new relays in the Feedwater Control System and transferred the analog functions of other relays. This design change is required because the existing relays are an incorrect model for the application of transferring low voltage low current signals. This condition has caused problems to plant operations in the past and could have resulted in a plant trip if it had not been corrected.

DCP

4HO-0145/01 This DCP is an equipment change-out DCP and replaced Agastat FGP relays with Agastat EGP relays in various panels. These relays are equivalent or better in form, fit, and function and are qualified to the applicable environmental and seismic parameters. This DCP affected Channel "B" relays only.

- 4HO-0145/02 This DCP is an equipment change-out DCP and replaced Agastat FGP relays with Agastat EGP relays in various panels. These relays are equivalent or better in form, fit, and function and are qualified to the applicable environmental and seismic parameters. This DCP affected Channel "A" relays only.
- 4HO-0145/03 This DCP is an equipment change-out DCP and replaced Agastat FGP relays with Agastat EGP relays in various panels. These relays are equivalent or better in form, fit, and function and are qualified to the applicable environmental and seismic parameters. This DCP affected Channel "D" relays only.
- 4HO-0145/04 This DCP is an equipment change-out DCP and replaced Agastat FGP relays with Agastat EGP relays in various panels. These relays are equivalent or better in form, fit, and function and are qualified to the applicable environmental and seismic parameters. This DCP affected Channel "C" relays only.
- 4HX-0134 This DCP added a Dynamic Vibration Absorber to a Primary Condensate Pump to lower the resonant frequency to permit lower flow operation. Vibration readings were taken at various weightings prior to the absorbers final setting.

The following Temporary Modification Requests (TMRs) have been cvaluated to determine:

- 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
- 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
- if the margin of safety as defined in the basis for any technical specification is reduced.

None of the TMRs created a new safety hazard to the plant nor did they affect the safe shutdown of the reactor. These TMRs 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 (TMR)

- 88-0054 This TMR lifted leads in control panels to remove the power source from the Residual Heat Removal Testable Check Bypass Valves. Lifting the leads complies with the 10CFR50 Appendix R requirements.
- 88-0055 This TMR removed the overload heaters from the circuit breaker for a Residual Heat Removal Shutdown Cooling Isolation Valve. Removing the overload heaters complies with the 10CFR50 Appendix R requirements.
- 88-0056 This TMR lifted leads in control panels to remove the power source from the Core Spray Testable Check Bypass Valves. Lifting the leads complies with the 10CFR50 Appendix R requirements.
- 88-0069 This TMR added a temporary air supply to simulate a 3000 cfm flow signal to allow the Containment Prepurge Cleanup System Fan/Filter to run so that filter testing could be completed during the Refueling Outage. This TMR was required because the flow transmitter was inoperable and the required parts were not available. The TMR was removed prior to entering Mode 2.
- 88-0070 This TMR removes a redundant flow switch from the Secondary Condensate Minimum Flow Valve control circuitry. Removing the redundant flow switch improves the reliability of the system by eliminating false override signals to the controller.

AMENDMENT 1 TO SUMMARY OF CHANGES, TESTS, AND EXPERIMENTS FOR THE HOPE CREEK GENERATING STATION

.

.

MARCH 1988

4EC-1006

DCP

Varian

線

This DCP modified the interlocks on Residual Heat Removal valves to prevent the inadvertent draining of the Reactor Vessel to the Suppression Pool through the Shutdown Cooling Lines. The interlocks will prevent operators from opening the Torus Suction valves and the Full-Flow Test valves when the Residual Heat Removal System is in the Shutdown Cooling Mode.

4EC-1082/06

This DCP modified the Reactor Feed Pump Recirculation Valve Controller to make the indicated output "direct acting" with the valve position. The previous configuration required the operator to increase the station output to close the Recirculation Flow Control Valve. This discrepancy was identified during the Control Room Design Review process and is part of a commitment to improve human factors in the Control Room.

This amendment revises the equipment nomenclature for the above DCPs.

3



Public Service Electric and Gas Company P.O. Box L. Hancocks Bridge, New Jersey 08038

Hope Creek Operations

May 15, 1988

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 April are being forwarded to you. In addition, the summary of changes, tests, and experiments for April 1988 are included pursuant to the requirements of 10CFR50.59(b). Also included is Amendment 1 to the summary of changes tests, and experiments for March 1988.

Sincerely yours,

5. Le Brung Jam

S. LaBruna General Manager -Hope Creek Operations

RARRAR:tlb Attachment

C Distribution